



DAN JOHNSON
DIRECTOR

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

July 17, 2025

BCC Agenda Date/Item: _____

Board of County Commissioners
Clackamas County

Approval of a Public Improvement Contract with Aaken Corporation for replacement of a driver-damaged traffic signal and intersection improvements at 82nd Drive and Jennifer Street. Contract Value is \$816,913 for 1 year. Funding is through Driver's Insurance, Reimbursements and County Road Funds. No County General Funds are involved.

Previous Board Action/Review	8/10/2023: Approval of a Personal Services Contract with DKS Associates, Inc. for the 82 nd Drive and Jennifer Street Signal Replacement Project		
Performance Clackamas	The project will build a strong infrastructure and ensure safe, healthy and secure communities.		
Counsel Review	Yes	Procurement Review	Yes
Contact Person	Mike Ward	Contact Phone	503-742-4688

EXECUTIVE SUMMARY: The traffic signals at the 82nd Drive and Jennifer Street intersection are over 30 years old and have exceeded their service life. Recently, one pole was damaged by a motor vehicle and a wood pole was placed as a temporary replacement. The proper function of this busy intersection is critical to keep commercial trucking, automobiles and pedestrians moving through the area, efficiently, and safely. Also, the existing ADA curb ramps do not meet current ADA standards and must be replaced. This contract will provide construction services to install new traffic signal poles, signal heads, pedestrian push buttons, street lighting, ADA curb ramps, asphalt pavement and pavement markings within the intersection.

The contract's total not to exceed amount is \$816,913 and is funded through County Road Funds, proceeds from the insurance company from the vehicle owner that damaged the signal pole, and reimbursement from Clackamas River Water, who will reimburse the County for ADA Curb Ramp improvements for a waterline project at the intersection. Most of the work is expected to be completed by November 15, 2025 with the asphalt pavement work and pavement markings expected to be completed by May 15, 2026.

PROCUREMENT PROCESS: This project was advertised in accordance with ORS and LCRB Rules as Invitation to Bid 2025-22, which was advertised on March 6, 2025. Bids were publicly opened on May 1, 2025. The County received three (3) bids in response to the Invitation to Bid from Aaken Corporation; Brown Contracting, Inc.; and Interlaken, Inc. The

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lowest bid was from Aaken Corporation for \$816,913.00. A review of the bids received led to a recommendation for contract award to the apparent low bidder, Aaken Corporation.

RECOMMENDATION: Staff recommends the Board of County Commissioners approve and sign Public Improvement Contract #1331 with Aaken Corporation for Construction of the 82nd Drive and Jennifer Street Signal Replacement Project.

Respectfully submitted,

Dan Johnson

Dan Johnson, Director
Department of Transportation & Development



CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT
Contract #1331

This Public Improvement Contract (the “Contract”) is made by and between the Clackamas County, a political subdivision of the State of Oregon (“Owner”), and **Aaken Corporation** (“Contractor”), both collectively referred to as the “Parties”. This Contract shall become effective on the date this Contract has been signed by all the Parties and shall expire upon completion the completion of all obligations under the terms of this Contract unless terminated earlier by the Parties.

Project Name: # BID# 2025-22 82nd Drive and Jennifer Street Signal Replacement Project

1. Contract Price, Contract Documents and Work.

The Contractor hereby agrees to perform all the work described in, and reasonably inferred from, the Contract Documents, as further defined below (“Work”). In consideration of the Contractor performing the Work in accordance with the terms of the Contract, the Owner agrees to pay the Contractor an amount not to exceed **Eight Hundred Sixteen Thousand Nine Hundred Thirteen Dollars (\$816,913.00)** (the "Contract Price"). Payment will be made in accordance with the terms and conditions provided in the Contract Documents. The Contract Price is the amount contemplated by the Base Bid, as indicated in the accepted Bid. The Contract Price is the amount contemplated by the Base Bid, as indicated in the accepted Bid.

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

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

The Plans, Specifications and Drawings expressly incorporated by reference into this Contract includes, but is not limited to, the Special Provisions for Highway Construction 82nd Drive & Jennifer Street Signal Replacement (the “Specifications”), together with the provisions of the Oregon Standard Specifications for Construction (2021) referenced therein.

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

2. Representatives.

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

☒ Unless otherwise specified in the Contract Documents, the Owner designates Mike Ward 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: Andy Vogt shall be the Contractor's project executive, and will provide oversight and guidance throughout the project term.

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

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

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

4. Contract Dates.

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

COMMENCEMENT DATE: Upon Issuance of Notice to Proceed ("NTP")

SUBSTANTIAL COMPLETION DATE: November 15, 2025

FINAL COMPLETION DATE: May 15, 2026

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

5. Insurance Certificates and Required Performance and Payment Bonds.

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

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

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

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

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

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

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

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

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

Owner shall have the right, but not the obligation, of prohibiting Contractor from entering the Project Site until a new certificate(s) of insurance is provided to Owner evidencing the replacement coverage. The Contractor agrees that Owner reserves the right to withhold payment to Contractor until evidence of reinstated or replacement coverage is provided to Owner.

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

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

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

6. Responsibility for Damages/Indemnity.

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

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

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

7. Tax Compliance.

The Contractor shall comply with all federal, state and local laws, regulation, executive orders and ordinances applicable to this Contract. Contractor represents and warrants that it has complied, and will continue to

comply throughout the duration of this Contract and any extensions, with all tax laws of this state or any political subdivision of this state, including but not limited to ORS 305.620 and ORS chapters 316, 317, and 318. Any violation of this section shall constitute a material breach of this Contract and shall entitle Owner to terminate this Contract, to pursue and recover any and all damages that arise from the breach and the termination of this Contract, and to pursue any or all of the remedies available under this Contract or applicable law.

8. Confidential Information.

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

9. Counterparts.

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

10. Integration.

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

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

11. Liquidated Damages.

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

11.1 \$700 per Calendar day past the Substantial Completion date, as set forth in section 00180.85 (b).

11.2 \$500 per 15 minutes, or for a portion of 15 minutes, per lane, as set forth in 00180.85. (c).

12. Compliance with Applicable Law.

Contractor shall comply with all federal, state, county, and local laws, ordinances, and regulations applicable to the Work to be done under this Contract including, but not limited to, compliance with the prohibitions set forth in ORS 652.220, compliance of which is a material element of this Contract and failure to comply is a

material breach that entitles County to exercise any rights and remedies available under this Contract including, but not limited to, termination for default.

13. Responsibility for Taxes.

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

15. No Attorney Fees.

In the event any arbitration, action or proceeding, including any bankruptcy proceeding, is instituted to enforce any term of this Contract, each party shall be responsible for its own attorneys' fees and expenses.

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

Contractor DATA:

Aaken Corporation

1260 NE 1st Street

Bend, Oregon 97701

Contractor CCB # 170901 Expiration Date: 6/28/2026

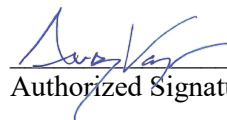
Oregon Business Registry # 367882-97 Entity Type: DBC

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.

Aaken Corporation

Clackamas County



Authorized Signature

06/02/2025

Date

Chair

Date

Andy Vogt, General Manager

Name / Title Printed

Recording Secretary

Approved as to Form:



County Counsel

6/11/2025

Date



CLACKAMAS COUNTY PUBLIC IMPROVEMENT CONTRACT OPPORTUNITY

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**CLACKAMAS COUNTY
NOTICE OF PUBLIC IMPROVEMENT CONTRACT OPPORTUNITY**

**INVITATION TO BID #2025-22
82nd Drive and Jennifer Street Signal Replacement Project
March 6, 2025**

Clackamas County ("County") through its Board of County Commissioners is accepting sealed bids for the **82nd Drive and Jennifer Street Signal Replacement Project** until **April 24, 2025, 2:00 PM**, Pacific Time, ("Bid Closing") at the following location:

Bidding Documents can be downloaded from the state of Oregon procurement website ("OregonBuys") at the following address: <https://oregonbuys.gov/bsa/view/login/login.xhtml>, Document No.S-C01010-00013045.

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

Submitting Proposals: Bid Locker

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

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

Engineers Estimate: \$800,000.00 - \$900,000.00

Contact Information

Procurement Process and Technical Questions: Tralee Whitley at Twhitley@Clackamas.us and Ryan Rice RRice@clackamas.us

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

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

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 3, 2025, which can be downloaded at the following web address: http://www.oregon.gov/boli/WHD/PWR/Pages/pwr_state.aspx
The Work will take place in Clackamas County, Oregon.

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



CLACKAMAS COUNTY PUBLIC IMPROVEMENT CONTRACT

INSTRUCTIONS TO BIDDERS

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

Article 1. Scope of Work

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

Article 2. Examination of Site and Conditions

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

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

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

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

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

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

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

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

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

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

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

Article 4. Security to Be Furnished by Each Bidder

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

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

Article 5. Execution of Bid Bond

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

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

Article 6. Execution of the Bid Form

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

The Bid Form relates to Bids on a specific Project

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

Article 7. Prohibition of Alterations to Bid

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

Article 8. Submission of Bid

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

Article 9. Bid Closing and Opening of Bids

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

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

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

Article 10. Acceptance or Rejection of Bids by Owner

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

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

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

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

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

Article 11. Withdrawal of Bid

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

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

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

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

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

Article 13. Recyclable Products

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

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

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

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

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

Article 15. Protest of Intent to Award

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

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

Article 16. Disclosure of First-Tier Subcontractors

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

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



**CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT**

SUPPLEMENTAL INSTRUCTIONS TO BIDDERS

Project Name: # 2025-22 82nd Drive and Jennifer Street Signal Replacement Project

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

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

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

ZOOM LINKS

Join Zoom Meeting

<https://clackamascounty.zoom.us/j/88582310986>

Meeting ID: 885 8231 0986

One tap mobile

+17193594580,,88582310986# US

+12532050468,,88582310986# US

Dial by your location

• +1 719 359 4580 US

• +1 253 205 0468 US

• +1 253 215 8782 US (Tacoma)

• +1 346 248 7799 US (Houston)

- +1 408 638 0968 US (San Jose)
- +1 669 444 9171 US
- +1 669 900 6833 US (San Jose)
- +1 564 217 2000 US
- +1 646 876 9923 US (New York)
- +1 646 931 3860 US
- +1 689 278 1000 US
- +1 301 715 8592 US (Washington DC)
- +1 305 224 1968 US
- +1 309 205 3325 US
- +1 312 626 6799 US (Chicago)
- +1 360 209 5623 US
- +1 386 347 5053 US
- +1 507 473 4847 US

Meeting ID: 885 8231 0986

Find your local number: <https://clackamascounty.zoom.us/j/88582310986>

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

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

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

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

The sufficiency of the documentation or the performance of Good Faith Effort shall be in the sole and absolute determination of Clackamas County. Only those Bidders that Clackamas County has determined have not sufficiently performed Good Faith Effort shall have protest rights of the determination for such Bidder. No Bidder shall have protest rights of the sufficiency of any other Bidder completing Good Faith Effort.

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

Prime Contractor Name:

Total Contract Amount:

Project Name: # 2025-22 82nd Ave & Jennifer Street Signal Replacement

PRIME SELF-PERFORMING: Identify below ALL GFE Divisions of Work (DOW) to be self-performed. Good Faith Efforts are otherwise required.	
<u>DOW BIDDER WILL SELF-PERFORM (GFE not required)</u>	
Excavation, Electrical & 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. Delivery via bid locker <https://bidlocker.us/a/clackamascounty/BidLocker> within 2 hours of the BID/Quote Closing Date/Time.


LIST ALL SUBCONTRACTORS BELOW Use <u>correct legal name</u> of Subcontractor (No Assumed Business Names)	Division of Work (Painting, electrical, landscaping, etc.) List ALL DOW performed by Subcontractors	DOLLAR AMOUNT OF SUBCONTRACT	If Certified or self-reporting MBE/WBE/ESB Subcontractor Check box		
			MBE	WBE	ESB
Name D&D Concrete & Utilities, Inc Address 8395 S Gribble Rd City/St/Zip Canby, OR 97013 Phone# 503-266-5229 OCCB# 219262	Concrete	\$79,630.00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Longhorn Geomatics Address 10940 SW Barnes Rd, #189 City/St/Zip Portland, OR 97225 Phone# 503-985-9762 OCCB# N/A	Survey	\$7,150.00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Specialized Pavement Marking Address 11095 SW Industrial Way City/St/Zip Tualatin, OR 97062 Phone# 503-885-0420 OCCB# 238621	Pavement Marking	\$34,800.00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

Prime Contractor Name:

Total Contract Amount:

Project Name: # 2025-22 82nd Ave & Jennifer Street
Signal Replacement

LIST ALL SUBCONTRACTORS BELOW Use <u>correct legal name</u> of Subcontractor (No Assumed Business Names)	Division of Work (Painting, electrical, landscaping, etc.) List ALL DOW performed by Subcontractors	DOLLAR AMOUNT OF SUBCONTRACT	If Certified or self-reporting MBE/WBE/ESB Subcontractor Check box 		
			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: # 2025-22 82nd Ave & Jennifer Street Signal Replacement

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
					Will Bid	Bid Received	Bid Used	Bid Amount	Reason Not Used (Price, Scope or Other. If Other, explain in Notes>>)	
			Date of Call	Person Receiving Call						
N/A					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			
					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			
					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			
					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			
					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			
					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			
					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			
					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			

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

Prime Contractor Name:

Total Contract Amount:

Project Name: # 2025-22 82nd Ave & Jennifer Street Signal Replacement

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="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

05/30/2025

 Date



CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

BID BOND

Project Name: # 2025-22 82nd Drive and Jennifer Street Signal Replacement Project

We, Aaken Corporation, as "Principal,"
(Name of Principal)

and Old Republic Surety Company, an WI 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 the total amount bid and no/100*** 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 24th day of April, 2025.

Principal: Aaken Corporation

Surety: Old Republic Surety Company

By: [Signature]
Signature

By: Attorney-In-Fact

General Manager

Official Capacity

Shawna Johnson Name

Attest: [Signature]
Corporation Secretary

10260 SW Greenburg Rd, Suite 1060
Address

Portland OR 97223
City State Zip

800-777-9004 503-245-7986
Phone Fax





CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

BID FORM

PROJECT: # 2025-22 82nd Drive and Jennifer Street Signal Replacement Project
BID CLOSING: April 24, 2025, 2:00 PM, Pacific Time
BID OPENING: April 24, 2025, 2:05 PM, Pacific Time

FROM: **Aaken Corporation**

Bidder's Name (must be full legal name, not ABN/DBA)

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

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

☐ a. An individual; or

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

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

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

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

Eight hundred sixteen thousand nine hundred thirteen Dollars (\$ **816,913.00**)

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 1 through 1, inclusive (fill in blanks)

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

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

4. The work shall be completed within the time stipulated and specified in 00180.50(h) of the Special Provisions for **Construction 82ns Drive & Jennifer Street Signal Replacement.**

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

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

Old Republic Surety 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 170901. As a condition to submitting a bid, a Contractor must be registered with the Oregon Construction Contractors Board in accordance with ORS 701.035 to 701.055, and disclose the registration number. Failure to register and disclose the number will make the bid unresponsive and it will be rejected, unless contrary to federal law.

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

13. The successful Bidder hereby certifies that, in compliance with the Worker's Compensation Law of the State of Oregon, its Worker's Compensation Insurance provider is SAIF, Policy No. 731497, and that Contractor shall submit Certificates of Insurance as required.

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

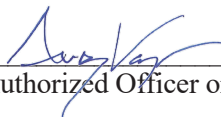
Project Executive: <u>Andy Vogt</u>	Cell Phone: <u>541-520-1244</u>
Project Manager: <u>Jeffrey Martin</u>	Cell Phone: <u>509-710-7691</u>
Job Superintendent: <u>Trevor Shores</u>	Cell Phone: <u>541-815-8665</u>
Project Engineer: <u>Jared Ramirez</u>	Cell Phone: <u>503-880-5459</u>

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

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

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

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

NAME OF FIRM	<u>Aaken Corporation</u>
ADDRESS	<u>1260 NE 1st St</u>
	<u>Bend, OR 97701</u>
TELEPHONE NO	<u>541-330-9545</u>
EMAIL	<u>Andy@AakenCorp.com</u>
SIGNATURE 1)	<u>Sole Individual</u>
or 2)	<u>Partner</u>
or 3)	<u></u>
	Authorized Officer or Employee of Corporation

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

82nd Drive & Jennifer Street Signal Replacement

Bid Schedule

January 13, 2025

ITEM	SPEC	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
General Conditions						
1	00180	Workplace Harassment Prevention Plan	LS	1	\$2,500.00	\$2,500.00
2	00196	Extra Work as Authorized	LS	1	\$ 50,000.00	\$ 50,000.00
Part 00200 - Temporary Features and Appurtenances						
3	00210	Mobilization	LS	1	\$45,000.00	\$45,000.00
4	00221	Temporary Work Zone Traffic Control, Complete	LS	1	\$46,125.00	\$46,125.00
5	00280	Erosion Control	LS	1	\$3,500.00	\$3,500.00
6	00290	Pollution Control Plan	LS	1	\$1,250.00	\$1,250.00
Part 00300 - Roadwork						
7	00305	Construction Survey Work	LS	1	\$7,865.00	\$7,865.00
8	00330	Earthwork - Excavation and Embankment	LS	1	\$27,500.00	\$27,500.00
Part 00400 - Drainage and Sewers						
9	00490	Minor Adjustment of Manholes	EACH	1	\$2,000.00	\$2,000.00
10	00490	Adjusting Inlets	EACH	2	\$1,200.00	\$1,200.00
Part 00500 - Bridges and Walls						
11	00596C	Retaining Wall, Cast-In-Place Concrete Rigid Gravity	LS	1	\$19,680.00	\$19,680.00
Part 00600 - Bases						
12	00620	Cold Plain Pavement Removal, 2" Deep	SQYD	1,114	\$24.00	\$26,736.00
13	00620	Cold Plain Pavement Removal, 4" Deep	SQYD	356	\$24.00	\$8,544.00
14	00641	Aggregate Base	CY	10	\$200.00	\$2,000.00
Part 00700 - Wearing Surfaces						
15	00744	Level 3, 1/2" Dense ACP Mixture	TON	215	\$220.00	\$47,300.00
16	00759	Concrete Curbs, Curb and Gutter, Standard	FOOT	291	\$42.00	\$12,222.00
17	00759	Concrete Curbs, Curb and Gutter, Mountable	FOOT	64	\$42.00	\$2,688.00
18	00759	Concrete Walks	SQFT	2,786	\$8.00	\$22,288.00
19	00759	Concrete Walks, 6" Thick	SQFT	433	\$10.00	\$4,330.00
20	00759	Concrete Sidewalk, Thickened Edge	FOOT	155	\$40.00	\$6,200.00
21	00759	Extra For New Curb Ramps	EACH	6	\$2,640.00	\$15,840.00
22	00759	Truncated Domes on New Surfaces	SQFT	60	\$44.00	\$2,640.00

82nd Drive & Jennifer Street Signal Replacement

Bid Schedule

January 13, 2025

ITEM	SPEC	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Part 00800 - Permanent Traffic Safety and Guidance Devices						
23	00865	Thermoplastic, Extruded, Surface, Non-Profiled	FOOT	1,620	\$3.00	\$4,860.00
24	00867	Pavement Legend, Type B-HS: Arrows	EACH	5	\$480.00	\$2,400.00
25	00867	Pavement Legend, Type B-HS: Bicycle Lane Stencil	EACH	5	\$480.00	\$2,400.00
26	00867	Pavement Bar, Type B-HS	SQFT	1,050	\$21.00	\$22,050.00
27	00868	Green Bicycle Lane, Preformed Thermoplastic Film	SQFT	180	\$22.50	\$4,050.00
Part 00900 - Permanent Traffic Control and Illumination Systems						
28	00905	Remove Existing Signs	LS	1	\$500.00	\$500.00
29	00920	Sign Support Footings	LS	1	\$1,910.00	\$1,910.00
30	00930	Perforated Steel Square Tube Anchor Sign Supports	LS	1	\$1,904.00	\$1,904.00
31	00940	Signs, Standard Sheeting, Sheet Aluminum	SQFT	23	\$28.00	\$644.00
32	00940	Signs, Wide Angle Sheeting, Sheet Aluminum	SQFT	37	\$32.00	\$1,184.00
33	00987	Telecommunications, Material	LS	1	\$2,015.00	\$2,015.00
34	00987	Telecommunications, Installation	LS	1	\$16,500.00	\$16,500.00
35	00987	Telecommunications, Splicing And Testing	LS	1	\$4,700.00	\$4,700.00
36	00990	Traffic Signal Installation, Se 82nd Dr And Se Jennifer St	LS	1	\$358,000.00	\$358,000.00
Part 01000 - Right of Way Development and Control						
37	01030	Permanent Seeding	SQYD	185	\$12.00	\$2,220.00
38	01040	Topsoil	CUYD	32	\$108.00	\$3,456.00
38	01050	Metal Handrail, Two Rails	FOOT	194	\$148.00	\$28,712.00
39	01065	Monument Boxes	EACH	2	\$400.00	\$800.00

PROPOSED COST BID SCHEDULE: \$816,913.00
(Numerically)

PROPOSED COST BID SCHEDULE: Eight hundred sixteen thousand nine hundred thirteen and 00/100
(Written in Words)

COMPAY NAME: Aaken Corporation

AUTHORIZED SIGNATURE: 

FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM

PROJECT: #2025-22

BID OPENING: April 24, 2025, 2:00 PM, Pacific Time

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

INSTRUCTIONS:

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

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

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

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

	SUBCONTRACTOR NAME	DOLLAR VALUE	CATEGORY OF WORK
1.	D&D Concrete	\$79,630.00	Concrete
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: Aaken Corporation

Bidder Signature:  Phone # 541-330-9545



CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

PERFORMANCE BOND

Bond No.: YCN7484470

Solicitation: #2025-22

Project Name: 82nd Drive and Jennifer Street Signal Replacement Project

Old Republic Surety Company (Surety #1)

N/A (Surety #2)*

* *If using multiple sureties*

Bond Amount No. 1: \$ 816,913.00

Bond Amount No. 2: * \$ N/A

Total Penal Sum of Bond: \$ 816,913.00

We, Aaken Corporation 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) Eight Hundred Sixteen Thousand Nine Hundred Thirteen Dollars and No/100 (\$816,913.00) (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 3rd day of June, 20 25.

PRINCIPAL: Aaken Corporation

By: 
Signature


General Manager
Official Capacity

Attest: 
Corporation Secretary

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

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

Shawna Johnson

 Name

Signature

10260 SW Greenburg Road, Suite 1060

Address

Portland OR 97223

City State Zip

800-777-9004 503-245-7986

Phone Fax



CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

PAYMENT BOND

Bond No.: YCN7484470

Solicitation: #2025-22

Project Name: 82nd Drive and Jennifer Street Signal Replacement Project

Old Republic Surety Company(Surety #1)

N/A (Surety #2)*

* If using multiple sureties

Bond Amount No. 1: \$ 816,913.00

Bond Amount No. 2:* \$ N/A

Total Penal Sum of Bond: \$ 816,913.00

We, Aaken Corporation, 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) Eight Hundred Sixteen Thousand Nine Hundred Thirteen Dollars and No/100 (\$816,913.00) (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 3rd day of June, 2025.

PRINCIPAL: Aaken Corporation

By: [Signature]

Signature

General Manager

Official Capacity

Attest: [Signature]

Corporation Secretary

SURETY: Old Republic Surety Company

[Add signatures for each if using multiple bonds]

BY ATTORNEY-IN-FACT:

[Power-of-Attorney must accompany each bond]

Shawna Johnson

Name

[Signature]

Signature

10260 SW Greenburg Rd., Suite 1060

Address

Portland OR 97223

City State Zip

800-777-9004 503-245-7986

Phone Fax



OLD REPUBLIC SURETY COMPANY

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That OLD REPUBLIC SURETY COMPANY, a Wisconsin stock insurance corporation, does make, constitute and appoint: **Kristen McGillvrey, Tina A. Costa, Dean R. Pollock, Summer Hugh, Darrin Godfrey, Nadya Alami, Shawna Johnson, James R. Cox, Ashlee Baumgartner of Eugene, OR**

its true and lawful Attorney(s)-in-Fact, with full power and authority for and on behalf of the company as surety, to execute and deliver and affix the seal of the company thereto (if a seal is required), bonds, undertakings, recognizances or other written obligations in the nature thereof, **(other than bail bonds, bank depository bonds, mortgage deficiency bonds, mortgage guaranty bonds, guarantees of installment paper and note guaranty bonds, self-insurance workers compensation bonds guaranteeing payment of benefits, or black lung bonds)**, as follows:

ALL WRITTEN INSTRUMENTS

and to bind OLD REPUBLIC SURETY COMPANY thereby, and all of the acts of said Attorneys-in-Fact, pursuant to these presents, are ratified and confirmed. This appointment is made under and by authority of the board of directors at a special meeting held on February 18, 1982.

This Power of Attorney is signed and sealed by facsimile under and by the authority of the following resolutions adopted by the board of directors of the OLD REPUBLIC SURETY COMPANY on February 18, 1982.

RESOLVED that, the president, any vice-president or assistant vice president, in conjunction with the secretary or any assistant secretary, may appoint attorneys-in-fact or agents with authority as defined or limited in the instrument evidencing the appointment in each case, for and on behalf of the company to execute and deliver and affix the seal of the company to bonds, undertakings, recognizances, and suretyship obligations of all kinds; and said officers may remove any such attorney-in-fact or agent and revoke any Power of Attorney previously granted to such person.

RESOLVED FURTHER, that any bond, undertaking, recognizance, or suretyship obligation shall be valid and binding upon the Company

- (i) when signed by the president, any vice president or assistant vice president, and attested and sealed (if a seal be required) by any secretary or assistant secretary; or
- (ii) when signed by the president, any vice president or assistant vice president, secretary or assistant secretary, and countersigned and sealed (if a seal be required) by a duly authorized attorney-in-fact or agent; or
- (iii) when duly executed and sealed (if a seal be required) by one or more attorneys-in-fact or agents pursuant to and within the limits of the authority evidenced by the Power of Attorney issued by the company to such person or persons.

RESOLVED FURTHER that the signature of any authorized officer and the seal of the company may be affixed by facsimile to any Power of Attorney or certification thereof authorizing the execution and delivery of any bond, undertaking, recognizance, or other suretyship obligations of the company; and such signature and seal when so used shall have the same force and effect as though manually affixed.

IN WITNESS WHEREOF, OLD REPUBLIC SURETY COMPANY has caused these presents to be signed by its proper officer, and its corporate seal to be affixed this 3rd day of January, 2025.

OLD REPUBLIC SURETY COMPANY

Karen J. Haffner
Assistant Secretary



Alan Pollock
President

STATE OF WISCONSIN, COUNTY OF WAUKESHA - SS

On this 3rd day of January, 2025, personally came before me, Alan Pavlic and Karen J. Haffner, to me known to be the individuals and officers of the OLD REPUBLIC SURETY COMPANY who executed the above instrument, and they each acknowledged the execution of the same, and being by me duly sworn, did severally depose and say: that they are the said officers of the corporation aforesaid, and that the seal affixed to the above instrument is the seal of the corporation, and that said corporate seal and their signatures as such officers were duly affixed and subscribed to the said instrument by the authority of the board of directors of said corporation.



Kathryn R. Pearson
Notary Public

My Commission Expires: September 28, 2026

(Expiration of notary's commission does not invalidate this instrument)

CERTIFICATE

I, the undersigned, assistant secretary of the OLD REPUBLIC SURETY COMPANY, a Wisconsin corporation, CERTIFY that the foregoing and attached Power of Attorney remains in full force and has not been revoked; and furthermore, that the Resolutions of the board of directors set forth in the Power of Attorney, are now in force.



77 5930

Signed and sealed at the City of Brookfield, WI this 3rd day of June, 2025.

Karen J. Haffner
Assistant Secretary

ORSC 22262 (3-06)

HUB Int'l Northwest LLC



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

PROJECT: #2025-22 82nd Drive and Jennifer Street Signal Replacement Project

Project Background:

The Clackamas County Department of Transportation is planning to replace traffic signals, street lighting, ADA ramps, pushbuttons, pavement, and pavement markings at the intersection of 82nd Drive and Jennifer Street. The existing signals are at the end of their service life with one pole recently being damaged by a motor vehicle. A wood pole is currently in place as a temporary replacement. The existing curb ramps and pushbuttons also do not meet current ADA standards.

Engineers Estimate: \$800,000.00 - \$900,000.00

Key Dates:

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

Substantial Completion: November 15, 2025

Final Completion: May 15, 2026

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

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

SPECIAL PROVISIONS FOR HIGHWAY CONSTRUCTION- CLACKAMAS COUNTY
DEVELOPMENT AGENCY CLACKAMAS COUNTY, OREGON- 82nd Drive & Jennifer Street
Signal Replacement, dated June 2024 (78 Pages)

82nd DRIVE & JENNIFER STREET SIGNAL REPLACEMENT Drawing Set, Sheets No. C-01; 2.0; 3.0;
3.1; 3.2; 4.0; 5.0; 6.0; 6.1; 7.0; SS-01 to SS-06; TS-01 to TS-09; IC-01 to IC-03; TC-01 to TC-05 (33
Pages)

82nd Ave @ Jennifer Street- 332S ODOT Stretch Cabinet Housing print- (7 Page)

**SPECIAL PROVISIONS
FOR CONSTRUCTION**

**CLACKAMAS COUNTY DEVELOPMENT AGENCY
CLACKAMAS COUNTY, OREGON
82nd Drive & Jennifer Street Signal Replacement**

June 2024

Bid Set

Prepared by:



**Harper
Houf Peterson
Righellis Inc.**

ENGINEERS ♦ PLANNERS
LANDSCAPE ARCHITECTS ♦ SURVEYORS

**82nd Drive & Jennifer Street Signal Replacement
Grading, Structures, Paving, and Signals**


CLACKAMAS COUNTY DEPARTMENT OF TRANSPORTATION AND
DEVELOPMENT

SPECIAL PROVISIONS

FOR


82nd Drive & Jennifer Street Signal Replacement
Clackamas County

PROFESSIONAL OF RECORD CERTIFICATION:

 <p>REGISTERED PROFESSIONAL ENGINEER 58,613 <i>Neil A. Waibel</i> OREGON MARCH 12, 2002 NEIL A. WAIBEL</p> <p>EXPIRES: 06/30/2024</p>	<p>I certify the Special Provision Section(s) listed below are applicable to the design for the subject project. Modified Special Provisions were prepared by me or under my supervision.</p> <p>00210, 00280, 00290, 00305, 00310, 00320, 00330, 00331, 00340, 00350, 00490, 00596C, 00620, 00641, 00730, 00744, 00759, 01030, 01040, 01050, 01069</p>
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HHPR compiled the specification booklet and provided input or information related to special provisions for the above-mentioned sections of work.

**82nd Drive & Jennifer Street Signal Replacement
Grading, Structures, Paving, and Signals**

	<p>I certify the Special Provision Section(s) listed below are applicable to the design for the subject project. Modified Special Provisions were prepared by me or under my supervision.</p> <p><u>00220, 00221, 00222, 00223, 00224, 00225, 00227, 00228, 00850, 00865, 00867, 00868, 00905, 00920, 00930, 00940, 00950, 00960, 00962, 00963, 00970, 00987, 00990</u></p>
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DKS Associates provided input or information related to the special provisions for the above-mentioned sections of work.

**82nd Drive & Jennifer Street Signal Replacement
Grading, Structures, Paving, and Signals**

INFORMATION PROVIDED UNDER SEPARATE COVER

- 82ND DRIVE & JENNIFER STREET SIGNAL REPLACEMENT – BID SET
DRAWINGS
- BID SCHEDULE

SPECIAL PROVISIONS

WORK TO BE DONE

The Plan Sets for this project is entitled:

82nd DRIVE & JENNIFER STREET SIGNAL REPLACEMENT, CLACKAMAS COUNTY

The 82ND Drive & Jennifer Street Signal Replacement Project includes the construction of roadway improvements at the intersection of 82nd Drive and Jennifer Street.

Improvements include new signals, curbs, sidewalk and ADA ramps, resurfacing of asphalt pavement, and also to perform additional and incidental Work, as called for by the Specifications and Plans.

APPLICABLE SPECIFICATIONS

The Specifications that are applicable to the Work on this Project are the 2024 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 General Conditions or Standard Specifications bearing like numbers and to Sections and subsections contained in these Special Provisions in their entirety.

The construction drawings may include standard drawings or details within the plan set or they may be included by reference. If standard drawings or details are included, it is intended to indicate that this specific drawing be used. If standard drawings or details are referenced, it is intended to indicate that the latest available drawing should be used.

CLASS OF PROJECT

This is a Clackamas County Department of Transportation and Development Funded Project.

Section 00110 – Organization, Conventions, Abbreviations and Definitions

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

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

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

- Clackamas County's Local Contract Review Board (LCRB) Rules are accessible online on the County's website <https://dochub.clackamas.us/documents/drupal/ef976bc9-14f4-495b-9bd8-c69ee7334685>

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.

END OF SECTION

Section 00120 – Bidding Requirements and Procedures

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

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

See Instructions to Bidders.

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

See Instructions to Bidders.

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

See Notice of Public Improvement Contract and Instructions to Bidders.

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

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

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.

END OF SECTION

Section 00130 – Award and Execution of Contract

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

00130.00 Consideration of Bids - Delete third paragraph.

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

See Instructions to Bidders.

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

See Instructions to Bidders.

00130.30 Contract Booklet – Add the following:

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

- The "Oregon Standard Specifications for Construction", 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.

END OF SECTION

Section 00140 – Scope of Work

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

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

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

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

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

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

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

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

END OF SECTION

Section 00150 – Control of Work

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

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

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

00150.05 Cooperative Arrangements – Delete this section.

00150.10 Coordination of Contract Documents

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

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

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

Notes on a drawing shall take precedence over drawing details.

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

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

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

- Reference existing survey markers prior to Contractor removal. Following Contractor installation of monument boxes, Engineer will re-install survey markers disturbed by construction

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

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

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

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

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

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

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

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

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

Add the following subsection:

00150.50(f) Utility Information (No Anticipated Relocations) - Within the Project limits, there are no anticipated relocations with the Utilities listed in Table 00150-1. The Contractor shall contact those Utilities having buried facilities and request that they locate and mark them for their protection prior to construction.

Table 00150-1

Utility	Contact Person's Name, Address, Email, Phone Number and Work Order Number
Portland General Electric (PGE) – Power	Gerardo Trejo-Martinez Gerardo.trejo@pgn.com (503) 307-5841 M3489892
Portland General Electric (PGE) – Lighting	Rico Torres Solis (503) 403-9084 M3529660
NW Natural	Jerry Vaughn (503) 703-6842 220 NW Second Avenue Portland, OR 97209 Jerry.VaughnJr@nwnatural.com
Lumen	Jonathan Myrick 8021 SW Capitol Hill Rd. Rm Portland, OR 97219 (303) 382-0697 jonathan.myrick@lumen.com

Clackamas River Water District (CRW)	Anthony Steele (503) 722 9239 Office (503) 793 1094 Cell 16770 SE 82 nd Drive Clackamas, OR 97015 asteel@crwater.com
Clackamas County – Water Environment Services (WES)	Don Kemp 150 Beavercreek Road Oregon City, OR 97045 503-742-4577 DonKem@clackamas.us
Clackamas County - Lighting	Wendi Coryell 150 Beavercreek Road Oregon City, OR 97045 503-742-4657 wendicor@clackamas.us

The Contractor shall notify, in writing, the Utilities listed above, with a copy to the Engineer, at least 14 Calendar Days before beginning Work on the Project. Utilities may require an on-site observer, at no cost to the Contractor.

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

- Northwest Natural Gas 1-800-882-3377

Northwest Natural Gas existing utilities that may be within 15 feet of construction work. There are no anticipated conflicts with these facilities. However, due to the close proximity of construction work Northwest Natural may opt to monitor, inspect, and protect.

Energized power lines overhang portions of the Work with a minimum vertical clearance of 18 feet. Energized power lines are also located underground within limits of construction. Contractor to maintain at least 10 feet of safety clearance from both overhead and underground power lines. Exceptions require written approval from PGE 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.

Coordinate with PGE to perform contract work, including signal installation within 10 feet of the aerial power line during times when *PGE* cannot de-energize the power facility.

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. The Contractor shall include in the video any areas, public or private, that are to be used as staging to document the pre-construction condition of the surface and limits.

END OF SECTION

Section 00160 – Source of Materials

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

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

END OF SECTION

Section 00165 – Quality of Materials

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

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

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

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

The County follows the NTMAG on its projects.

END OF SECTION

Section 00170 – Legal Relations and Responsibilities

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

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

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

00170.02 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.

The contractor must take out all necessary electrical permits and pay all fees for the project including but not limited to the following:

- Signal Installation
- Private lighting modifications
- Private sign connections
- Irrigation power connections
- Plumbing permits for reconnecting private water services
- All other private or public connections

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

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)

Add the following:

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

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

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

- Clackamas County and its officers, agents, and employees
- Clackamas County Board of Commissioners
- DKS Associates, and its officers, agents, and employees
- Harper Houf Peterson Righellis Inc. and its officers, agents, and employees

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

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

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

If specified by Special Provision, the Contractor shall obtain, at its expense, and keep in effect during the term of the Contract, Builder's Risk Installation Floater Insurance covering the Contractor's Materials and Equipment to be used for completion of the Work performed under the Contract. The minimum amount

of coverage to be carried shall be equal to the full amount of the Contractor's Equipment, Materials, or fixtures to be installed, in-transit, or stored off-site during the performance of the Contract. This insurance shall include as loss payees the Agency, State of Oregon, the building or structure owner, the Contractor and Subcontractors as their interests may appear.

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

Clackamas County Public Improvement Contract.

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

- Clackamas County and its officers, agents, and employees
- Clackamas County Board of Commissioners
- DKS Associates, and its officers, agents, and employees
- Harper Houf Peterson Righellis Inc. and its officers, agents, and employees

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

END OF SECTION

Section 00180 – Prosecution and Progress

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

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

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

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

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

00180.40 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.

Some local businesses and private property owners will be affected by construction activities on this project and the Contractor is expected to coordinate and work with them to minimize impacts to homes, businesses and to their customers. Access to homes and businesses impacted by this project must be maintained at all times. The Contractor shall coordinate with owners regarding all work on their property or impacting their parking and/or access to ensure minimal impact or specific needs during construction are met.

Add the following subsection:

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

Limitations	Subsection
Cooperation with Utilities	00150.50
Cooperation with Other Contractors	00150.55

On-Site Work	00180.40(b)
Contract Completion Time	00180.50(h)
 Traffic Lane Restrictions	 00220.40(e)
Special Events	00220.40(e)
 Noise Control	 00290.32
Maintenance Under Traffic	00620.43
Opening Sections to Traffic	00744.51
Opening Sections to Traffic	00745.51

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

00180.41 Project Work Schedules – Add the following:

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

00180.42 Preconstruction Conference - Add the following:

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

Submit the following during the preconstruction conference unless otherwise directed:

- The names, addresses, and telephone numbers of two or more persons employed by the Contractor who can be reached day or night to handle emergency matters.
- Subcontractor's list including contact list for each subcontractor with phone numbers and addresses and work to be performed.

- List of personnel authorized to sign change orders and receive progress payment warrants.
- List of all contractor and subcontractor equipment proposed for use on the project, and Blue Book Rental Rate sheets for that equipment.
- 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 - There are two Contract Times on this Project as follows:

(1) Complete all Work to be done under the Contract, except for Grinding, Paving, and Striping, not later than November 15, 2025.

(2) Complete all Work to be done under the Contract not later than May 15, 2026.

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 - Delete subsections (1) and (2) and replace with the following:

The liquidated damages for failure to complete the Work on time required by 00180.50(h) will be \$700 per Calendar Day *.

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

Add the following subsection:

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

(1) Lane Closures - It is impractical to determine the actual damages the Agency will

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

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

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

- A Statement that the Contractor shall provide a safe and respectful workplace on the jobsite for all workers, subcontractors, suppliers, and other persons performing work.

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

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

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

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

END OF SECTION

Section 00190 – Measurement of Pay Quantities

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

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

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

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

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

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

- Furnish a legible, serially numbered weigh memo for each load of Materials to the Agency's Materials receiver at the point of delivery, or as directed by the Engineer. The memo shall identify the Project, the Materials, the date, net weight (gross and tare as appropriate), and identification of the vehicle and weigh technician. If approved by the Engineer an electronic weigh memo system may be used. Requests to use an electronic weigh memo system shall be submitted to the Engineer according to 00150.37, providing sufficient detail for the Engineer to perform an evaluation. If approved, the Contractor shall provide training, technical support, reports, and weigh memo information to the Engineer at no additional cost to the Agency. The electronic weigh memo system shall be:
 - Capable of recording and securely retaining the same required "weigh memo" information identified above. For retention see 00170.07(c).
 - Fully integrated with the provided weigh scale system.
 - Designed in such a way that the data electronically read from scales cannot be altered by the Contractor, Subcontractor, Supplier, Engineer, or other system users.
 - Designed to allow the Engineer remote access to all the weigh memo data in real-time and allow the Engineer to add comments to the individual weigh memo regarding waste, temperature, stations, yield or other information. The system shall identify the system user or individual that adds comments to the electronic weigh memo or otherwise access

the system. The Contractor shall provide the Engineer a means to access the data if the Engineer cannot use an Agency provided hand held device for access.

- Capable of providing all the weigh memo information, including any added comments, in an electronic data file the Engineer can easily access without proprietary software.

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

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

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

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

END OF SECTION

Section 00195 – Payment

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

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

No asphalt cement cost adjustment shall be used on this project.

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

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

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

Significant is defined as:

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

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

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

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

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

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

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

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

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

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

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

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

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

Delete and replace paragraph (2) with the following:

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

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

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

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

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

END OF SECTION

Section 00196 – Payment for Extra Work

Comply with Section 00196 of the Standard Specifications 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.

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

END OF SECTION

Section 00197 – Payment for Force Account Work

Comply with Section 00197 of the Standard Specifications.

END OF SECTION

Section 00199 – Disagreements, Protests and Claims

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

00199.40 Claim Decision; Review; Exhaustion of Administrative Remedies - Delete the entire section and replace with the following:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

The Contractor shall comply with 00170.00.

00199.50 Mediation - Delete the entire section.

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

END OF SECTION

SECTION 00210 - MOBILIZATION

Comply with Section 00210 of the Standard Specifications.

SECTION 00220 - ACCOMMODATIONS FOR PUBLIC TRAFFIC

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

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

- Before activating a modified traffic signal, revising lane usage, implementing new roadway geometry, or removing a "STOP" sign, protect traffic by installing "NEW TRAFFIC PATTERN AHEAD" (W23-2) signing according to 00222.40. Keep the signs in place for 30 Calendar Days after completing the modifications.
- 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.

00220.40(e)(1) Closed Lanes - Replace this subsection, except for the subsection number and title, with the following:

Traffic Lanes may be closed on the SE 82nd Drive and SE Jennifer Street when allowed, shown, or directed during the following periods of time except as specified in 00220.40(e)(2):

Single Lane Closures – One Traffic Lane in each direction on SE 82nd Drive and SE Jennifer Street may be closed during the following times:

- Daily, Monday through Thursday, between 9:00 a.m. and 4:00 p.m.
- Friday, between 9:00 a.m. and 3:00 p.m.

During cold-plane pavement removal and asphalt pavement construction, One Traffic Lane in each direction on SE 82nd Drive and SE Jennifer Street may be closed during the following times:

- Daily, Monday through Thursday, between 9:00 a.m. and 4:00 p.m.
- Friday, between 9:00 a.m. and 3:00 p.m.
- Nightly, Sunday night through Friday morning, between 7:00 p.m. and 6:00 a.m.

SECTION 00221 - COMMON PROVISIONS FOR WORK ZONE TRAFFIC CONTROL

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

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

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

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

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

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

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

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

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

- Stamped Working Drawings according to 00150.35 that include the proposed TCP showing all TCM and quantities of TCD.
- A TPAR plan that includes:
 - Details and features used to provide pedestrian accessibility.
 - Pedestrian staging Plans at a scale no smaller than 1 inch = 50 feet.
 - Temporary alternate facilities or detour routes for pedestrian traffic.
- Staging sequences and details for Work affecting vehicular, pedestrian, and bicycle traffic.
- Proposed order and duration of the TCM.
- A detailed temporary striping plan.

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

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

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

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

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

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

SECTION 00222 – TEMPORARY TRAFFIC CONTROL SIGNS

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

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

- At least ten Calendar Days prior to the start of work, place a "SIDEWALK OPEN" (CW11-3) sign in advance of each end of the Work Area. Locate the sign so it is legible from the nearest alternate pedestrian pathway facing incoming pedestrian traffic. The sign may be mounted between the panels of a Type II barricade, or on a single-post TSS. Do not place the sign or support such that it narrows the pedestrian pathway to a width less than 4 feet.
- Before starting work, place pedestrian-specific TCM as shown in the TCP, or as directed. Maintain "SIDEWALK OPEN" (CW11-3) signs while work is affecting the pedestrian pathway.
- Place a "PEDESTRIANS ON ROADWAY" (CW11-2) sign at the beginning of each end of the Work Area, facing incoming traffic as shown, or as directed.
- Install "ROAD WORK AHEAD" (W20-1-48) signs with a 36 by 24-inch "FINES DOUBLE" (R2-6aP) rider on SE 82nd Drive and SE Jennifer Street, according to the "TCD Spacing Table" shown on the Standard Drawings or as modified by the Plans except do not install the "FINES DOUBLE" rider on concrete barrier mounted signs.
- Install beyond each end of the Project, facing outgoing traffic, an "END ROAD WORK" (CG20-2A-24) sign a distance of $(A \div 2)$ according to the "TCD Spacing Table" shown on the Standard Drawings or as modified by the Plans.
- For each leg of the intersection affected by the new traffic signal, install the following warning signs:
 - A "Signal Ahead" (W3-3) symbol sign approximately 350 feet in advance of the intersection, shown on the Standard Drawings or as modified by the Plans.

- A "NEW TRAFFIC PATTERN AHEAD" (W23-2) sign approximately 350 feet in advance of the "Signal Ahead" sign. Keep the "NEW TRAFFIC PATTERN AHEAD" signs in place 30 Calendar Days after installing the "Signal Ahead" sign.

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 00225 - TEMPORARY PAVEMENT MARKINGS

Comply with Section 00225 of the Standard Specifications.

SECTION 00227 - TEMPORARY TRAFFIC SIGNALS AND ILLUMINATION

Comply with Section 00227 of the Standard Specifications.

SECTION 00228 - TEMPORARY PEDESTRIAN AND BICYCLIST ROUTING

Comply with Section 00228 of the Standard Specifications.

SECTION 00280 - EROSION AND SEDIMENT CONTROL

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

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

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

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

Add the following paragraph to the end of this subsection:

The Agency's NPDES 1200-CA permit is not applicable to this Project. Comply with all applicable conditions of this Section.

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

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

00280.06 Erosion and Sediment Control Manager - Delete this subsection.

00280.90 Payment - Add the following bullet to the paragraph that begins "Item (a) includes..."

- furnishing all erosion prevention and runoff/sediment control materials as required to implement the ESCP.

00280.91 Payment – Delete this section. All erosion prevention and erosion control materials are included in payment according to 00280.90.

SECTION 00290 - ENVIRONMENTAL PROTECTION

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

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

The Contractor shall comply with the applicable noise control requirements of the ordinance for project work in Clackamas County.

Copies of the ordinance and noise control code (Title 6.05) are available at the office of the Project Manager or online at www.clackamas.us/code.

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

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

SECTION 00305 - CONSTRUCTION SURVEY WORK

Comply with Section 00305 of the Standard Specifications.

SECTION 00310 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

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

00310.00 Scope - Add the following:

The work shall include the removal and/or relocation of existing landscape features that must be removed for the project. The work shall also include the removal of walls, existing fences and foundations, existing inlets, culverts, and disconnecting, protecting, and/or capping the existing utility lines as shown on the plans. Sawcutting of existing surfaces or structures shall be considered incidental to removal work. The quantity of AC Pavement, Concrete, Curb and Concrete Surfacing removal is estimated at 305 SY. This estimated quantity is provided for the

benefit of the Contractor, however the Contractor is responsible for calculation of their own quantity of surfaces and other materials to be removed in preparation of their bid.

SECTION 00320 - CLEARING AND GRUBBING

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

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

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

00320.42 Disposal of Matter - Replace this subsection with the following subsection:

00320.42 Ownership and Disposal of Matter - Vegetation and natural material designated for preservation and salvage are the property of the Agency. All other matter and debris accumulated from clearing and grubbing operations become the Contractor's property at the place of origin. Dispose of all matter and debris according to 00290.20.

SECTION 00330 - EARTHWORK

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

00330.03 Basis of Performance - Delete this subsection and replace with the following:

00330.03 Basis of Performance – Earthwork to be performed under this specification including excavation, haul, disposal, and embankment construction, unless otherwise specified, will not be measured and will be paid for on the Lump Sum Basis.

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

00330.15 Selected Stone Backfill - Delete the sentence that begins "Reclaimed glass meeting the requirements of Section 02695..."

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

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

Contractor shall provide written certification to Clackamas County DTD that the waste material is placed in a state approved and local agency approved location. Certification must be delivered to County prior to material leaving the site.

00330.41(e) Blasting – Replace this subsection, except for the subsection number and title, with the following:

Blasting will not be permitted on this project.

00330.42(c-3) Embankment Slope Protection - Add the following paragraph:

Construct the outer 6 inches of embankments with suitable materials to establish slope stabilization through permanent seeding. If suitable material is not available, provide suitable materials from a Contractor-provided source which conforms to the requirements of 00330.11 or 00330.13 and provides favorable conditions for germination of seed and growth of grass.

00330.80 Measurement – Replace the first paragraph and two bulleted items with the following:

- There will be no measurement of quantities for general earthwork. **The Contractor shall complete their own earthwork calculations to confirm the required quantities for their bid.** The Engineer has estimated the following quantities utilizing AutoCAD Civil 3D 2020.

*Embankment: 10 cubic yards

*Excavation: 150 cubic yards

The Contractor should consider the following when preparing their lump sum bid:

* The Engineer's earthwork volume estimates are calculated as the volume between subgrade of project improvements and the existing ground surface as indicated in the topographic survey. These estimated volumes do not reflect volumetric adjustments relating to stripping depths or removal of structures and obstructions such as existing asphalt concrete pavement and concrete sidewalks, curbs, and driveways that are identified to be removed. Earthwork quantities also include excavation required for placement of topsoil within the project limits

including landscape areas, and other grading outside the limits of the roadway as shown on the plans.

A 5% contingency has been added to the earthwork quantity estimate to account for miscellaneous earthwork not specifically identified in the project drawings or required as directed by the Engineer. This additional 5% work contingency shall be reflected in the Contractor's lump sum bid and will not be measured.

*The quantities estimated above exclude excavation and embankment for the following items, which are paid under the separate specific bid items:

- Trench Excavation (Incidental to Pipe Installation)
- All Concrete Curbs, Sidewalks (Incidental to those items)
- Wall Excavation
- All other items where the specifications specifically state that excavation is a part of the bid item

00330.91(d) General Excavation - Delete the bullet that begins "Includes unsuitable material...".

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

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

Add the following subsection:

00330.95 Lump Sum Basis - All earthwork, including all excavation and embankment as defined under Section 00330, shall be completed on a Lump Sum Basis under the following pay item:

Pay Item	Unit of Measurement
(a) Earthwork – Excavation and Embankment	Lump Sum

Payment includes payment in full for excavating, selecting, handling, hauling, placement and compaction of the materials as specified, and all other costs associated with furnishing required embankment materials.

No additional payment will be made for gentle excavation techniques such as vacuum- or hand-excavation, where required.

SECTION 00331 - SUBGRADE STABILIZATION

Comply with Section 00331 of the Standard Specifications.

SECTION 00340 - WATERING

Comply with Section 00340 of the Standard Specifications.

SECTION 00350 - GEOSYNTHETIC INSTALLATION

Comply with Section 00350 of the Standard Specifications.

SECTION 00490 - WORK ON EXISTING SEWERS AND STRUCTURES

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

00490.90 Payment – Modify as follows:

Delete Pay Item (g). Connection of an existing pipe or structure to a new pipe, manhole, catch basin or inlet is considered incidental to pipe or structure installation.

Add the following at the end of this subsection:

Valve (water/gas) or Cleanout (storm/sanitary) adjustments to finished grade are incidental and 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 00596C - CAST-IN-PLACE CONCRETE RETAINING WALLS

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

00596C.80 Measurement - Add the following to the end of this subsection:

This is a minor wall. The concrete retaining wall has an estimated surface area of 113 SY. The Contractor is responsible for completing their own quantity takeoff using the provided profile and detail cross-section for bidding purposes

SECTION 00620 - COLD PLANE PAVEMENT REMOVAL

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

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

Traffic is not allowed on the cold planed surface. Before opening the area to traffic, pave the surface according to 00744.51.

00620.90 Payment – Add the following to this section.

Sawcutting required at match points defined in Section 00620.40(a) shall be considered incidental to payment. No additional payment will be made for removal or disposal of pavement fabric or for the “increased cost” of hauling grindings that include pavement fabric.

SECTION 00641 - AGGREGATE SUBBASE, BASE, AND SHOULDERS

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

00641.10(a) Base and Shoulder Aggregate - In the paragraph that begins "Aggregate for bases...", add the following sentence after the first sentence:

Base Aggregate shall be 1"-0 size. Base aggregate shall be visibly "clean". Any visually dirty aggregate base delivered to the project will be rejected.

SECTION 00730 - EMULSIFIED ASPHALT TACK COAT

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

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

No separate or additional payment will be made for Emulsified Asphalt tack coat. Approximately 0.6 Tons of Emulsified Asphalt in tack coat will be required on this Project.

SECTION 00744 - ASPHALT CONCRETE PAVEMENT

Comply with Section 00744 of the Standard Specifications modified as follows:

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

Provide 64-22 grade asphalt cement for this Project.

Add the following subsection:

00744.51 Opening Sections to Traffic - Schedule work so that, during the same shift, the surfaces being paved are paved full width and length through the wearing Course before opening to traffic.

SECTION 00759 - MISCELLANEOUS PORTLAND CEMENT CONCRETE STRUCTURES

Comply with Section 00759 of the Standard Specifications modified as follows:

00759.11 Aggregate Base - Add the following to the end of this subsection:

Aggregate Base required for base, foundation, leveling courses or bedding under concrete items in this section will be considered incidental to the appropriate bid item. See plans for depth requirements.

00759.90 Payment – Add the following Pay Items:

Pay Item	Unit of Measurement
(o) Concrete Walks, 6" Thick	Square Foot
(p) Concrete Sidewalk, Thickened Edge	Foot

SECTION 00850 - COMMON PROVISIONS FOR PAVEMENT MARKINGS

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

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

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

SECTION 00865 - LONGITUDINAL PAVEMENT MARKINGS - DURABLE

Comply with Section 00865 of the Standard Specifications.

SECTION 00867 - TRANSVERSE PAVEMENT MARKINGS - LEGENDS AND BARS

Comply with Section 00867 of the Standard Specifications.

SECTION 00868 - COLORED LANE MARKINGS

Section 00868, which is not a Standard Specification, is included in this Project by Special Provision.

Description

00868.00 Scope - In addition to the requirements of Section 00850, install colored lane markings according to the following Specifications.

Labor

00868.30 Manufacturer's Representative - Provide a manufacturer's representative according to 00850.30.

00868.31 Manufacturer-Certified Installers - Provide certified installers according to 00850.31.

Construction

00868.45 Installation - Place markings only when the manufacturer's representative determines that the Pavement is ready for the Pavement marking material.

Apply the material to the Pavement according to the manufacturer's installation instructions to the full width shown in the Plans. Joints will be allowed with no overlap or gap allowed at the joint.

Do not install reflective elements.

Install the Pavement marking material surface according to the manufacturer's installation instructions to achieve a uniform initial skid resistance greater than or equal to 50 British Pendulum Number (BPN) when tested according to ASTM E303.

Apply one or more of the following marking material types:

- **Preformed, Fused Thermoplastic Film High Skid** - Install preformed, fused thermoplastic film high skid that has factory installed crushed glass or Aggregate on the surface.
- **Methyl Methacrylate** - Apply methyl methacrylate to the Pavement to the full width shown in a single application. Colored lane markings shall be 90 mils to 120 mils in thickness, exclusive of projecting surface-applied friction elements, with a continuous and uniform cross sectional configuration.

00868.75 Manufacturer's Warranty - Furnish a manufacturer warranty that unconditionally warrants to the Agency the product(s) and installation under this Section against failure , according to this subsection and 00170.85(c)(1). Use Agency-supplied warranty forms, available from the Engineer.

"Unconditionally warrant" means that the warranty covers all failures, regardless of the source or cause of the failure, including, without limitation, whether the source or cause is or may be related to workmanship, inspection, or choice of materials.

The Agency inspection of any portion of the Work during the Contract and during the product installation, the Agency acceptance of the Work, corrections under the warranty, or expiration of the warranty shall not relieve the obligations under this warranty.

(a) Warranty Period - The warranty period shall be for 18 months.

(b) Failure - For purposes of this warranty, failure is defined as one or more of the following:

- **Insufficient Color Stability:**
 - Green markings fail to meet the requirements of the Federal Highway Administration Interim Approval for Optional Use of Green Colored Pavement for Bike Lanes (IA-14) tested according to ASTM D6628.
- **Loss of Adhesion** - Markings show 5 percent or greater loss of marking material due to non-adhesion.

- **Skid Resistance** - Markings fail to maintain an average skid resistance greater than or equal to 50 British Pendulum Number (BPN) when tested in an equal number of test locations in both wheel path and non-wheel path locations according to ASTM E303.

(c) Remedy - Upon notification by the Engineer of a failure, provide the following remedy at no additional cost to the Agency:

- Repair or replace, at the discretion of the Engineer, all failed Pavement markings within 6 months of the Agency's request to do so.
- Use Materials and procedures meeting the Specifications.
- Match repairs to adjoining Work.
- Coordinate timing of repair Work with the Engineer.

(d) Agency's Right to Make Repairs - If, in the opinion of the Engineer, a failure causes or may cause a hazard, the failure may be temporarily corrected by Agency or other forces at no additional cost to the Agency. Replace temporary repairs with permanent repairs at no additional cost to the Agency and according to the Specifications and within the time specified in 00868.75(c).

Measurement

00868.80 Measurement - The quantities of colored lane markings will be measured on the area basis.

Payment

00868.90 Payment - The accepted quantities of Work performed under this Section will be paid for at the Contract unit price, per unit of measurement, for the following items:

Pay Item

Unit of Measurement

(a) Green Bicycle Lane, Preformed Thermoplastic Film Square Foot

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

Payment for Work under this Section will be limited to 75 percent of the amount due until the Agency has received the signed warranty.

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:

The estimated quantities of concrete for minor sign supports are:

Support Type	Quantity
Perforated Steel Square Tube Slip Base Sign Supports	0.3 cu. yd.

SECTION 00930 - METAL SIGN SUPPORTS

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

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

The estimated quantities of structural steel are as follows:

Item	Estimated Quantity (Pound)
Minor Sign Supports	
Perforated Steel Square Tube Slip Base Sign Supports	166

SECTION 00940 - SIGNS

Comply with Section 00940 of the Standard Specifications.

SECTION 00950 - REMOVAL OF ELECTRICAL SYSTEMS

Comply with Section 00950 of the Standard Specifications modified as follows:

00950.42 Salvaging and Stockpiling Materials - Add the following to the end of this subsection:

All existing traffic signal equipment to be removed that is deemed usable by Clackamas County shall be delivered to 19246 Wachen Parkway, Oregon City, OR 97045. Contact the Clackamas County Inspector, the Engineer and Carl Olson at (503) 742-4684, 48 hours prior to removal of existing traffic signal equipment. The Project Manager shall inform the Contractor which equipment the Contractor shall deliver to the County and the location of deliveries are to be received. Equipment damaged or missing during removal shall be replaced or paid for by the Contractor.

All equipment deemed unusable shall become the property of the Contractor and be removed from the project site.

Replace electrical system equipment that is deemed usable, which is damaged during salvaging and stockpiling.

SECTION 00960 - COMMON PROVISIONS FOR ELECTRICAL SYSTEMS

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

00960.02 Equipment List and Drawing Submittals – Replace this subsection with the following subsection:

00960.02 Equipment List and Drawing Submittals – Within 30 Calendar Days after execution of the Contract, submit electronic PDF copies of the Blue Sheets (see 00160.00 and 001607.07) and the Green Sheets (see 00160.00 and 00160.07) according to 00150.37 for all materials the Contractor proposes to install. Refer to 00990 for exemptions to the Blue Sheets and Green Sheets on Clackamas County operated traffic signals.

Within 14 Calendar Days after receipt of submittals, the Engineer will review the submittals and designate them in writing as “review” or “reviewed with comments”. Then within the follow 7 Calendar Days after the Engineer review, Clackamas County Traffic Staff will review the submittals and designate them in writing “approved”, “approved as noted”, or “revise and resubmit”. Do not proceed with the Work before receiving written approval of the submittals from the Engineer or Clackamas County.

00960.10 Materials – Add the following to the end of this subsection:

Use only Schedule 80 PVC conduits and fittings for all underground conduits.

Add the following subsection:

00960.42(c) Connecting Non-Metallic Conduit to Metallic Conduit - Use a nonmetallic female threaded connector to connect nonmetallic conduit to metallic conduit.

00960.43 Foundations – Add the following to the end of this subsection.

Separate the aluminum from the concrete with one layer of 30 pound nonperforated, asphalt-saturated felt. Neatly trim the felt pad to the size and shape of the base contact surface.

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

Table 00960-1

Location	PGE Contact Person's Name, Email and Phone Number	PGE Job Number
SE 82 nd Dr/Jennifer St (Traffic Signal Service)	Gerardo Trejo-Martinez, gerardo.trejo@pgn.com (503) 307-5841	M3489892
SE 82 nd Dr/Jennifer St (Street Lighting Service)	Rico Torres Solis, Rodrigo.solis@pgn.com (503) 403-9084	M3529660

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

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, $\gamma=120$ 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, $\gamma=100$ 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, $\gamma=100$ 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 Steel Illumination and Signal Poles – Add the following at the end of first paragraph:

Metal poles shall be placed on the job site in a manner which allows the Agency Engineer to inspect luminaire arm connections, recessed terminal compartments, base plates, and tenons without moving the poles. The Contractor shall notify the Agency Engineer when the poles are ready for inspection.

If any shafts, arms, or luminaire arms do not meet Clackamas County specifications, they will be rejected. If the shafts, arms, or luminaire arms are rejected, the Contractor will have a maximum

of 30 calendar days from the date of rejection to deliver replacement shaft(s), arm(s), or luminaire arm(s) to the job site which meet the Clackamas County specifications. The Contractor shall provide written documentation that the pole manufacturer is able to supply replacement poles to the job site within 30 calendar days following a rejection. If within one business day after pole rejection, the Contractor has not notified the Clackamas County that new poles are able to be delivered within 30 days, the Clackamas County reserves the right to immediately purchase new poles at the Contractor's expense. If after 30 calendar days following the rejection, the Contractor has not notified the Clackamas County in writing that new poles have been delivered to the job site, the Clackamas County reserves the right to purchase new poles at the contractor's expense and deduct the entire cost of the poles from the money due or to become due the Contractor on the contract.

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(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 permanent 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.

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.

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 00970 - HIGHWAY ILLUMINATION

Comply with Section 00970 of the Standard Specifications modified as follows:

00970.00 Scope - Add the following:

This Work includes furnishing and installing Clackamas County approved materials, providing a roadway illumination system on signal poles and separate illumination poles, and meeting the requirements and standards of Portland General Electric (PGE) Schedule 32 or Schedule 95 Option A as shown on the plans. If there is a conflict between PGE standards and these specifications, the more stringent standard shall control.

Provide lighting equipment as specified in the Special Provisions, the project plans or from the PGE Approved Street Lighting Equipment List in effect on the date the Project is advertised.

Add the following subsection:

00970.01 Definitions:

Qualified Worker - A qualified worker means one who is knowledgeable about the construction and operation of the electrical power generation, transmission, and distribution equipment as it relates to his or her work, along with the associated hazards, as demonstrated by satisfying the qualifying requirements for a "qualified person" or "qualified employee" with regard to the work in questions as described in 29 CFR 1910.269 effective January 31, 1994, as it may be amended from time to time. In this case, a Qualified Worker is a journeyman lineman, or someone who has the equivalent training, expertise and experience to perform journeyman lineman work.

Add the following subsections:

00970.04 Required Submittals - In addition to the requirements of Section 00960, submit installation details for the following equipment:

- Light fixture including LED board and driver
- Photoelectric control

Add the following subsection:

00970.15 LED Luminaires on Traffic Signal Supports - Furnish one of the following approved models or an approved equal:

LEOTEK Green Cobra GC2-100F-MV-NW-2-GY-530

00970.30 Qualified Worker - In addition to the requirements of 00960.30, provide a qualified worker meeting the requirements defined in 00970.02 for performing work under this Section.

00970.43 Photocontrol Electronic Relay – Replace this subsection with the following:

Install photoelectronic control relay in the base mounted service cabinet as shown on the plans.

00970.50 Grounding and Bonding - Delete the paragraph beginning with "On the inside of...".

Add the following paragraph:

Ground the LED fixture to the pole per the street light manufacturer's instructions. Bonding of street lights on distribution poles shall meet utility requirements.

SECTION 00987 - TELECOMMUNICATIONS

Section 00987, which is not a Standard Specification, is included in this Project by Special Provision.

Description

00987.00 Scope - This Work consists of furnishing and installing fiber optic cabling for the telecommunications of signalized intersection devices.

00987.01 Regulations, Standards, and Codes - Comply with the following standards where applicable:

- Telecommunications Industry Association (TIA/EIA)
 - EIA-455-3A (FOTP-3) Procedure to Measure Temperature Cycling Effects on Optical Fibers, Optical Cable, and Other Passive Fiber Optic Components
 - TIA-455-8 (FOTP-8) Measurement of Splice or Connector Loss and Reflectance Using an OTDR
 - TIA-526-7 (OFSTP-7) Measurement of Optical Power Loss of Installed Single-Mode Fiber Cable Plant
 - EIA-455-25 (FOTP-25) Impact Testing of Optical Fiber Cables
 - EIA-455-33 (FOTP-33) Fiber Optic Cable Tensile Loading and Bending Test
 - EIA-455-41 (FOTP-41) Compressive Loading Resistance of Fiber Optic Cables
 - EIA-455-81 (FOTP-81) Compound Flow (Drip) Test for Filled Fiber Optic Cable
 - EIA-455-82 (FOTP-82) Fluid Penetration Test for Fluid Blocked Fiber Optic Cable
 - EIA-455-104 (FOTP-104) Fiber Optic Cable Cyclic Flexing Test
 - EIA-455-171 (FOTP-171) Attenuation by Substitution Measurement for Short-Length Multimode Graded-Index and Single Mode Optical Fiber Cable Assemblies

- EIA/TIA-568-B.3 Optical Fiber Cabling Components
- EIA/TIA-758 Customer Owned Outside Plant Telecommunications Cabling
- EIA-598-B Optical Fiber Cable Color Coding
- American National Standards Institute/Insulated Cable Engineers Association (ANSI/ICEA)
 - ANSI/ICEA S-87-640 Standard for Optical Fiber Outside Plant Communications Cable
- International Telecommunication Union - Telecommunication Standardization Sector (ITU-T)
 - G.652 (11/09) Characteristics of a single-mode optical fiber and cable
 - G.652 (11/16) Characteristics of a single-mode optical fiber and cable

00987.02 Submittals - Within 30 Calendar Days after the execution of the Contract, submit the following:

- Disruption Request according to 00987.04
- Fiber Optics Installer or Fiber Optics Technician Certification according to 00987.30.
- OSP cable installation procedure according to 00987.40(a)
- Fiber optic cable test plan according to 00987.41(a)
- Factory testing according to 00987.41(b)
- Arrival on-site testing according to 00987.41(c)
- Fiber optic cable testing according to 00987.41(d) and (f)

Include the manufacturer's name, model numbers, catalog sheets and other descriptive literature of proposed materials. Provide the catalog sheets and literature including technical data, physical properties and operational description in sufficient detail to demonstrate the Equipment meets these specifications.

00987.04 Existing System Disruption and Restoration - Work of this Contract requires disruptions to the specified existing systems, circuits, and equipment.

Notify the Engineer 14 Calendar Days before existing Ethernet switches are impacted.

Obtain Engineer's approval before disrupting the system. Disruptions will only be considered for non-holiday weekdays between 8 a.m. and 4 p.m. For each written disruption request include the following:

- System(s) to be affected

- Disruption start date and time
- Estimated duration required

Existing systems that require disruption include the following:

- SE 82nd Dr @ SE Jennifer St

Do not disrupt any other communication systems not listed or approved.

Materials

00987.14 Warning Tags - Furnish warning tags with a long life material, orange in color, and marked in a permanent and consistent manner with black lettering.

Include the text "CAUTION FIBER OPTIC CABLE" on all warning tags and show the cable fiber count.

Attach warning tags to fiber optic cables using UV-resistant zip ties according to the manufacturer's recommendations. Do not affix in a manner that causes damage to the fiber.

Attach warning tags to the cables in at least two locations in junction boxes and handholes, and at least one location in cabinets.

00987.15 Labels - Use labels to identify cables and jumpers and patch cords at all termination points, junction boxes, handholes, and cabinets. Use labels to identify all communications equipment and devices in junction boxes, handholes, and cabinets. Use yellow or white colored labels with permanent black lettering. Mechanically imprint labels, do not use handwritten labels.

Use tubular plastic labels on cables and jumpers and patch cords. Label duplex jumpers to provide a visual distinction between the two fibers. Provide labels with the following information:

- Owner
- Number of fibers
- Fiber number

- Cable origin
- Cable destination

Labor

00987.30 Fiber Optic Work - Individuals performing fiber optic installation are to possess either a Fiber Optics Installer or Fiber Optics Technician Certification recognized by the Electronics Technicians Association (ETA) or a Fiber Optics for ITS certificate from the International Municipal Signal Association (IMSA). Submit a copy of certification to the Engineer prior to performing any work.

Construction

00987.40 Fiber Optic Cable Installation and Setup:

(a) OSP Cable Installation - Submit a fiber optic cable installation plan including the manufacturer's recommended procedures for pulling fiber optic cable for review 30 Calendar Days of execution of the Contract. Use mechanical aids to install cable. Place tension measuring device or breakaway swivel between ends of cable grip and pull rope to ensure tension does not exceed 80 percent of recommended tension or 500 pounds, whichever is less. Use cable grips with a ball bearing swivel for installing fiber optic cable to prevent cable from twisting during installation.

During installation, maintain a minimum bend radius of 20 times the outside diameter of the cable per EIA/TIA-568-B.3. Do not stress the cable beyond the minimum bend radius. Install fiber optic cable using cable pulling lubricant as recommended by the manufacturer. Use a non-abrasive pull tape. Station personnel at each splice vault and hand hole to lubricate the cable and prevent kinking or other damage. Install fiber optic cable without splices, except as specifically allowed for on the plans, as described herein, or as directed. Divide slack equally on each side of splice closures. Following installation of cable in conduit, seal all entrances in cabinets, junction boxes and vaults with duct sealing compound to keep out moisture, foreign materials, and rodents.

(b) Splicing - Use fusion type splices for all optical fibers that do not exceed a maximum optical attenuation of 0.3 dB per splice as required by EIA/TIA-568-B.3. Place completed splices in a splice tray. Place splice tray in a splice closure unless using a splice enclosure. Protect all splices with a thermal shrink sleeve.

(c) Cable Terminations - At the splice closure, the cable jacket of the SMFO cable is to be removed exposing the aramid yarn, filler rods, and buffer tubes. The exposed length of the buffer tubes needs to be at least the length recommended by the splice closure manufacturer which allows the tubes to be secured to the splice trays. Secure each buffer tube to the splice tray in which it is to be spliced. Remove the remainder of the tube to expose sufficient length of the fibers in order to properly install in the splice tray.

Splice and secure fiber optic cable with tie warps and route to its appropriate fiber distribution unit location.

When applicable, the moisture blocking gel is to be removed from the exposed buffer tubes and fibers. The transition from the buffer tube to the bundle of jacketed fibers is to be treated by an accepted procedure for sleeve tubing, shrink tube and silicone blocking of the transition to prevent future gel leak. Follow manufacturer's installation instructions to ensure that throughout the specified temperature range gel will not flow from the end of the buffer tube if using gel filled fiber optic cable. Strip and prepare the cable for splicing.

All fibers of the fiber distribution panel are to be labeled within the cabinet.

Make a transition with flexible tubing, to isolate each fiber to protect the individual coated fibers. The final transition from bundle to individual fiber tube is to be secured with an adhesive heat shrink sleeve.

00987.41 Fiber Optic Testing:

(a) Test Plan - Prior to beginning testing, submit for approval copies of installation and test plan detailing methods of installation and testing for all materials, equipment, and systems. At the same time, submit the associated schedule of activities. Notification of approval or rejection will be made within 28 Calendar Days. If the test plan is rejected, submit a revised test plan within 28 Days. Do not begin testing until receiving approval of the test plan by the Engineer. Submit all test results, including results of failed tests or re-tests to the Engineer. Supply all test equipment.

Provide 48 hours notice of intent to proceed prior to commencing each functional or subsystem test. In the notice, provide location(s) of test(s). Conduct environmental tests of field equipment as part of the functional tests. Subsystem testing and inspections are to include visual inspection from damaged or incorrect installation, adjustments, alignments, and measurement of parameters and operating conditions.

(b) Fiber Optic Cable Testing - Testing is to include the tests on elements of the passive fiber optic components: (1) at the factory; (2) after delivery to the project site, but prior to installation; (3) after installation, but prior to connection to any other portion of the system. Provide all personnel, Equipment, instrumentation, and Materials necessary to perform all on-site testing.

Provide documentation of all test results to the Engineer at most 3 Days after the test is completed. At least 21 Calendar Days prior to the arrival of cable on site, provide detailed field testing procedures. In the procedures include the test involved and method by which tests are to be conducted. Include in the notification the model, manufacturer, configuration, calibration, and alignment procedures for all proposed test equipment

(c) Outdoor Splices - Verify insertion loss quality of each splice prior to sealing splice closure.

(d) Cable Verification:

(1) OTDR Testing - Once the cabling system has been installed and is ready for splicing, test all fiber links with the OTDR test equipment for attenuation at wavelengths of both 1310 nm and 1550 nm. Index matching gel is not allowed in connectors during testing. Record, date and compare test results and file with previous copies. Submit hard copy printout of traces and test results to the Engineer. Use OTDR test equipment capable of recording and displaying anomalies of at least 0.02 dB. Calibrate the OTDR with traceability to a national metrology unit such as the National Institute of Standards and Technology (NIST).

(2) Power Meter and Light Source Testing - At the conclusion of the OTDR testing, 100 percent of the fiber links are to be tested end to end with a power meter and light source, according to FOTP-171 and in the same wavelength specified for the OTDR tests. Conduct tests in one direction. Calculate the insertion. Record test results, compared, and filed with the other recordings of the same links. Submit test results to the Engineer. Use a power meter that was calibrated with traceability to the National Institute of Standards and Technology (NIST).

(3) Test Failures -

If the link loss measured from the power meter and light source exceeds the calculated link loss, or the actual location of the fiber ends does not agree with the expected location of the fiber ends (as would occur with a broken fiber), the FO link will be rejected. Replace the unsatisfactory segments of cable, or splices with a new segment of cable or splice. Complete the OTDR testing, power meter and light source testing for the repair to determine acceptability. Submit copies of the test results to the Engineer. The removal and replacement of a segment of cable will be interpreted as the removal and replacement of a single continuous length of cable connecting two splices, two connectors. The removal of only the small section containing the failure and therefore introducing new unplanned splices is not allowed.

(4) Allowed Loss - Evaluate fiber optic cable tests based on the following maximum allowable loss per EIA/TIA-568-B.3:

- Fiber on-reel: 0.40 dB/km at 1310nm and 0.30 dB/km at 1550nm
- Installed fiber: 0.40 dB/km at 1310nm and 0.30 dB/km at 1550nm
- Per connector: 0.75 dB bi-directional average

- Per splice: 0.30 dB bi-directional average

Losses exceeding the above limits are only allowed with written approval from the Engineer.

Measurement

00987.80 Measurement - No measurement of quantities will be made for Work performed under this Section.

Payment

00987.90 Payment - The accepted quantities of Work performed under this Section will be paid for at the Contract unit price, per unit of measurement, for the following items:

Pay Item	Unit of Measurement
(a) Telecommunications, Material	Lump Sum
(b) Telecommunications, Installation	Lump Sum
(c) Telecommunications, Splicing and Testing	Lump Sum

Item (a) includes furnishing outside plant fiber optic cable, fiber optic jumpers, fiber optic patch cable, splice closures, splice trays, and all other Incidental items necessary to complete the Work.

Item (b) includes installation of all materials as shown or specified.

Item (c) includes fiber optic cable splicing and fiber optic testing as shown or specified.

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

No separate or additional payment will be made for required submittals and documentation.

No separate or additional payment will be made for replacement of disturbed earthwork, base, and surfacing.

SECTION 00990 - TRAFFIC SIGNALS

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

Add the following subsection:

00990.10 Materials - Furnish Materials meeting the following requirements:

Backer Rod 02440.14

Furnish the following Materials from the QPL:

- Hot-Melt Loop Sealant

Add the following subsections:

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).

00990.14 Fire Preemption Equipment – Fire Preemption systems for installation at traffic signals shall be as follows:

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

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

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

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

00990.15 Pedestrian Push Buttons and Mount - Pedestrian pushbuttons for installation at traffic signals shall be as follows:

Pedestrian push button system shall be a Polara iNavigator 2-Wire (iNS2) Push Button Station (P/N: iNS2-3-T-N-0-B) or approved equal. See the Contract Plans for additional details. The following components make up the push button system:

(a) Push Button Station (P/N: iNS2 PBS) - The main body with pushbutton for installation on the signal or pedestrian pole using 2-Wire push button wired as a 3-Wire system.

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

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

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

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

00990.16 Traffic Signal Circuits

All high-voltage wiring smaller than #10 AWG shall be IMSA 19-1 cable.

The #14 AWG, multi-conductor cables ran for traffic signal circuits will conform to IMSA Specification 19-1. Color coding of the conductors will be as follows:

Traffic Signal Color Code

Clackamas County, Oregon

#14 AWG IMSA 19-1 Traffic Signal Cable

Mast Arms Only

	Function (Phase)	20 Conductor [Feed]	10 Conductor [Branch]	7 Conductor [Branch]	5 Conductor [Branch]	4 Conductor [Branch]
Main Street	Phase Red	Red	Red	Red	Red	Red
	Phase Yellow	Orange	Orange	Orange	Orange	Orange
	Phase Green	Green	Green	Green	Green	Green
Side Street	Phase Red	Red/Black	Red/Black	Red	Red	Red
	Phase Yellow	Orange/Black	Orange	Orange	Orange	Black
	Phase Green	Green/Black	Green/Black	Green	Green	Green
Left Turn	Phase Red	Red/Black	White/Black	White/Black	Red	Red
	Phase Yellow	White/Red	Black	Black	Orange	Black
	Phase Green	Black/White	Blue	Green	Green	Green
Overlap	Phase Red	Red/Green	White/Black	White/Black	Red	Red
	Yellow/Flashing Yellow Arrow	Orange/Red	Black	Black	Orange	Black
	Phase Green	Blue/Red	Blue	Blue	Green	Green
Main Street	Phase Don't Walk	Red/White	Red	Red	Red	-
	Phase Walk	Green/White	Green	Green	Green	
Side Street	Phase Don't Walk	Black	Red/Black	Red	Red	-
	Phase Walk	Blue/White	Green/Black	Green	Green	-
Push-Button	Common	White/Black	White/Black	White/Black	Orange	-
	Main Street Phase	Blue	Blue	Blue	Black	-
	Side Street Phase	Blue/Black	Black	Black	Black	-
Spare		White	-	-	-	-
AC Common (Branch Only)		-	Spare	White		

Add the following subsection:

00990.41 Inductive Loop Detectors:

(a) General - Do not begin saw cutting until the loop layout has been inspected by the Engineer. Loop layout to occur after final striping is in place.

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

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

Immediately after saw cutting and before the cuttings dry, thoroughly flush each cut with a high-pressure water stream. Before the cuts dry, blow cuts free of water, debris, rock, and grit with compressed air. Slots may also be cleaned by means of a high-pressure water injection/vacuum extraction system. Remove rocks or other material that may be wedged in the cut. Remove and dispose of all cuttings according to 00290.20.

Dry cuts before placing wire.

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

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

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

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

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

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

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

Add the following subsection:

00990.42(b) Loop Feeder Cables – When terminating loop feeder cable inside the controller cabinet, do not remove the outside jacket and shield more than 6 inches from the end of the cable. Crimp lugs used for loop wire field terminals may be insulated or non-insulated. Terminate loop feeder shield drain wire to the cabinet input panel grounding bus nearest the feeder wire termination point.

00990.90 Payment - Delete Pay Item (c) from the pay item list.

Delete the paragraph that begins “Item (c) includes furnishing and installing...”

Replace the paragraph that begins “In Items (a), (b), (c), (d), (f) ...” with the following paragraph:

In Items (a), (b), (d), (f) and (g), the intersection location will be inserted in the blank.

Replace the paragraph that begins “Item (b) includes furnishing and replacing...” with the following paragraph:

Item (b) includes furnishing and replacing or installing items for an existing traffic signal installation and the detection system.

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

SECTION 01030 - SEEDING

Comply with Section 01030 of the Standard Specifications modified as follows:

01030.13(f) Types of Seed Mixes - Add the following to the end of this subsection:

Provide the following seed mix formulas:

Permanent Seeding:

Botanical Name (Common Name)	PLS Specified Rate (lb/acre)
Festuca rubra spp. Fallax var 'Windward' (Windward Chewings Fescue)	60.0 _____
Festuca rubra var. 'Garnet' (Garnet Creeping Red Fescue)	60.0 _____
Lolium perenne var 'Blazer 4' (Blazer 4 Perennial Rye)	90.0 _____
Lolium perenne var 'Express II' (Express II Perennial Rye)	90.0 _____

* Oregon Certified Seed

Add the following to the end of this subsection:

Soil testing, topsoil, wetland soil, soil amendments, and bio-amendments will be paid for according to 01040.90.

SECTION 01040 - PLANTING

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

01040.14 Topsoil – Replace subsections (a), (b), and (c) with the following:

(a) Topsoil – Furnish medium compost meeting the requirements of Section 03020. Furnish soil meeting the following gradation requirements:

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

Sample soil according to AASHTO T 2. Determine sieve analysis according to AASHTO T 27 and AASHTO T 11.

Blend the medium compost and soil so that the mixture:

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

01040.48(a) Method “A” (Cultivated Planting Areas, Non-lawn) – Modify as follows:

Delete the sentence beginning “Thoroughly mix 2 inches...” and replace with “Deliver Topsoil to the project, pre-blended to meet the specifications in 01040.14.

01040.80 Measurement – Modify as follows:

Delete subsection (a). Soil Testing will be incidental to the bid items “Topsoil” and “Water Quality Mixture”.

Replace subsection (b) with the following:

(b) Topsoil and Water Quality Mixture – Topsoil and Water Quality Mixture will be measured on the volume basis, using neat line field measurements after material has settled. Place sufficient material as required to account for settlement.

Replace subsection (c) with the following:

(c) Soil Conditioners – There will be no measurement for soil conditioners.

Replace subsection (f) with the following:

(f) Mulch – Bark Mulch, 3 Inch Depth will be measured on the area basis at time of placement, using neat line field measurements.

1040.90 Payment – Modify as follows:

Delete subsection (a). Soil Testing will be incidental to the items “Topsoil” and “Water Quality Mixture”.

(b) Topsoil and Water Quality Mixture – “Topsoil” and “Water Quality Mixture” will be paid at the Contract unit price per cubic yard.

(c) Soil Conditioners - Soil conditioner will be incidental to the payment for items paid under 1040.90 (b) Topsoil and Water Quality Mixture.

SECTION 01069 - METAL HANDRAIL AND PEDESTRIAN FENCE

Comply with Section 01069 of the Standard Specifications.

CLACKAMAS COUNTY
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

82ND DRIVE & JENNIFER STREET SIGNAL REPLACEMENT

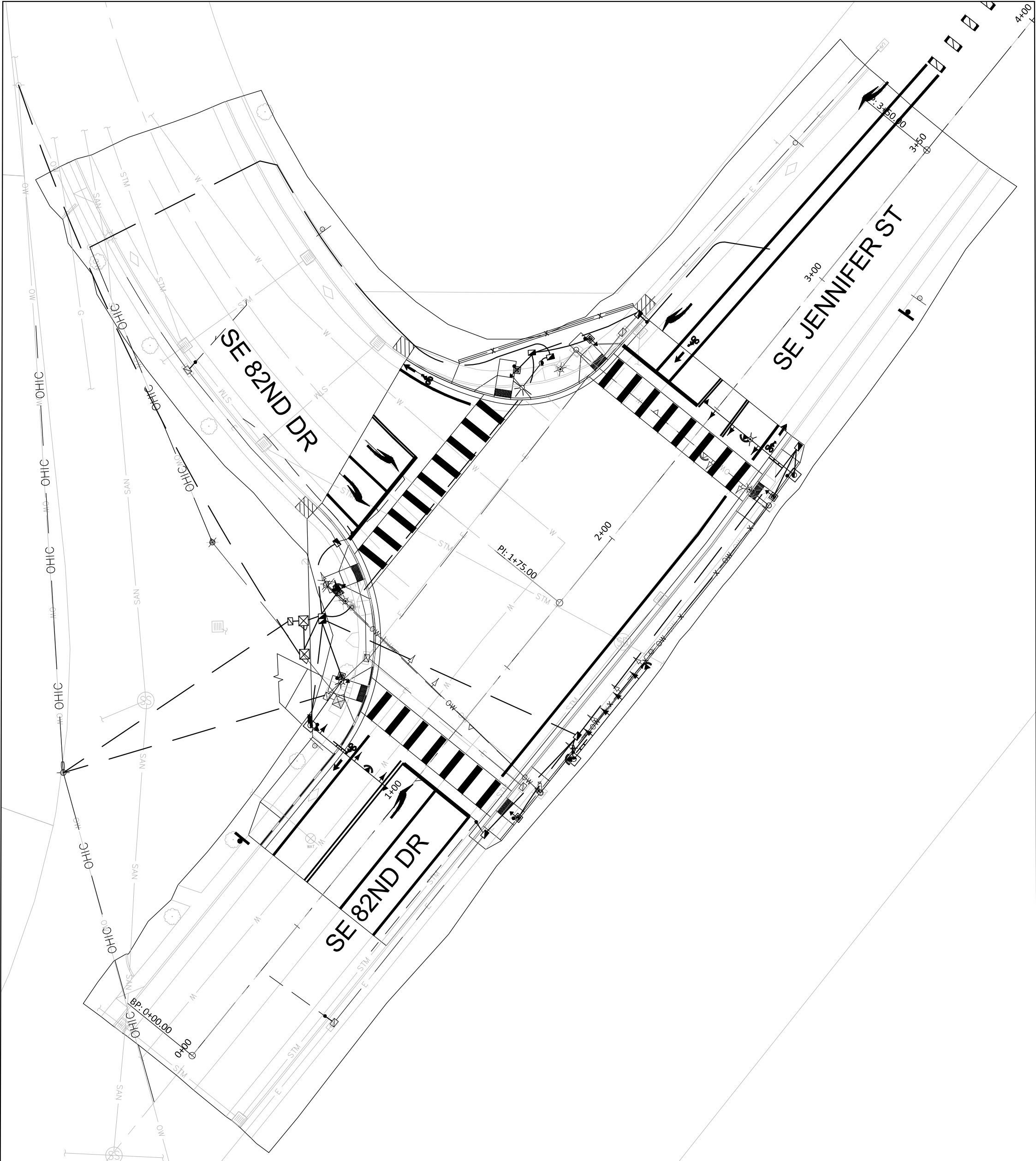
CLACKAMAS COUNTY, OREGON
GRADING, STRUCTURES, PAVING, AND SIGNALS

INDEX OF SHEETS

SERIES	DESCRIPTION
C-01	COVER SHEET
2.0	GENERAL NOTES AND LEGEND
3.0	EROSION AND SEDIMENT CONTROL PLAN
3.1	EROSION AND SEDIMENT CONTROL NOTES
3.2	EROSION AND SEDIMENT CONTROL DETAILS
4.0	ROADWAY PLAN
5.0	ROADWAY PROFILE AND CROSS SECTIONS
6.0	ADA CURB RAMP DETAILS
6.1	ADA CURB RAMP DETAILS
7.0	SIGNAL POLE FOUNDATION DETAIL
SS	SIGNING AND PAVEMENT MARKING PLANS AND DETAILS
TS	TRAFFIC SIGNAL PLANS AND DETAILS
IC	INTERCONNECT PLANS AND DETAILS
TC	CONSTRUCTION STAGING PLAN

STANDARD DRAWING NOS.

M100	MONUMENT BOX 35MPH OR LESS
RD700	CURBS
RD770	METAL HANDRAIL
RD771	METAL HANDRAIL DETAILS
RD912	PERPENDICULAR CURB RAMP
RD920	PARALLEL CURB RAMP
S150	STANDARD CURB AND GUTTER
S960	STANDARD SIDEWALK AND CURB RAMP DETAILS
T100	STREET NAME SIGNS AND DETAILS CLACKAMAS COUNTY STANDARD
T130	STREET NAME SIGNS AND DETAILS (CONTINUED) CLACKAMAS COUNTY STANDARD
T150	SIGN MOUNTING AND ATTACHMENTS (CLACKAMAS COUNTY)
T250	SIGN INSTALLATIONS
TM450	MAST ARM POLE DETAILS
TM452	TEMPORARY WOOD STRAIN POLE DETAILS
TM453	TEMPORARY PEDESTRIAN WOOD POST, GUY WIRE/ANCHOR AND LUMINAIRE ARM DETAILS
TM454	TEMPORARY CONTROLLER CABINET, SERVICE CABINET, METER BASE AND TERMINAL CABINET
TM457	PEDESTAL FOUNDATION AND TRAFFIC SIGNAL ASSEMBLY
TM460	VEHICLE SIGNAL DETAILS
TM462	VEHICLE SIGNAL BRACKET AND SIGN BRACKET (TYPE B) DETAILS
TM466	RADAR MOUNTING DETAILS
TM467	PEDESTRIAN SIGNAL MOUNT AND PEDESTRIAN PUSHBUTTON DETAILS
TM470	WIRE AND CABLE INSTALLATION
TM471	TRENCHING AND CONDUIT INSTALLATION
TM472	JUNCTION BOXES/HAND HOLES
TM482	CONTROLLER CABINET AND SERVICE CABINET FOUNDATION DETAILS
TM485	SERVICE CABINET WIRING DETAILS
TM500-TM503	PAVEMENT MARKING STANDARD DETAIL BLOCKS
TM520	DURABLE PAVEMENT MARKINGS METHOD "A" & "D" SURFACE INSTALLED PROFILED
TM530	INTERSECTION PAVEMENT MARKINGS (CROSSWALK, STOP BAR, BIKE LANE STENCIL)
TM531	TURN ARROW MARKING DETAILS
TM800	TABLES, ABRUPT EDGE AND PCMS DETAILS
TM820	TEMPORARY BARRICADES
TM821	TEMPORARY SIGN SUPPORTS
TM841	INTERSECTION WORK ZONE DETAILS
TM842	SIGNALIZED INTERSECTION DETAILS
TM843	MULTI-LANE SIGNALIZED INTERSECTION DETAILS
TM844	TEMPORARY PEDESTRIAN ACCESSIBLE ROUTES
TM845	TEMPORARY SIDEWALK RAMPS
TM855	2-LANE, 2-WAY ROADWAYS



SITE PLAN

NTS

BASIS OF BEARINGS AND DATUM

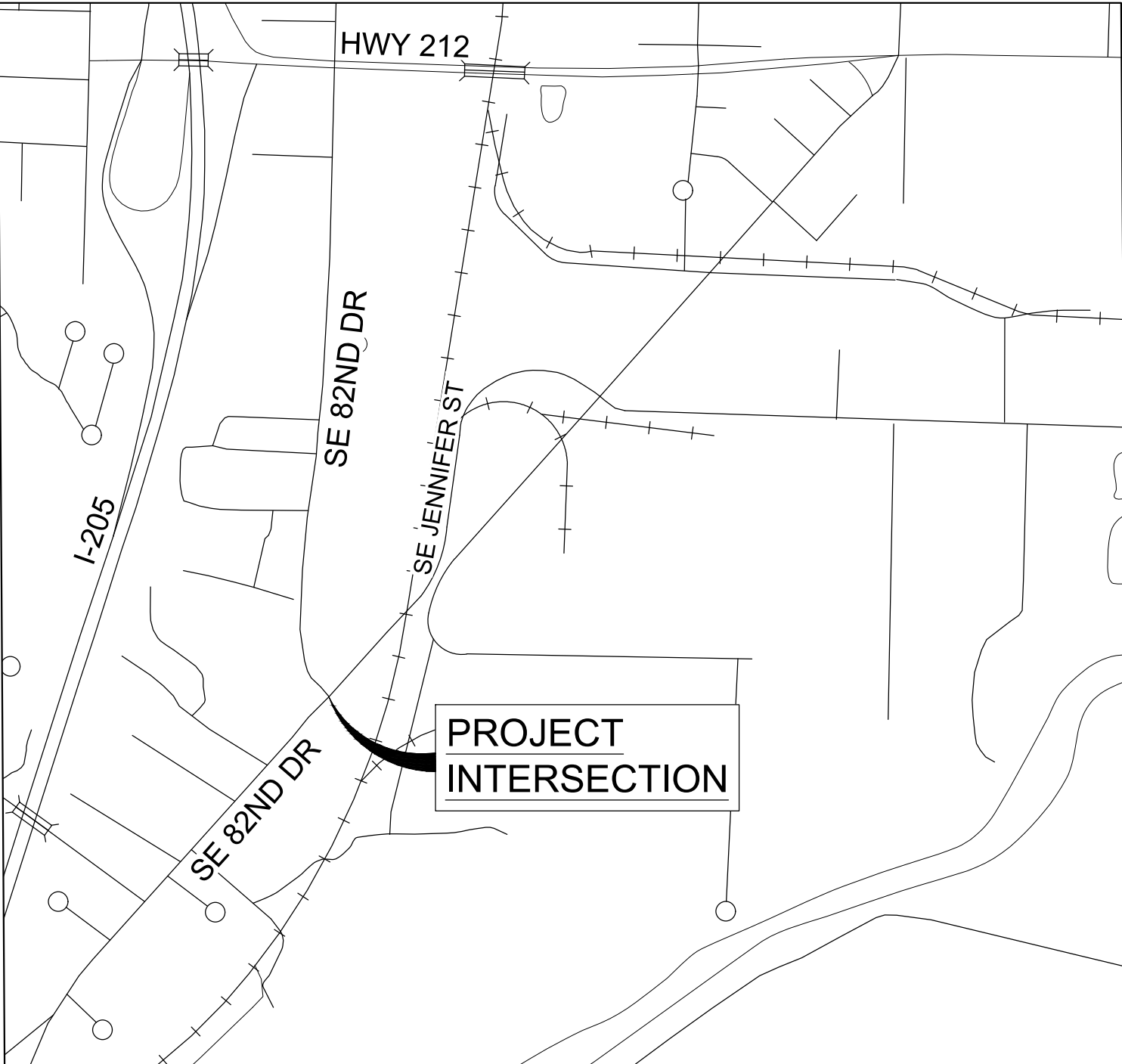
VERTICAL DATUM: NAVD88 PER OPUS SOLUTION (THROUGH NGS) FOR CONTROL POINTS 1, 2, AND 3.
HORIZONTAL DATUM: LOCAL DATUM PLANE GROUND
COORDINATES BASED UPON THE OREGON COORDINATE REFERENCE SYSTEM - OCRS (PORTLAND ZONE) - REFERENCE FRAME: NAD 83 (2011)(EPOCH: 2010.0000), INTERNATIONAL FEET. ALL DISTANCES ARE GROUND AND WERE DETERMINED UTILIZING NETWORK GPS. LOCATED IN THE NORTH ONE-HALF OF SEC 16, T.2S. R.2E., WILLAMETTE MERIDIAN, CLACKAMAS COUNTY, OREGON

COUNTY CONTACT

CLACKAMAS COUNTY DEPARTMENT OF TRANSPORTATION
150 BEAVERCREEK RD
OREGON CITY, OR 97045
(503) 742-4400
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ENGINEER

DKS ASSOCIATES
1050 SW SIXTH AVE, SUITE 600
PORTLAND, OREGON 97204
(503) 243-3500
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NATHANIEL N. SCHROEDER, P.E., PTOE
NNS@DKSASSOCIATES.COM



VICINITY MAP

NTS

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

DKS 1050 SW 6th Avenue, Suite 600
Portland, Oregon 97204
www.dksassociates.com



COVER SHEET

82ND DRIVE & JENNIFER ST
SIGNAL REPLACEMENT

PROJECT NO.: 23303

CLACKAMAS COUNTY

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

DIRECTOR

DESIGNED BY:
DKS TEAM

DRAFTED BY:
DKS TEAM

CHECKED BY:
DKS TEAM

REVISIONS

NO. DATE:

Sheet No.

C-01

TOPOGRAPHIC LEGEND

	STORM SEWER LINE		STREET LIGHT
	SANITARY SEWER LINE		UTILITY POLE
	WATER LINE		UTILITY POLE W/ UNDERGROUND UTILITIES
	GAS LINE		SINGLE POST SIGN
	OVERHEAD WIRE		DECIDUOUS TREE (APPROXIMATE DIAMETER BREAST HIGH AS NOTED)
	ELECTRIC LINE		FOUND MONUMENT (PROTECT)
	UTILITY LINE IS BELIEVED TO CONTINUE, CONNECTION NOT LOCATED OR UNKNOWN		
	MAJOR CONTOUR - 5' INTERVALS		
	MINOR CONTOUR - 1' INTERVALS		
	WATER VALVE		STORM SEWER MANHOLE
	SANITARY SEWER MANHOLE		TRAFFIC SIGNAL BOX
	CATCH BASIN		TRAFFIC SIGNAL CABINET
	STORM SEWER MANHOLE		POLE WITH PEDESTRIAN PUSH BUTTON
	TRAFFIC SIGNAL BOX		GUY WIRE
	POLE WITH PEDESTRIAN PUSH BUTTON		
	GUY WIRE		

NOTE: SYMBOLS SHOWN HEREON ARE FOR GRAPHICAL REPRESENTATION PURPOSES AND DO NOT NECESSARILY SHOW SHAPE, SIZE, ROTATION, CONDITION, TYPE, ETC. OF THE ACTUAL PHYSICAL IMPROVEMENTS THAT THEY REPRESENT. CONDITION, TYPE, ROTATION, ETC. MAY VARY AMONGST ITEMS SHOWN BY THE SAME SYMBOL.

LIST OF ABBREVIATIONS

AC	ASPHALT CONCRETE	NTS	NOT TO SCALE
BOW	BACK OF WALK	OFF	OFFSET
BVC	BEGIN VERTICAL CURVE	OH	OVERHEAD
CB	CATCH BASIN	PC	POINT OF CURVATURE
CL	CENTERLINE	PCC	POINT OF COMPOUND CURVE
CMP	CORRUGATED METAL PIPE	P.C.C.	PORTLAND CEMENT CONCRETE
CONC	CONCRETE	PL	PROPERTY LINE
CR	CURB RETURN	PNT	POINT
DWG	DRAWING	PRC	POINT OF REVERSE CURVE
ELEV	ELEVATION	PROP	PROPOSED
EVC	END VERTICAL CURVE	PT	POINT OF TANGENCY
EX	EXISTING	PVC	PLASTIC PVC PIPE
G	GUTTER	PVI	POINT OF VERTICAL INTERSECTION
GUT	GUTTER	ROW	RIGHT-OF-WAY
HDPE	HIGH-DENSITY POLYETHYLENE PIPE	R/W	RIGHT-OF-WAY
HOR	HORIZONTAL	R	RIGHT
IE	INVERT ELEVATION	STA	STATION
INV	INVERT	STD	STANDARD
L	LEFT	TC	TOP OF CURB
MAX	MAXIMUM	TYP	TYPICAL
MH	MANHOLE	VC	VERTICAL CURVE
MIN	MINIMUM	VER	VERTICAL
N/A	NOT APPLICABLE	X-SLOPE	CROSS-SLOPE
NO	NUMBER		

UTILITY GENERAL NOTES

- EXISTING ABANDONED UTILITIES (I.E. STORM AND WATER LINE, ETC.) MAY EXIST THAT ARE NOT SHOWN ON THE PLANS. IF THE CONTRACTOR ENCOUNTERS ABANDONED FACILITIES DURING EXCAVATION THEY SHALL NOTIFY THE ENGINEER AND UTILITY IMMEDIATELY.
- EXISTING UTILITIES SHOWN ON THE PLANS ARE PER SURFACE LOCATIONS AND AS-BUILT DRAWINGS. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS AND ELEVATIONS OF ALL EXIST. UTILITIES PRIOR TO CONSTRUCTION TO AVOID POTENTIAL CONFLICTS. NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO INITIATING THE CONSTRUCTION OF THE FACILITIES.
- EXCAVATOR(S) MUST COMPLY WITH O.R.S. 757.542 THROUGH 757.562. EXCAVATOR(S) SHALL NOTIFY OREGON UTILITY NOTIFICATION CENTER FOR LINE LOCATIONS AT LEAST TWO, BUT NOT MORE THAN TEN, BUSINESS DAYS PRIOR TO START OF WORK. DAMAGE TO UTILITIES SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE. OREGON UTILITY NOTIFICATION CENTER: PH. 811 OR 1-800-332-2344 OR (503) 232-1987.
- COORDINATE UTILITY RELOCATIONS WITH APPROPRIATE UTILITY PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL PROTECT EXISTING WATER SERVICE LINES. ALL DISTURBED WATER SERVICE LINES SHALL BE REPAIRED AS DIRECTED BY THE APPROPRIATE AGENCY. COORDINATE WITH ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF EXISTING SANITARY SERVICE LATERALS AND EXISTING WATER SERVICE LINES DESTROYED THROUGH NEGLIGENCE AND/OR INATTENTION.
- CONTRACTOR SHALL POTHOLE ALL UTILITY CROSSINGS BEFORE INSTALLING STORM, WATER AND/OR SANITARY LINES. CONTRACTOR TO REPORT ANY CONFLICTS TO ENGINEER PRIOR TO INSTALLATION.
- WHILE PERFORMING ANY CONSTRUCTION WORK WITHIN 5 FEET OF A HIGH PRESSURE GAS LINE, A REPRESENTATIVE/INSPECTOR FOR THE HIGH PRESSURE GAS LINE MUST BE PRESENT. THE CONTRACTOR SHALL COORDINATE BY CALLING THE AFFECTED UTILITY AT LEAST 24 HOURS PRIOR TO EXCAVATION.

PLANTING GENERAL NOTES

- ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT CLACKAMAS COUNTY STANDARDS.
- CONTRACTOR SHALL MARK AND PROTECT ALL UTILITIES, SITE FEATURES, AND VEGETATION TO REMAIN IN PLACE.
- CONTRACTOR SHALL REMOVE ALL WEEDS AND INVASIVE SPECIES PRIOR TO PLANTING OR SEEDING.
- ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL AT 6" DEPTH PRIOR TO PLANTING OR SEEDING.
- ALL DISTURBED AREAS SHALL BE SEEDED WITH PERMANENT SEEDING UNLESS NOTED OTHERWISE, SEE SPECIAL PROVISIONS.

CALCULATED RIGHT-OF-WAY / GIS TAXLOTS

THE RIGHT-OF-WAY LINES ALONG THE NORTHERLY PORTIONS OF THE INTERSECTION OF SE 82ND DRIVE AND SE JENNIFER STREET, AND THE CENTERLINES SHOWN, ARE CALCULATED FROM FOUND SURVEY MONUMENTS AND RECORDS OF SURVEYS. SAID RIGHT-OF-WAY LINES SHOULD BE CONSIDERED APPROXIMATE AND DO NOT CONSTITUTE A RESOLVED RIGHT-OF-WAY LOCATION.

THE GIS TAXLOTS ALONG THE WESTERLY AND SOUTHEASTERLY PORTIONS OF THE INTERSECTION OF SE 82ND DRIVE AND SE JENNIFER STREET ARE BASED UPON AVAILABLE METRO GIS. SAID GIS TAXLOT LINES ARE FOR GRAPHICAL REFERENCE ONLY.

GENERAL NOTES

- ALL WORK SHALL CONFORM TO THE 2024 OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION, AS AMENDED BY THE SPECIAL PROVISIONS.
- THE CONTRACTOR SHALL PRUNE ALL VEGETATION, AS NECESSARY, AWAY AND UP FROM THE STREET AS WELL AS ANY ROOT PRUNING AS DETERMINED BY THE ENGINEER. THE CONTRACTOR SHALL PROTECT ALL EXISTING TREES AND LANDSCAPING THAT IS TO REMAIN. IF A TREE OR SHRUB FALLS WITHIN THE CLEARING LIMITS AND IS NOT SHOWN TO PROTECT ON THE PLANS, THEN REMOVAL SHOULD BE ASSUMED. NOT ALL TREES AND SHRUBS ARE SPECIFICALLY IDENTIFIED. THE CONTRACTOR SHALL INSTALL ORANGE TREE PROTECTIVE FENCING AROUND TREES LOCATED WITHIN EASEMENTS AND/OR ROW THAT ARE TO BE PROTECTED. REFER TO SPECIFICATIONS.
- AT THE END OF EACH WORK DAY THE CONTRACTOR SHALL CLEAN UP THE PROJECT AREA AND LEAVE IT IN A NEAT AND SECURED MANNER. UPON COMPLETION, THE CONTRACTOR SHALL LEAVE THE PROJECT AREA FREE OF DEBRIS AND UNUSED MATERIAL. FINAL CLEANUP - PRIOR TO FINAL ACCEPTANCE, THE CONTRACTOR SHALL CLEAN THE WORK SITE AND ADJACENT AREAS OF ANY DEBRIS, DISCARDED ACP, CONCRETE OR OTHER ITEMS DEPOSITED BY THE CONTRACTOR'S PERSONNEL DURING THE PERFORMANCE OF THIS CONTRACT.
- VERTICAL DATUM: NAVD88 PER OPUS SOLUTION (THROUGH NGS) FOR CONTROL POINTS 1, 2, AND 3. HORIZONTAL DATUM: LOCAL DATUM PLANE GROUND COORDINATES BASED UPON THE OREGON COORDINATE REFERENCE SYSTEM - OCRS (PORTLAND ZONE) - REFERENCE FRAME: NAD 83 (2011)(EPOCH: 2010.0000), INTERNATIONAL FEET. ALL DISTANCES ARE GROUND AND WERE DETERMINED UTILIZING NETWORK GPS.
- THIS PROJECT DESIGN WAS BASED ON TOPOGRAPHIC SURVEY DATA AS PREPARED BY HARPER HOUF PETERSON RIGHELLIS INC. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF SURVEYED CONDITIONS DIFFER FROM ACTUAL FIELD CONDITIONS.
- VEGETATION AND TOPSOIL ARE TO BE STRIPPED TO MINERAL EARTH AND APPROVED BY THE PRIMARY INSPECTOR PRIOR TO PLACEMENT OF FILL OR BASE MATERIALS.
- THE COUNTY REQUIRES A PROOF ROLL TEST WITH A FULLY LOADED 10-YARD DUMP TRUCK (LOAD TICKET TO BE PROVIDED) TO CHECK FOR SOFT SPOTS IN THE SUBGRADE PRIOR TO PLACEMENT OF GEOTEXTILE FABRIC AND GRANULAR BASE ROCK AND AGAIN AT THE COMPLETION OF THE PLACEMENT OF THE BASE ROCK FOLLOWED BY REQUIRED DENSITY TESTING PRIOR TO PAVING THE FIRST LIFT OF ASPHALT CONCRETE.
- ACP MIX IS TO BE BATCHED FROM A MIX FORMULA APPROVED BY THE OREGON STATE HIGHWAY DEPARTMENT (OSHD) FOR MATERIAL USED. PAVING CONTRACTOR SHALL PROVIDE A CERTIFICATE OF COMPLIANCE FROM ACP PLANT. MIX DESIGN TO BE APPROVED PRIOR TO PAVING.
- SUBSEQUENT SETTLEMENT OR CRACKING OF FINISHED SURFACE WITHIN THE WARRANTY PERIOD SHALL BE CONSIDERED TO BE A FAILURE OF THE SUBGRADE AND REPAIRED AT NO COST TO THE COUNTY AND IN A MANNER ACCEPTABLE TO THE COUNTY.
- THE CONTRACTOR SHALL CONTROL TRAFFIC THROUGH THE PROJECT SITE IN CONFORMANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AND OREGON SUPPLEMENTS. THE CONTRACTOR SHALL, AT ALL TIMES, MAINTAIN LOCAL ACCESS FOR EMERGENCY VEHICLES, BUSINESSES, BUSES, AND HOMEOWNERS ALONG THE PROJECT SITE.
- WHEN TRAFFIC DELAYS ARE TO BE EXPECTED, THE CONTRACTOR SHALL NOTIFY THE APPLICABLE AGENCIES, INCLUDING TRIMET, SCHOOL DISTRICT, EMERGENCY SERVICES, AND LOCAL BUSINESSES.
- THE CONTRACTOR SHALL HAVE A MINIMUM OF ONE (1) SET OF APPROVED CONSTRUCTION PLANS ON THE JOB SITE AT ALL TIMES DURING THE CONSTRUCTION PHASES.
- CONTRACTOR SHALL REMOVE AND DISPOSE OF TREES, STUMPS, BRUSH, ROOTS, TOPSOIL AND OTHER MATERIAL ENCOUNTERED DURING THE CONSTRUCTION OF THE ROADWAY. MATERIAL SHALL BE DISPOSED OF IN ACCORDANCE WITH LOCAL, REGIONAL AND STATE REGULATIONS AT FACILITIES AUTHORIZED TO ACCEPT SUCH MATERIAL. FILL SITES SHALL BE LEVELED AND GRADES TO DRAIN. THE CONTRACTOR SHALL CORRECT ANY DEFICIENT FILL OR NON PERMITTED DISPOSAL OF MATERIALS.
- CONTRACTOR SHALL COORDINATE AND SCHEDULE ALL EARTHWORK, TRENCH BACKFILL AND ROAD CONSTRUCTION COMPACTION TESTS, AND GEOTECHNICAL REVIEWS WITH THE SOILS TESTING LAB AS REQUIRED FOR ACCEPTANCE OF PROJECT WORK BY CLACKAMAS COUNTY. COUNTY SHALL BE PROVIDED WITH ALL TEST RESULTS.
- PROVIDE A PRE-CONSTRUCTION SURVEY TO CLACKAMAS COUNTY, DTD INDICATING ALL FOUND AND MISSING MONUMENTATION WITHIN THE PROJECT LIMITS PRIOR TO INITIATING CONSTRUCTION ACTIVITIES.
- CONTRACTOR SHALL CAREFULLY MAINTAIN BENCHMARKS, PROPERTY CORNERS, MONUMENTS, AND OTHER REFERENCE POINTS PURSUANT TO ORS 209.140 AND ORS 209.150. IF SUCH POINTS ARE DISTURBED OR DESTROYED BY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND PAY FOR THEIR REPLACEMENT BY EMPLOYING A PROFESSIONAL LAND SURVEYOR TO RESET THE PROPERTY CORNERS & OTHER SUCH MONUMENTS.
- AT THE PRECONSTRUCTION MEETING, PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL PRESENT A LIST OF SUBCONTRACTORS, A PROJECT SCHEDULE, A TRAFFIC CONTROL PLAN AND A LIST OF AT LEAST THREE PEOPLE, WITH PHONE NUMBERS, RESPONSIBLE FOR MAINTAINING TRAFFIC CONTROL DURING NON-WORK PERIODS.
- THE CONTRACTOR SHALL MAKE EVERY EFFORT TO PROTECT EXISTING MONUMENTS PER THE PROJECT SPECIFICATIONS.
- THE CONTRACTOR SHALL MAKE EVERY REASONABLE EFFORT TO PROTECT EXISTING FEATURES TO REMAIN.

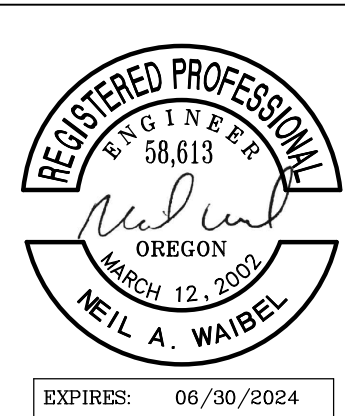
GRADING GENERAL NOTES

- CUT AND FILL SLOPES AND ALL EXPOSED SOILS SHALL BE PROTECTED FROM EROSION AND BE IN COMPLIANCE WITH LOCAL SURFACE WATER AUTHORITY RULES, REGULATIONS, AND STANDARDS. SUCH CONTROL SHALL CONSIST OF TEMPORARY MEASURES DURING CONSTRUCTION AND PERMANENT MEASURES AT THE COMPLETION OF CONSTRUCTION ACTIVITIES; INCLUDING APPROPRIATE REVEGETATION OR OTHER ACCEPTABLE MEANS AND METHODS. TEMPORARY EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO EARTHWORK OR SITE STRIPPING.
- THE CONTRACTOR SHALL NOTIFY THE PRIMARY INSPECTOR, COUNTY INSPECTOR, AND GEOTECHNICAL ENGINEER 48 HOURS PRIOR, FOR ALL REQUIRED EROSION CONTROL AND STRUCTURAL FILL INSPECTIONS AT THE FOLLOWING STAGES OF CONSTRUCTION:
 - EROSION CONTROL INSPECTION PRIOR TO INITIATING CONSTRUCTION ACTIVITIES;
 - PROOF ROLL ON SUBGRADE AND
 - AT EVERY ONE FOOT OF STRUCTURAL FILL OR 300 CUBIC YARDS AND
 - AT COMPLETION OF STRUCTURAL FILL BEFORE GEOTEXTILE FABRIC AND BASE AGGREGATE IS PLACED AND
 - AT COMPLETION OF BASE AGGREGATE COURSE FOLLOWED BY DENSITY TESTING ON THE FINAL BASE COURSE PRIOR TO PAVING.
- THE CONTRACTOR SHALL BE REQUIRED TO COORDINATE RELOCATION (AS NECESSARY) OF EXISTING UTILITIES DUE TO ANY CUT/FILL OPERATIONS OR ROADWAY IMPROVEMENTS. COORDINATION SHALL TAKE PLACE PRIOR TO INITIATION OF WORK.
- NO GRADING ACTIVITIES ARE ALLOWED IN JURISDICTIONAL WATERS INCLUDING WETLANDS, JURISDICTIONAL DITCHES, AND STREAMS. SEE GRADING PLANS FOR LOCATIONS OF JURISDICTIONAL WATERS TO BE AVOIDED AND NOT DISTURBED.



ENGINEERS*PLANNERS
LANDSCAPE ARCHITECTS*SURVEYORS
205 SE Spokane Street, Suite 200, Portland, OR 97202
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

Harper
Houf Peterson
Righellis Inc.

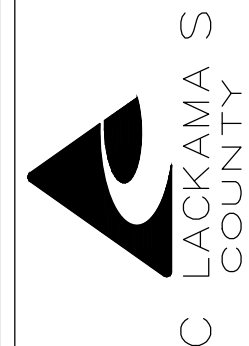


REVISIONS

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CLACKAMAS COUNTY



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JSE
CHECKED BY:
NAW

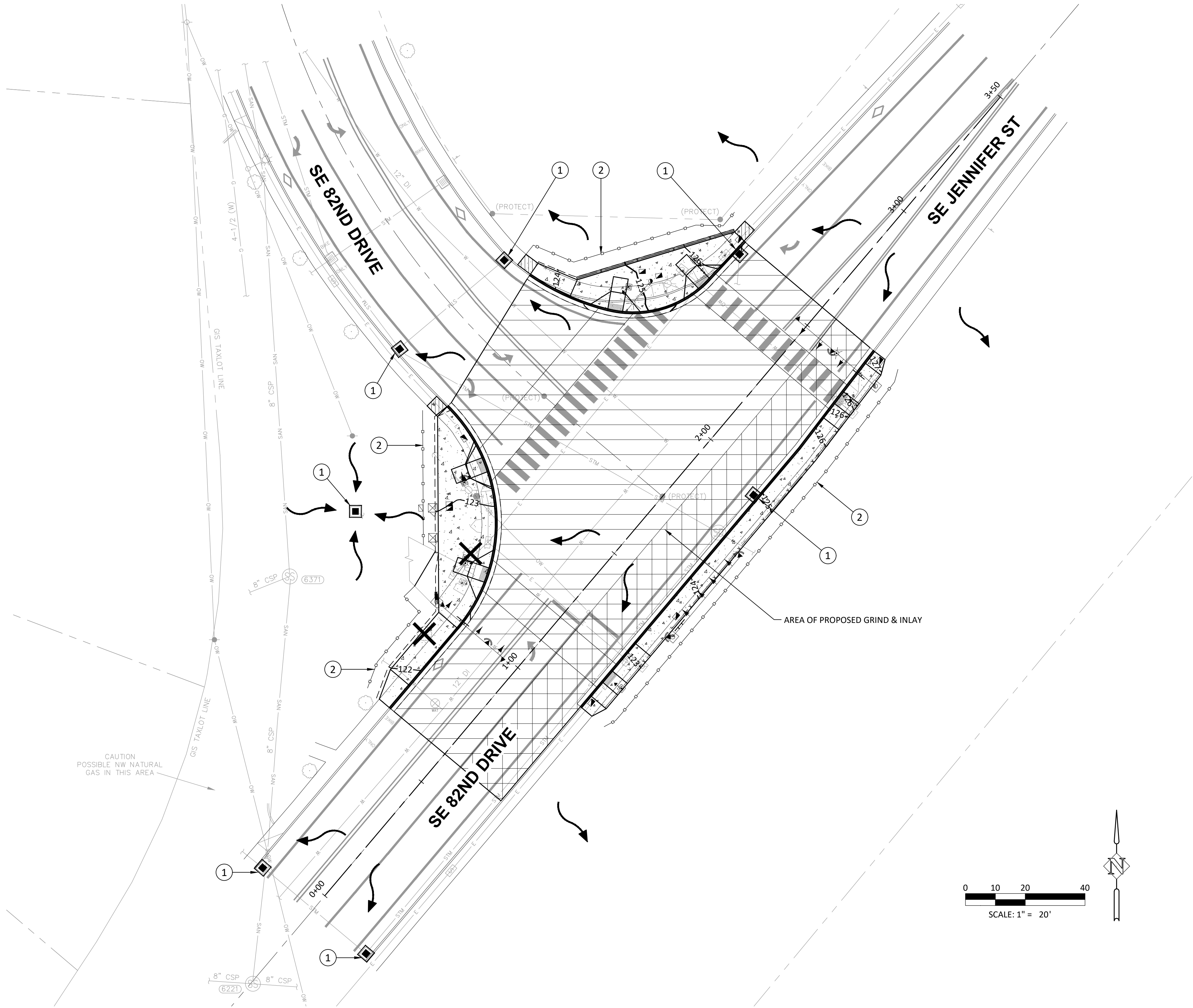
DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045	DIRECTOR
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GENERAL NOTES AND LEGEND

82ND DRIVE & JENNIFER

ST SIGNAL
REPLACEMENT

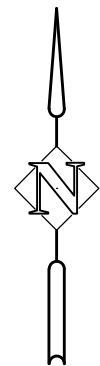
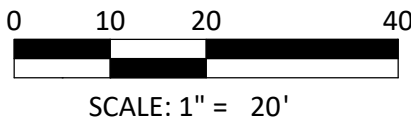
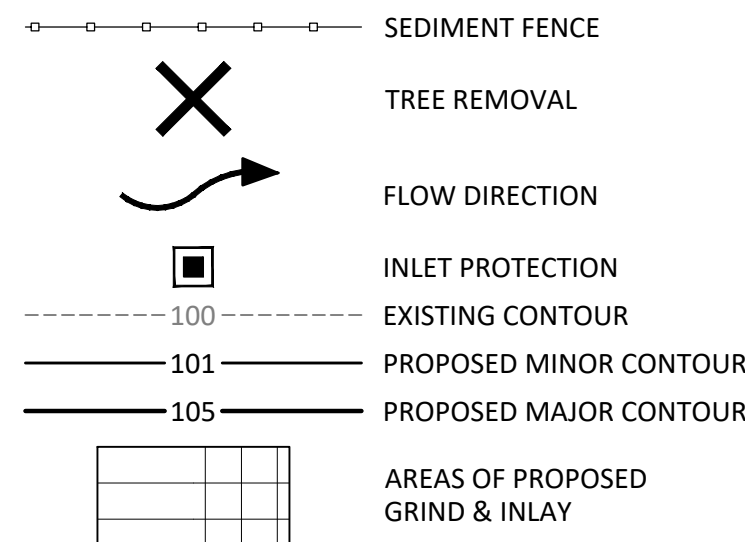
DATE: JUNE 2024 PROJECT NO.: 23303



CONSTRUCTION NOTES:

- 1 INSTALL INLET SEDIMENT CONTROL DEVICE PER DETAIL ON SHEET 3.1.
2 INSTALL SEDIMENT FENCE PER DETAIL ON SHEET 3.1.

EROSION CONTROL



Harper
Houf Peterson
Righellis Inc.

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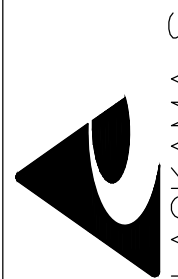


REVISIONS

NO.	DATE:	DESIGNED BY:	DRAFTED BY:	CHECKED BY:
		NAW/JSE	JSE	NAW

CLACKAMAS COUNTY

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



DIRECTOR

DAN JOHNSON

EPSC PLAN
82ND DRIVE & JENNIFER
ST SIGNAL
REPLACEMENT

DATE: JUNE 2024 PROJECT NO.: 23303

Sheet No.
3.0

GENERAL NOTES FOR EROSION CONTROL

1. THE CONSTRUCTION NOTES AND DETAILS SHOWN ON THIS PLAN REFLECT RECOMMENDED PROCEDURES AS ADDRESSED IN THE "EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL" BY CLACKAMAS COUNTY WATER ENVIRONMENTAL SERVICES.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES, IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.
3. THE IMPLEMENTATION OF THESE EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) PLANS AND CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE EPSC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED BY THE ENGINEER, AND VEGETATION/LANDSCAPING IS ESTABLISHED.
4. IT IS THE INTENT OF THESE PLANS TO SHOW POSSIBLE APPLICATIONS OF RECOMMENDED PROCEDURES IN THE EVENT THAT EROSION CONTROL IS NEEDED. ALL RECOMMENDED PROCEDURES ARE DEPENDENT ON CONSTRUCTION METHODS, STAGING, SITE CONDITIONS, WEATHER, AND SCHEDULING. THE PROCEDURES SHOWN ON THE PLANS ARE NOT INTENDED TO BE EXCLUSIVE OF ALL THE PROTECTION REQUIRED IN AN AREA AT A PARTICULAR INSTANT. THEY SHOULD BE USED AS A GUIDELINE ONLY.
5. EROSION CONTROL MEASURES ARE SHOWN FOR GENERAL PURPOSES. THE CONTRACTOR SHALL PHASE EROSION CONTROL AS NEEDED. REFER TO SPECIAL PROVISIONS FOR EROSION CONTROL STAGING.
6. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY MARKED IN THE FIELD PRIOR TO CONSTRUCTION. REFER TO THE SPECIFICATIONS FOR FURTHER DETAIL.
7. THE CONTRACTOR IS RESPONSIBLE FOR CONTROL OF SEDIMENT TRANSPORT WITHIN PROJECT LIMITS DURING CONSTRUCTION. IF AN INSTALLED EROSION CONTROL SYSTEM DOES NOT ADEQUATELY CONTAIN SEDIMENT ON SITE, THEN THE EROSION CONTROL MEASURES MUST BE FIELD ADJUSTED BY THE CONTRACTOR AS NECESSARY FOR EXPECTED STORM EVENTS TO ENSURE THAT SEDIMENT LADEN WATER DOES NOT LEAVE THE SITE.
8. THE EPSC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM, ROADWAYS, OR VIOLATE APPLICABLE WATER QUALITY STANDARDS.
9. TEMPORARY EROSION CONTROL METHODS MUST REMAIN AND BE MAINTAINED UNTIL PERMANENT EROSION CONTROL METHODS ARE IN PLACE AND OPERATIONAL. THESE METHODS SHALL BE REMOVED ONCE SOIL STABILIZATION HAS BEEN ACHIEVED PER APPROVAL FROM THE ENGINEER.
10. ADDITIONAL INTERIM MEASURES SHALL BE INSTALLED AS NECESSARY TO PREVENT SEDIMENT OR SEDIMENT LADEN RUNOFF FROM LEAVING THE SITE IN ACCORDANCE WITH THE "EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL" BY CLACKAMAS COUNTY WATER ENVIRONMENT SERVICES (WES). THESE MEASURES WILL BE INSTALLED ALONG EXPOSED SOIL TO PREVENT SEDIMENT TRANSPORT.
11. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.
12. THE CONTRACTOR SHALL HYDROSEED ALL CUT AND FILL SLOPES, AND ALL DISTURBED GROUND AREAS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE HYDROSEED AREAS UNTIL VEGETATION UPON THEM IS ESTABLISHED. ANY ADDITIONAL HYDROSEEDING NECESSARY TO ESTABLISH VEGETATION SHALL BE DONE BY THE CONTRACTOR.
13. AFTER OCTOBER 1, ALL BARE SOIL SHALL BE RE-SEEDED, COVERED WITH AN APPROPRIATE EROSION CONTROL STRAW BLANKET AND FERTILIZED. WHERE RAPID GERMINATION IS REQUIRED, USE THE ANNUAL RYGRASS BLEND AS RECOMMENDED IN THE EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.
14. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PROTECTION OF ALL ADJACENT PROPERTIES AND DOWNSTREAM FACILITIES FROM EROSION AND SILTATION DURING THE COURSE OF THE WORK. ANY DAMAGE RESULTING FROM SUCH EROSION AND SILTATION SHALL BE CORRECTED AT THE SOLE EXPENSE OF THE CONTRACTOR.
15. ANY IN-STREAM WORK SHALL BE SCHEDULED IN STRICT ACCORDANCE WITH SPECIFIC LOCAL REQUIREMENTS OF THE DIVISION OF STATE LANDS, AND OREGON DEPARTMENT OF FISH AND WILDLIFE.
16. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT. IF CONSTRUCTION OCCURS DURING WET WEATHER; HAUL ROADS AND OTHER HIGH USE TRAFFIC AREAS SHALL BE PROTECTED BY AT LEAST 18" OF 3"-0 CRUSHED ROCK UNDERLAIN BY A WOVEN GEOTEXTILE, SUCH AS AMOCO 2006, MIRAFI 600X, OR EQUIVALENT.
17. IN AREAS SUBJECT TO SURFACE AND AIR MOVEMENT OF DUST, WHERE ON-SITE OR OFF-SITE DAMAGE IS LIKELY TO OCCUR, ONE OR MORE OF THE FOLLOWING PREVENTATIVE MEASURES SHALL BE TAKEN FOR DUST CONTROL:

A. MINIMIZE THE PERIOD OF SOIL EXPOSURE THROUGH THE USE OF TEMPORARY GROUND COVER AND OTHER TEMPORARY STABILIZATION PRACTICES.

B. THE SITE IS SPRINKLED WITH WATER UNTIL SURFACE IS WET. REPEAT AS NEEDED TO PREVENT THE CARRY OUT OF MUD ONTO STREET, REFER TO STABILIZED CONSTRUCTION ENTRANCE DETAILS.

C. SPRAY EXPOSED SOILS WITH A DUST PALLIATIVE. NOTE, USED OIL IS PROHIBITED AS A PALLIATIVE.
18. PRIOR TO ANY SITE EXCAVATION, ALL EXISTING AND NEWLY CONSTRUCTED STORM DRAINAGE INLETS SHALL BE PROTECTED AS SHOWN ON THE DETAIL SHEETS TO PREVENT SEDIMENT FROM ENTERING THE STORM DRAINAGE SYSTEM PRIOR TO PERMANENT STABILIZATION OF THE DISTURBED AREA. CLEAN THE FILTER AS NECESSARY TO MAINTAIN DRAINAGE. PROVIDE APPROVED TRAFFIC CONTROL DEVICES AS NECESSARY. REMOVE FILTER AND CLEAN CATCH BASINS FOLLOWING COMPLETION OF SITEWORK.
19. AT NO TIME SHALL MORE THAN 12" OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A TRAPPED CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.
20. STORM DRAIN INLETS, BASINS, AND AREA DRAINS SHALL BE PROTECTED UNTIL PAVEMENT SURFACES ARE COMPLETED AND/OR VEGETATION IS RE-ESTABLISHED.
21. PAVEMENT SURFACES AND VEGETATION ARE TO BE PLACED AS RAPIDLY AS POSSIBLE.

SUMMARY OF EROSION CONTROL MEASURES

1. THE FOLLOWING BASE MEASURES SHALL BE IN PLACE AT ALL TIMES:

A. CONSTRUCTION ENTRANCES

B. INLET PROTECTION

C. TEMPORARY SEEDING, MULCHING, OR MATTING

D. UNDISTURBED BUFFERS

E. SEDIMENT BARRIERS

F. DUST CONTROL
2. WET WEATHER MEASURES ARE REQUIRED TO BE IN PLACE FROM OCTOBER 1 TO APRIL 30. TEMPORARY OR PERMANENT SEEDING APPLICATIONS MUST BE COMPLETED PRIOR TO SEPTEMBER 1. THE FOLLOWING EROSION CONTROL MEASURES ARE ACCEPTABLE WET WEATHER MEASURES:

A. HYDROSEEDING

B. TEMPORARY SEEDING, MULCHING, OR MATTING

C. PLASTIC SHEETING

D. SEDIMENT TRAP OR PONDS
3. ADDITIONAL AND/OR ALTERNATIVE MEASURES SHALL BE INSTALLED DURING CONSTRUCTION AS REQUIRED AND INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

A. DIKES AND SWALES

B. CHECK DAMS

C. SLOPE DRAINS

D. SUB DRAINS

E. TERRACING OF SLOPES

F. GRAVEL FILTER BERMS

G. GABIONS

H. SOIL RETAINING SYSTEMS

I. LIVE STAKES

J. CRIB WALLS

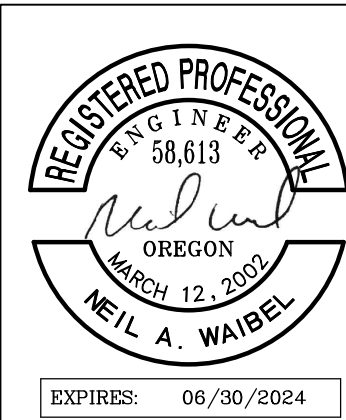
K. BRUSH LAYER
4. TEMPORARY EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL PERMANENT EROSION CONTROL MEASURES ARE FULLY ESTABLISHED. REFER TO THE "EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL" BY CLACKAMAS COUNTY WATER ENVIRONMENTAL SERVICES (WES) FOR ADDITIONAL INFORMATION.
5. THE EROSION CONTROL MEASURES LISTED ABOVE AND SHOWN ON THE PLAN SHOULD BE USED AS A GUIDELINE ONLY. EROSION CONTROL MEASURES MAY NEED TO BE ADDED OR ALTERED DEPENDING ON CONSTRUCTION METHODS, STAGING, SITE CONDITIONS, WEATHER AND SCHEDULING.

HHPR

ENGINEERS*PLANNERS
LANDSCAPE ARCHITECTS*SURVEYORS

205 SE Spokane Street, Suite 200, Portland, OR 97202
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Harper
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		NAW/JSE	JSE	NAW	

Sheet No. 3.1

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AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

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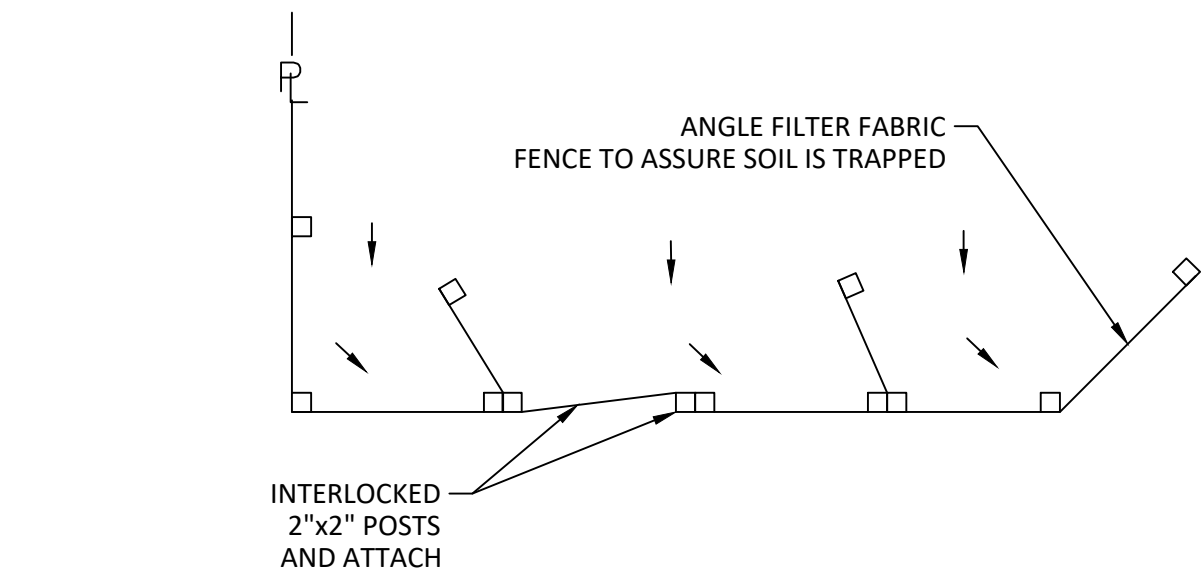
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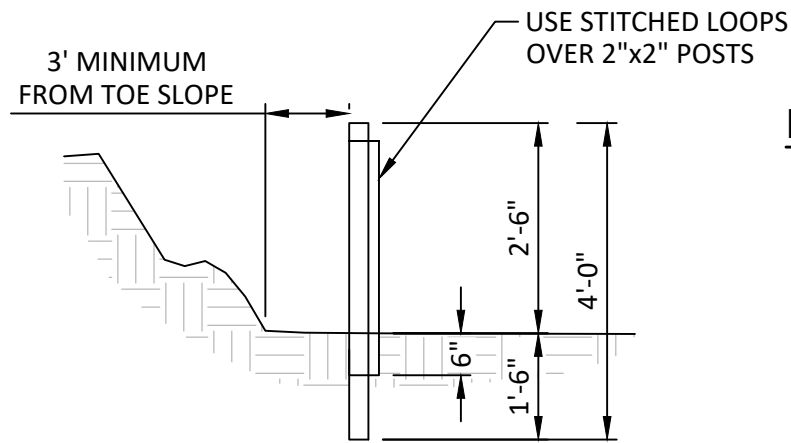
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CLACKAMAS COUNTY

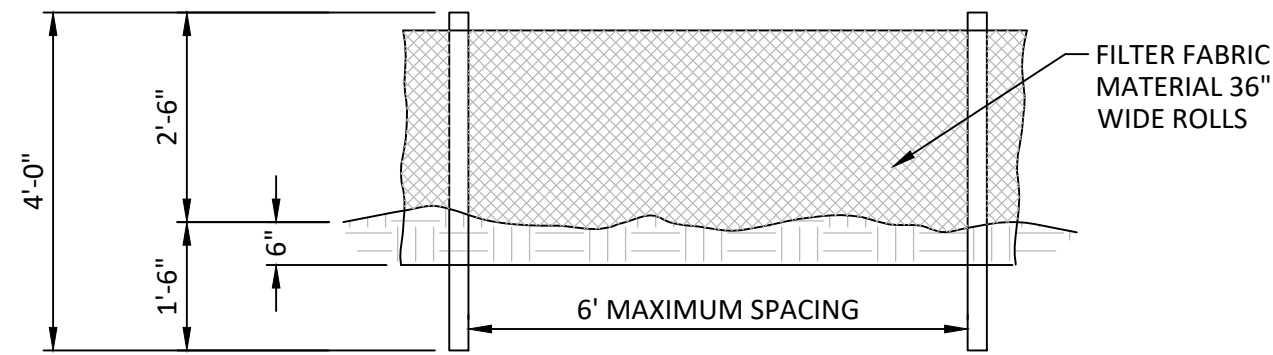
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PLAN VIEW

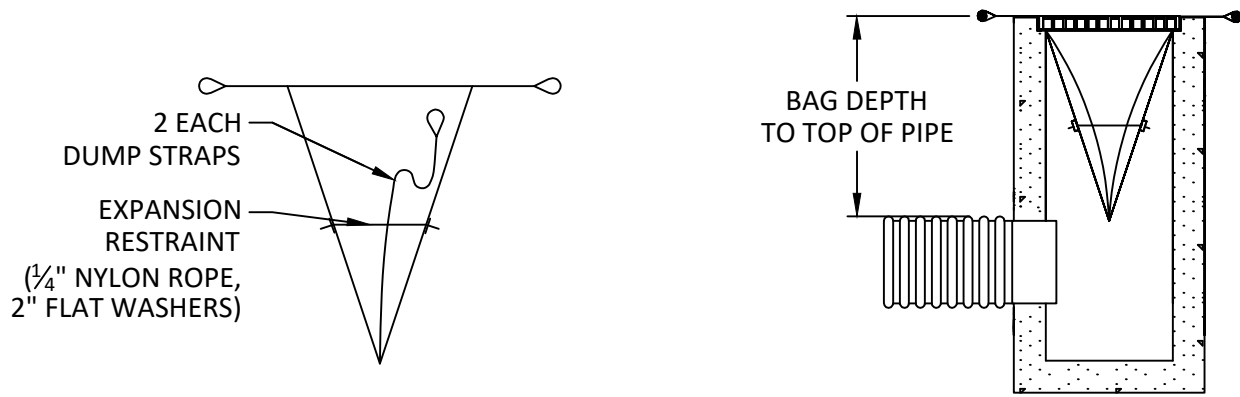


PROFILE



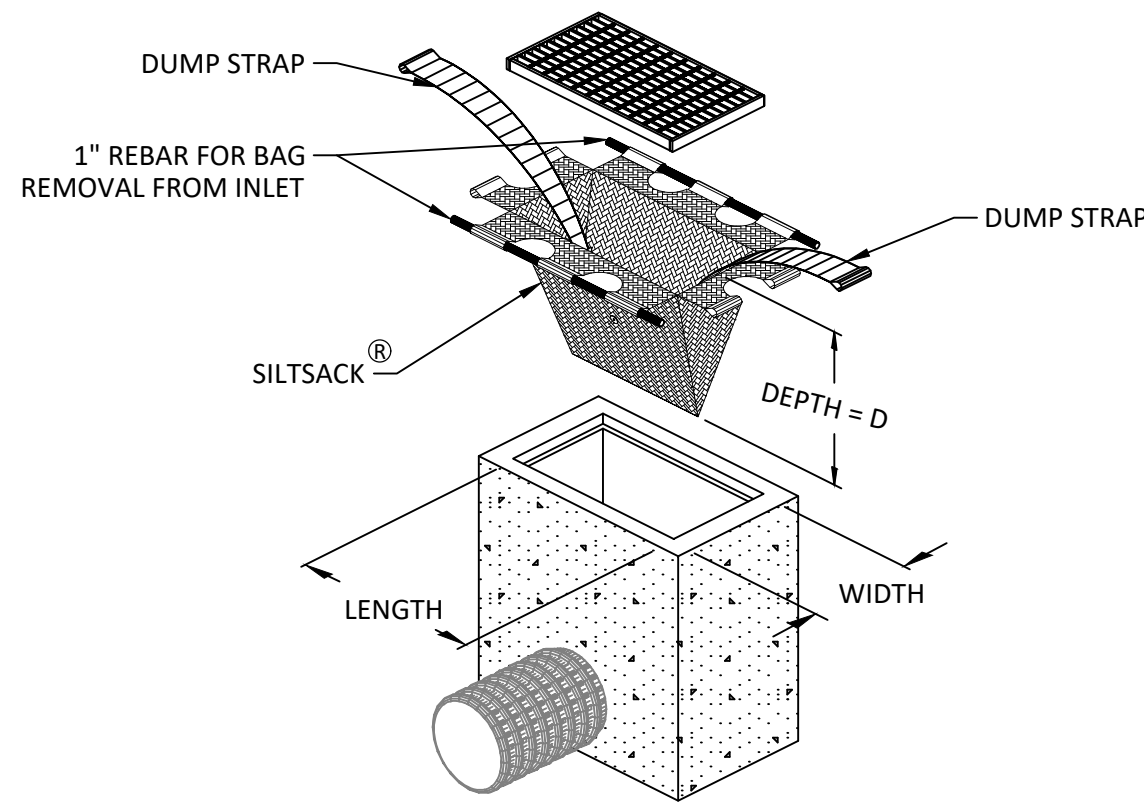
SEDIMENT FENCE - UNSUPPORTED

NTS



BAG SECTION

INSTALLATION SECTION

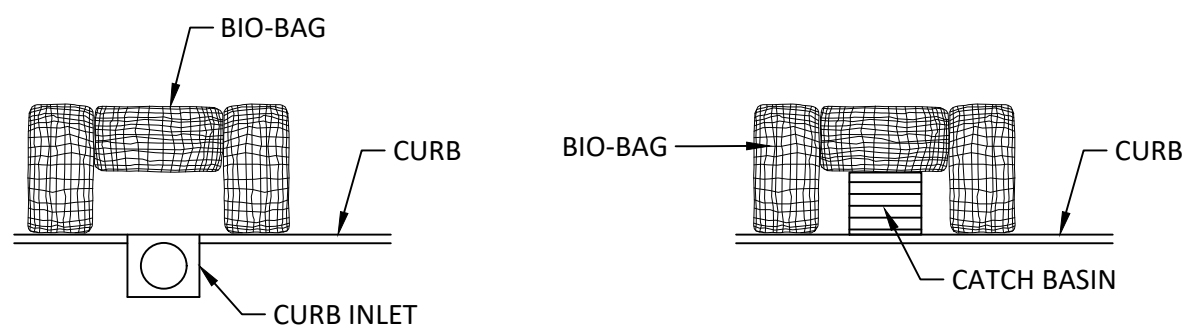


3-D VIEW

- NOTE:**
1. THE DIMENSION CHART ABOVE IS FOR STANDARD CATCH BASINS AND INLETS ONLY. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE CORRECT SIZE DEVICE FOR EACH INLET.
 2. CATCH BASINS AND INLETS, THE CONTRACTOR SHALL MEASURE FOR NON- CLEAN WATER SERVICES STANDARD DIMENSIONS IN THE FIELD AND ORDER THE APPROPRIATE SIZE(S).
 3. THE INLET SEDIMENT CONTROL DEVICE SHALL BE OF HIGH FLOW DESIGN (200 GAL / MIN / FT), AS PER THE MANUFACTURER'S SPECIFICATIONS.
 4. THE SEDIMENT CONTROL DEVICE SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED A MINIMUM ONCE PER MONTH OR WITHIN THE 48 HOURS FOLLOWING A STORM EVENT.
 5. SUBSTITUTION OF A SHEET OF FILTER FABRIC PLACED OVER THE OPENING OF THE INLET IS NOT APPROVED.

INLET SEDIMENT CONTROL DEVICE

NTS



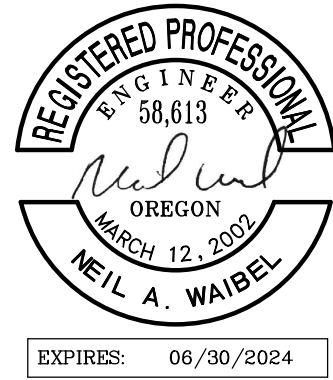
- NOTE:**
1. NOT ALLOWED FOR USE IN TRAFFIC AREAS.

BIO-BAG PROTECTION
ALTERNATE MEASURE

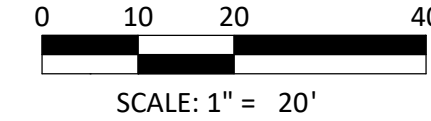
NTS

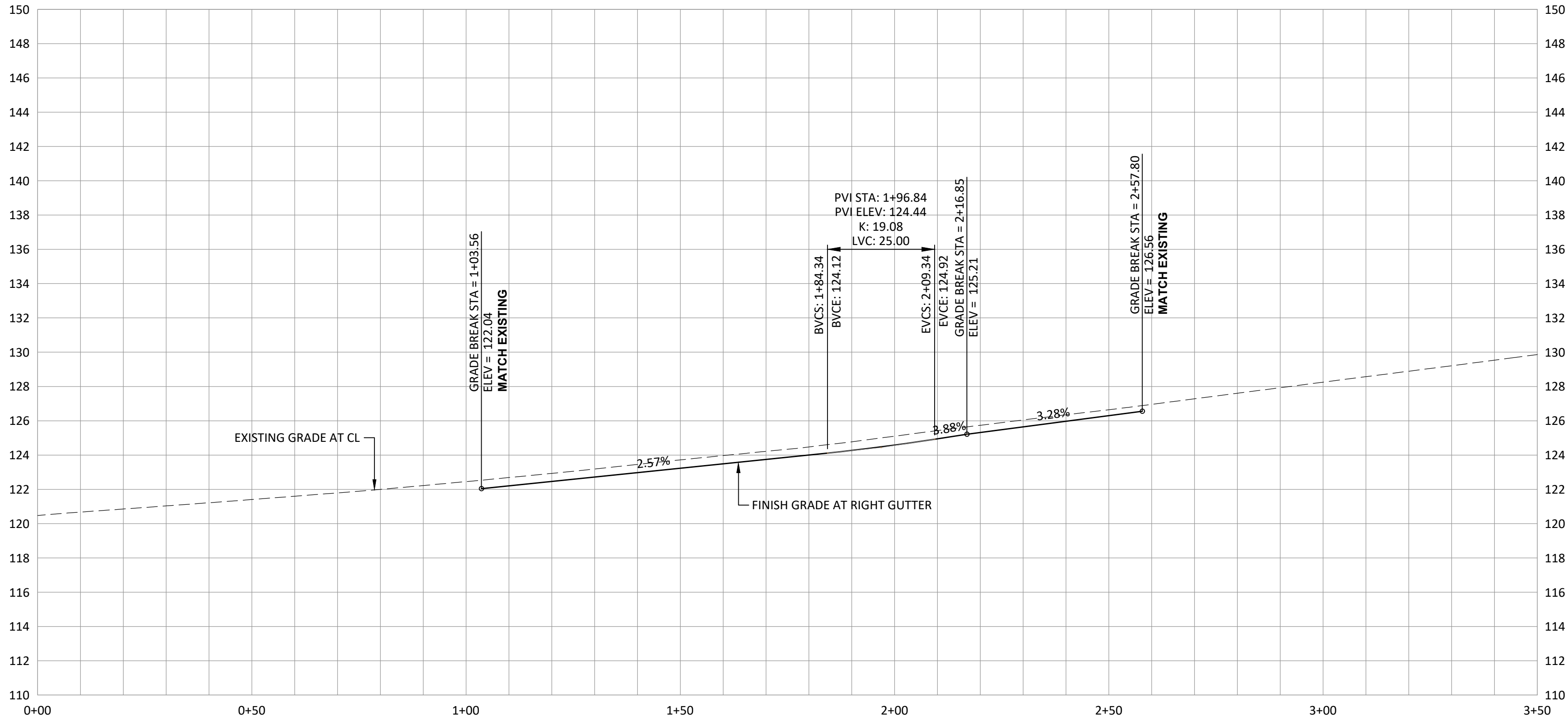
EROSION CONTROL MEASURES ARE SHOWN FOR GENERAL PURPOSES.
THE CONTRACTOR SHALL PHASE EROSION CONTROL AS NEEDED.

HHPR Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
205 SE Spokane Street, Suite 200, Portland, OR 97202
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

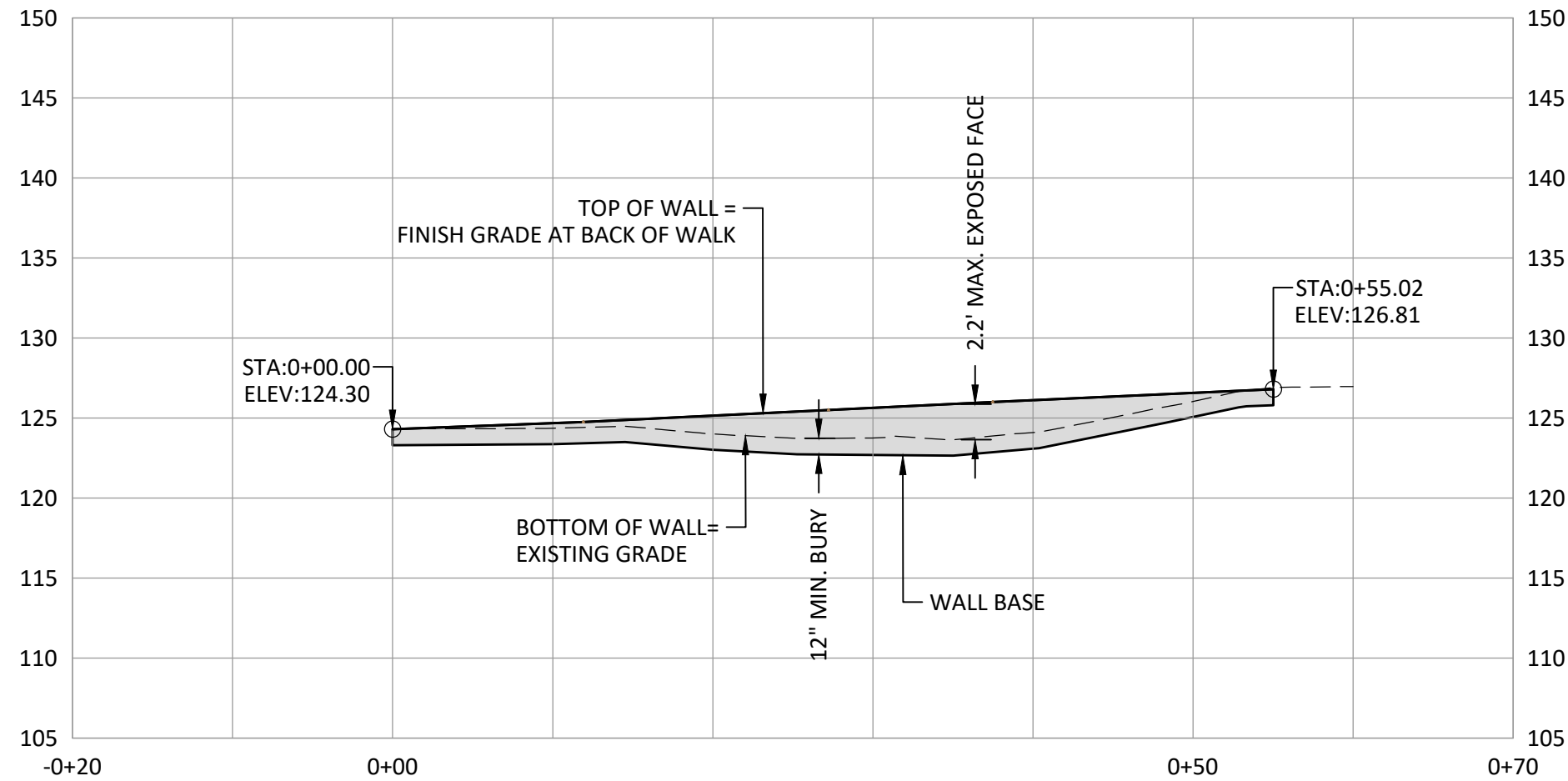


CLACKAMAS COUNTY		EPSC DETAILS	
DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045		82ND DRIVE & JENNIFER ST SIGNAL REPLACEMENT	
C LACKAMA S COUNTY		DIRECTOR	
DAN JOHNSON		PROJECT NO.: 23303	
DESIGNED BY:	NAW/JSE	DATE:	JUNE 2024
DRAFTED BY:	JSE		
CHECKED BY:	NAW		
NO.	DATE:		
REVISIONS		Sheet No. 3.2	

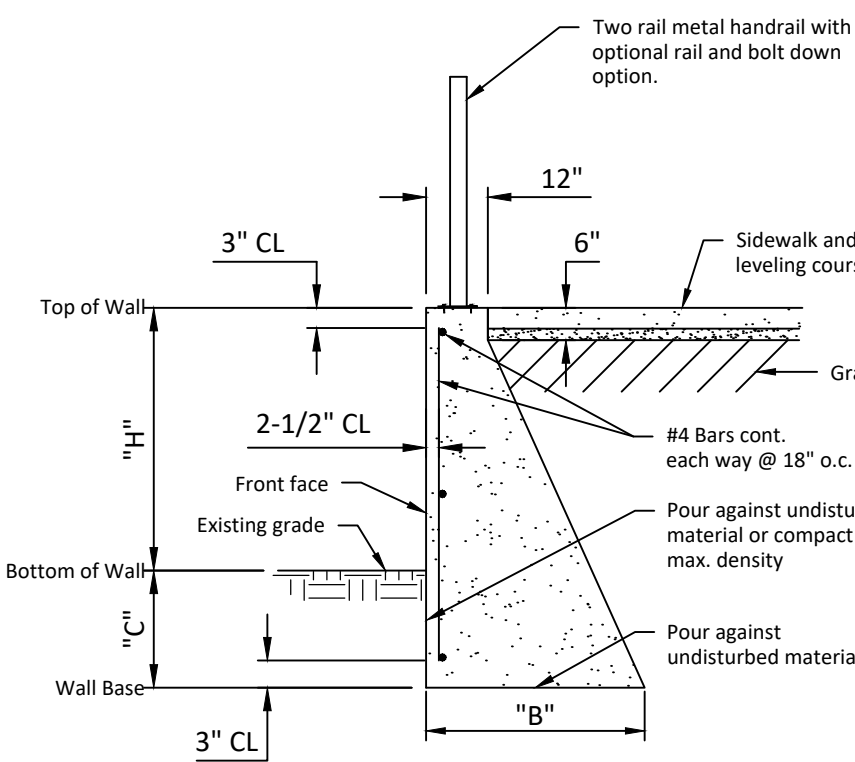




82ND-JENNIFER - PROFILE
SCALE: 1" = 20' (HORIZ.)
1" = 5' (VERT.)

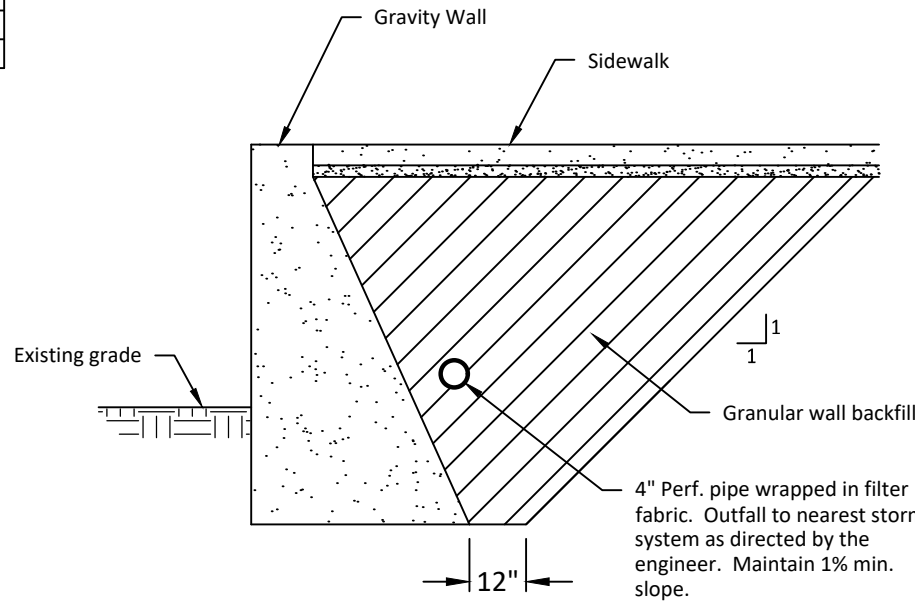


NORTH WALL - PROFILE
HORIZ. SCALE: 1" = 10'
VERT. SCALE: 1" = 10'



GRAVITY WALL FOR LEVEL FILL WITH SURCHARGE
NTS

WALL DIMENSIONS		
H (FT)	B (FT)	C (INCHES)
0	1	12
1	1	12
2	2	12
2.5	2.5	12



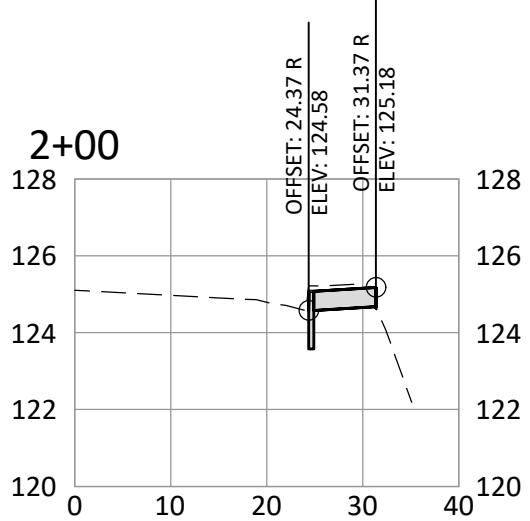
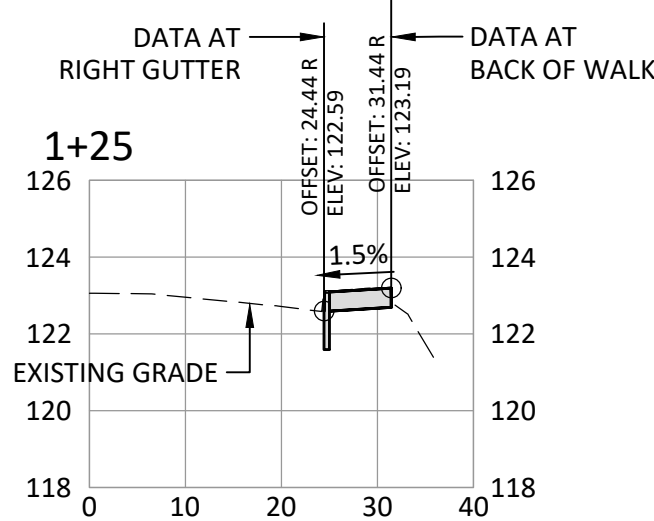
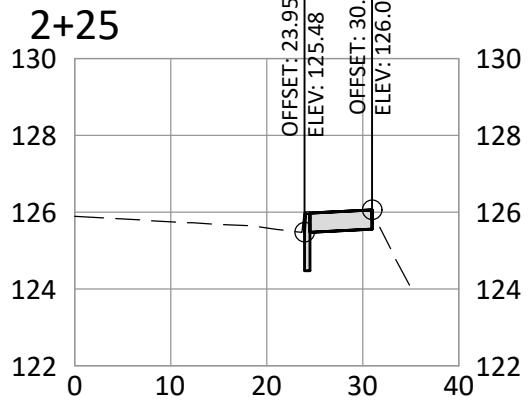
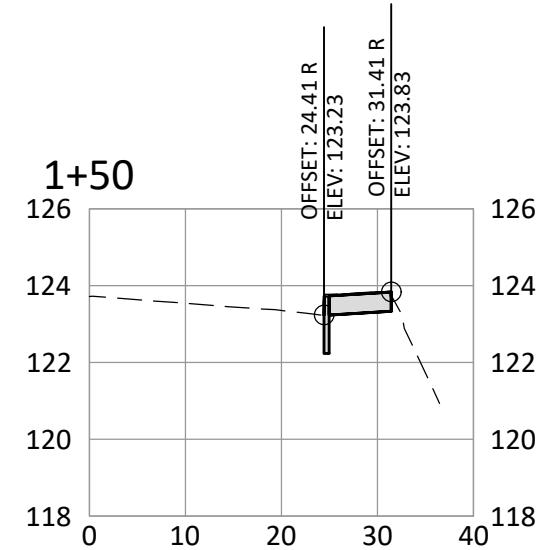
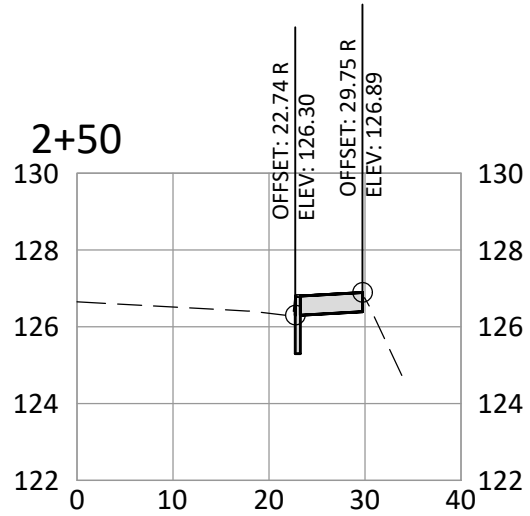
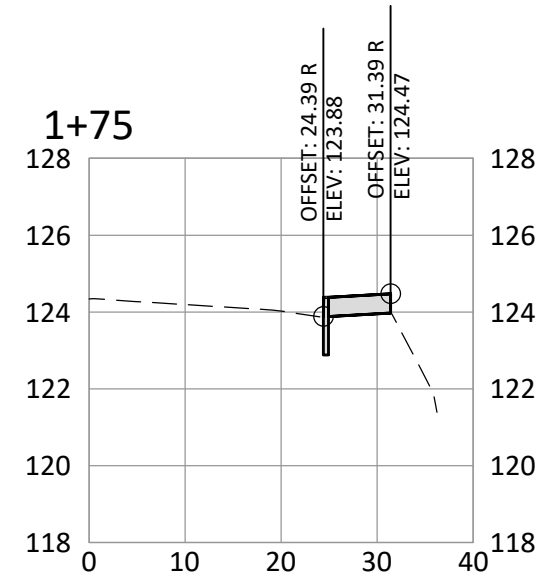
BACKFILL AND DRAINAGE DETAILS
NTS

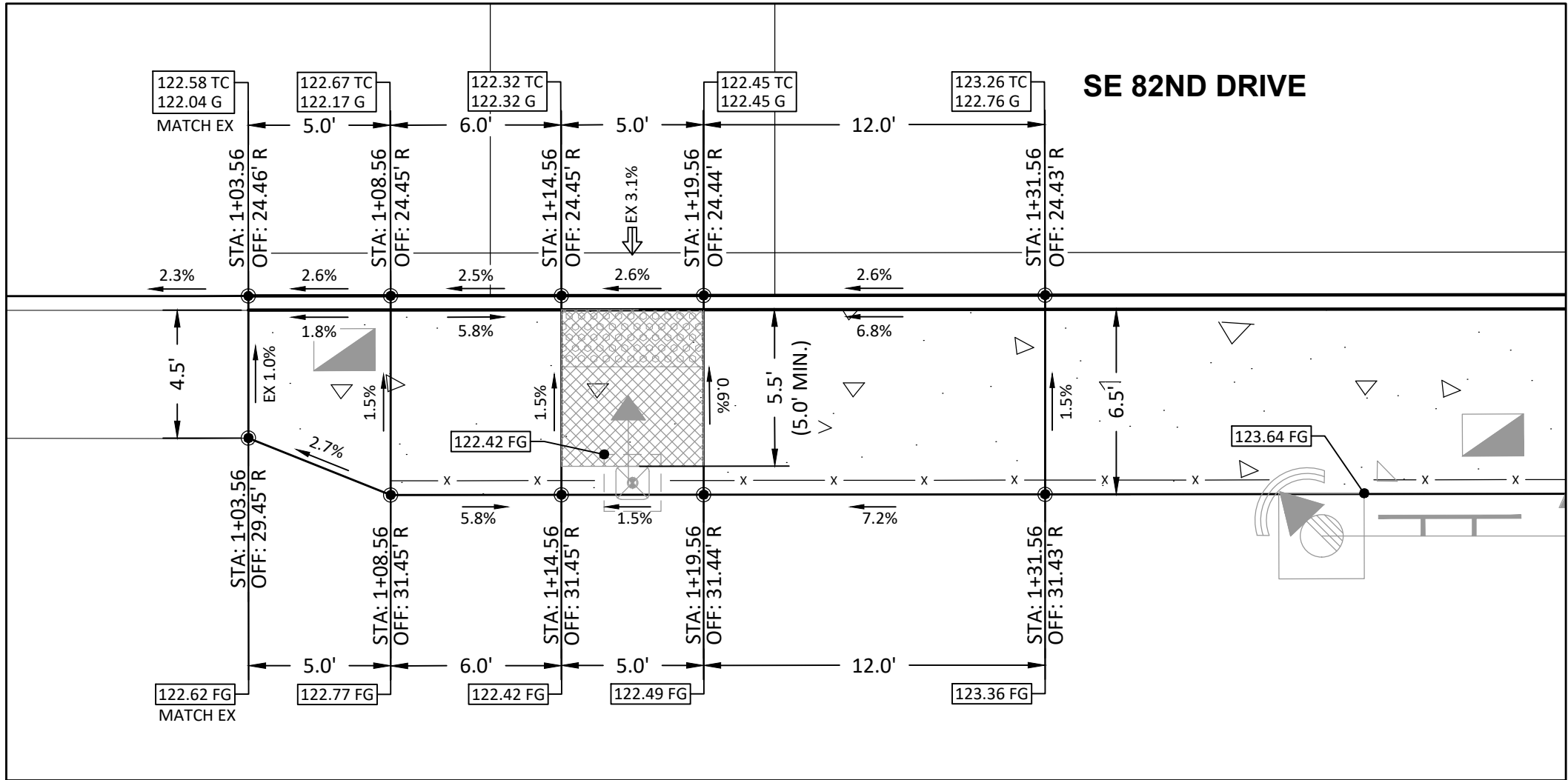
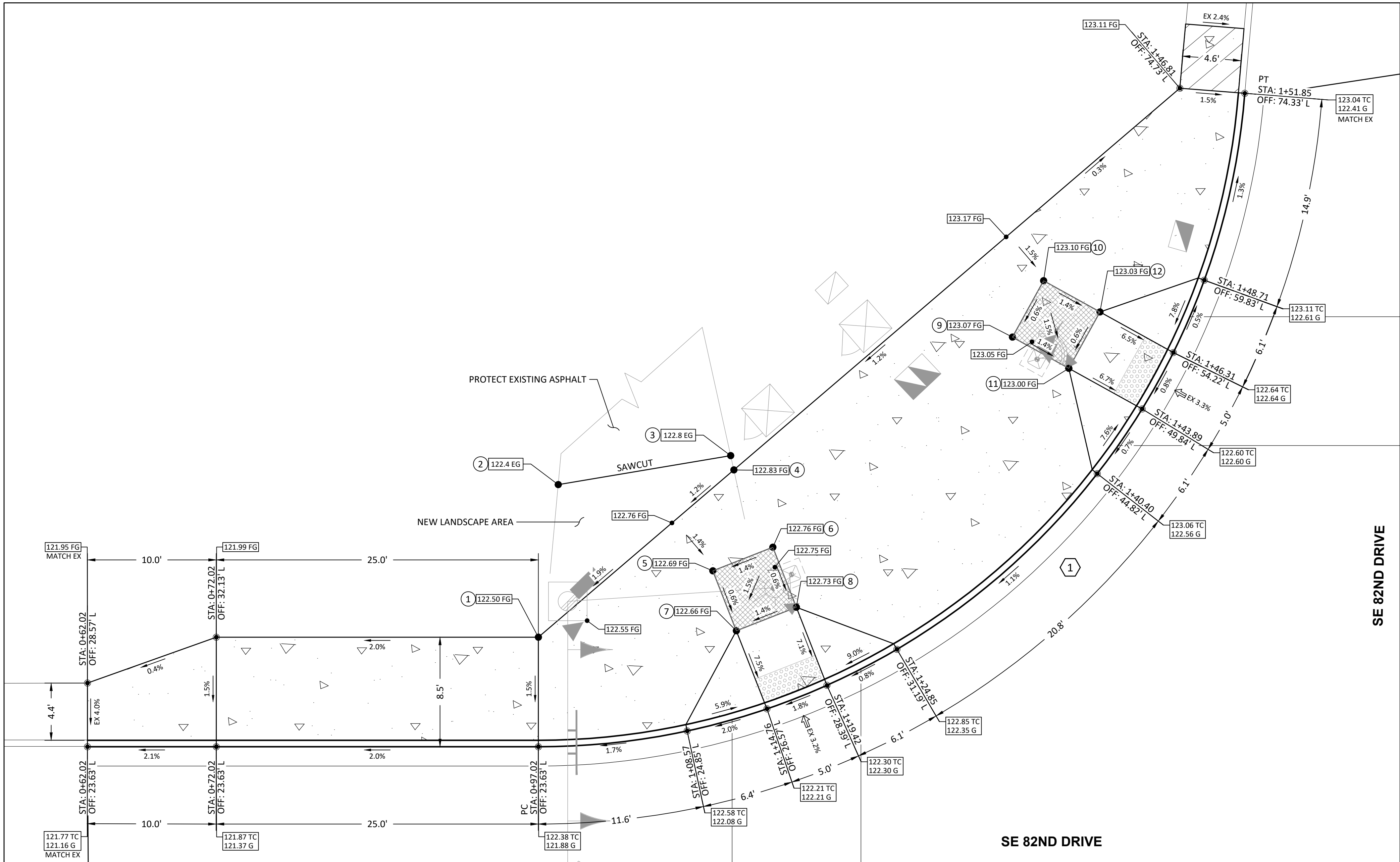
GENERAL NOTES

1. All material and workmanship shall conform to the special provisions.
2. All reinforcing steel shall conform to ASTM specification A706M or A615M grade 420.
3. All concrete shall be "minor structure concrete".
4. Place expansion joints in approx. 100' o.c. and contraction joints at approx. 32' o.c. unless otherwise shown.
5. There is no batter on the front face of wall.

82ND-JENNIFER CROSS SECTIONS AT RIGHT GUTTER

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





SCALE: 1" = 5'

SIDEWALK

TRANSITION PANEL

TURNING SPACE
MIN. LEVEL AREA 4'X4', 4'X5' WITH OBSTRUCTION.

TRUNCATED DOME DETECTABLE WARNING SURFACE
SEE DRG. NO. RD902 & RD904

X.X%
X.X% SLOPE INFORMATIONAL ARROW (FINISHED SURFACE SLOPE)

COUNTER SLOPE

STATION, OFFSET, ELEVATION POINT

CONSTRUCTION NOTES:

- SLOPES HOLD OVER ELEVATIONS
- MAX. CROSS SLOPE CHANGE ON RAMP 0.5% PER FOOT.
- SEE STD. DRGS. RD902, RD904, RD905, & RD910 FOR DETAILS NOT SHOWN.

POINT TABLE		
#	STATION	OFFSET
1	0+97.02	32.13 L
2	0+98.56	43.97 L
3	1+11.95	46.21 L
4	1+12.19	45.11 L
5	1+10.56	37.28 L
6	1+15.21	39.11 L
7	1+12.39	32.63 L
8	1+17.04	34.45 L
9	1+33.82	55.41 L
10	1+36.24	59.79 L
11	1+38.19	52.99 L
12	1+40.61	57.37 L

CURVE DATA TABLE				
	DELTA	RADIUS	TANGENT	LENGTH
1	85°31'26"	55.0'	50.86'	82.10'

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

DESIGNED BY:
NAW/JSE
DRAFTED BY:
JSE
CHECKED BY:
NAW

REVISIONS

NO.	DATE:			

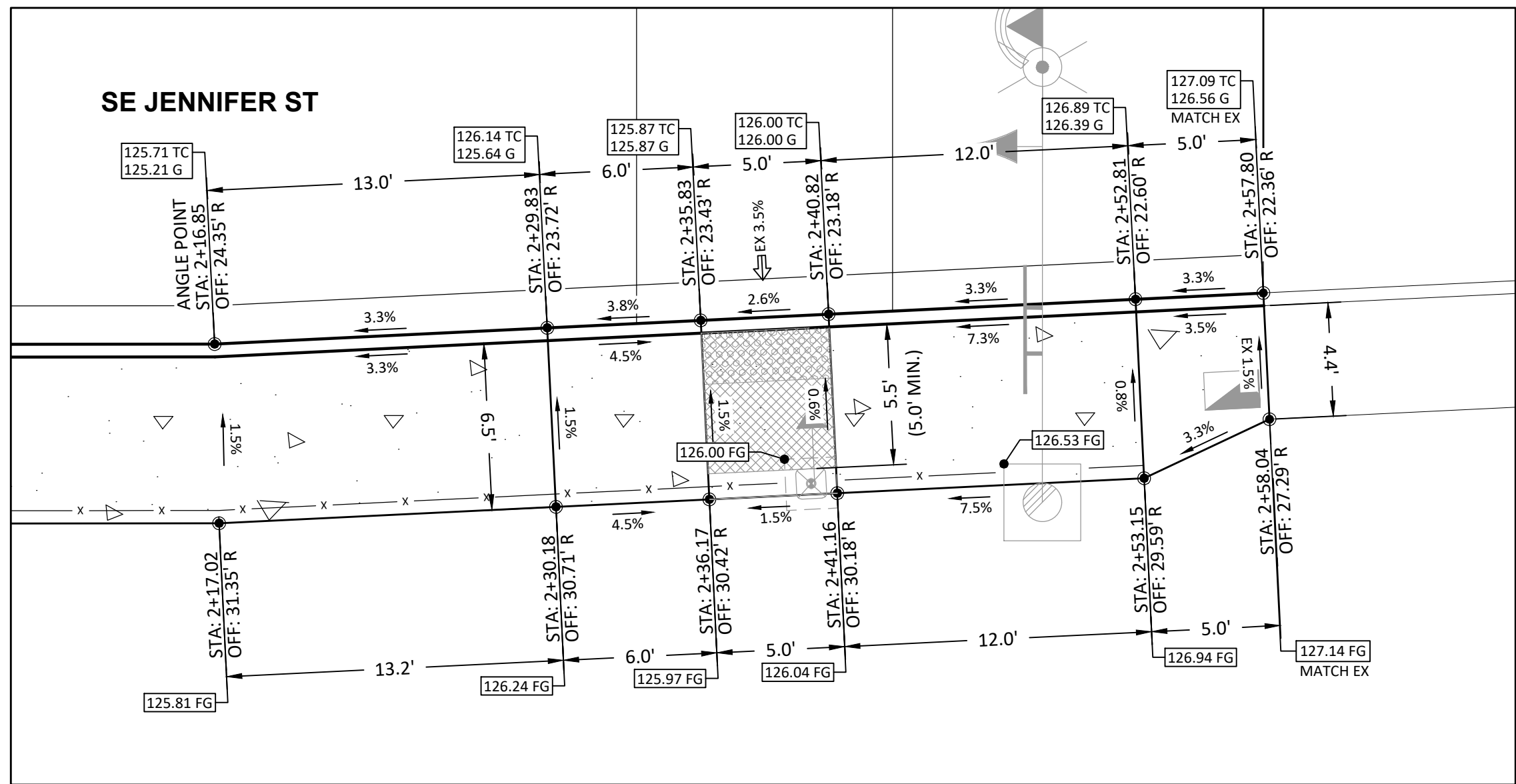
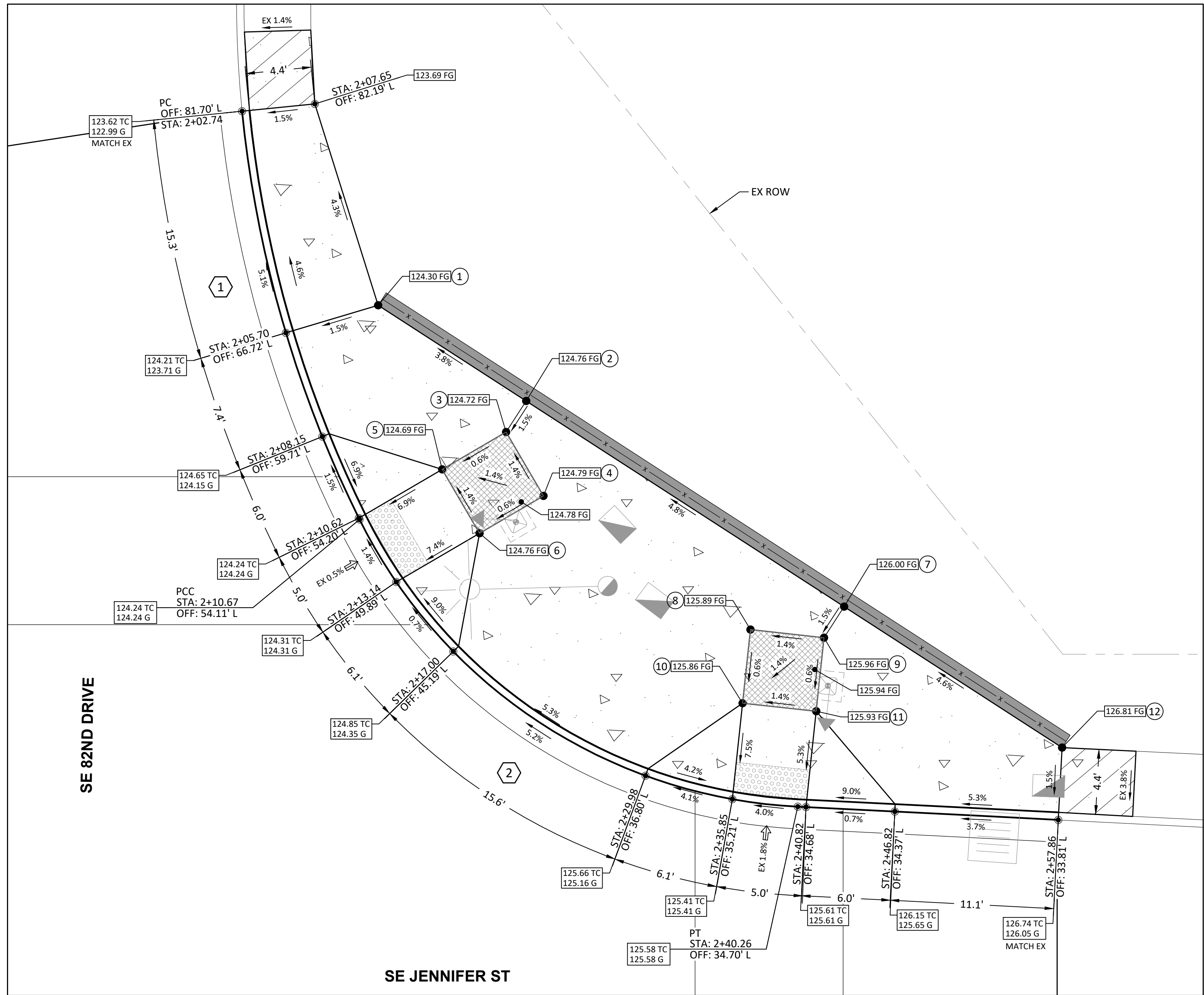
Sheet No.
6.0

ADA CURB RAMP DETAILS
82ND DRIVE & JENNIFER
ST SIGNAL
REPLACEMENT

DIRECTOR

DAN JOHNSON

DATE: JUNE 2024 PROJECT NO.: 23303



SCALE: 1" = 5'

SIDEWALK

TRANSITION PANEL

TURNING SPACE
MIN. LEVEL AREA 4'X4', 4'X5' WITH OBSTRUCTION.

TRUNCATED DOME DETECTABLE WARNING SURFACE
SEE DRG. NO. RD902 & RD904

X.X%

X.X%

 SLOPE INFORMATIONAL ARROW (FINISHED SURFACE SLOPE)

COUNTER SLOPE

?

 STATION, OFFSET, ELEVATION POINT**CONSTRUCTION NOTES:**

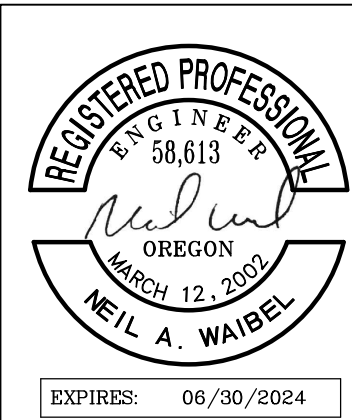
- SLOPES HOLD OVER ELEVATIONS
- MAX. CROSS SLOPE CHANGE ON RAMP 0.5% PER FOOT.
- SEE STD. DRGS. RD902, RD904, RD905, & RD910 FOR DETAILS NOT SHOWN.

POINT TABLE		
#	STATION	OFFSET
1	2+11.92	68.58 L
2	2+21.92	62.11 L
3	2+20.57	60.01 L
4	2+23.09	55.70 L
5	2+16.25	57.49 L
6	2+18.77	53.18 L
7	2+43.39	48.22 L
8	2+37.07	46.67 L
9	2+42.04	46.12 L
10	2+36.54	41.69 L
11	2+41.51	41.15 L
12	2+58.11	38.70 L

CURVE DATA TABLE				
	DELTA	RADIUS	TANGENT	LENGTH
1	20°40'13"	80.0'	14.59'	28.86'
2	60°44'23"	35.0'	20.51'	37.10'

Harper Houf Peterson Righellis Inc.

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

CLACKAMAS COUNTY
DIRECTOR
DAN JOHNSON

DESIGNED BY: NAW/JSE
DRAFTED BY: JSE
CHECKED BY: NAW

NO. DATE:

REVISIONS

Sheet No. 6.1

DATE: JUNE 2024 PROJECT NO.: 23303

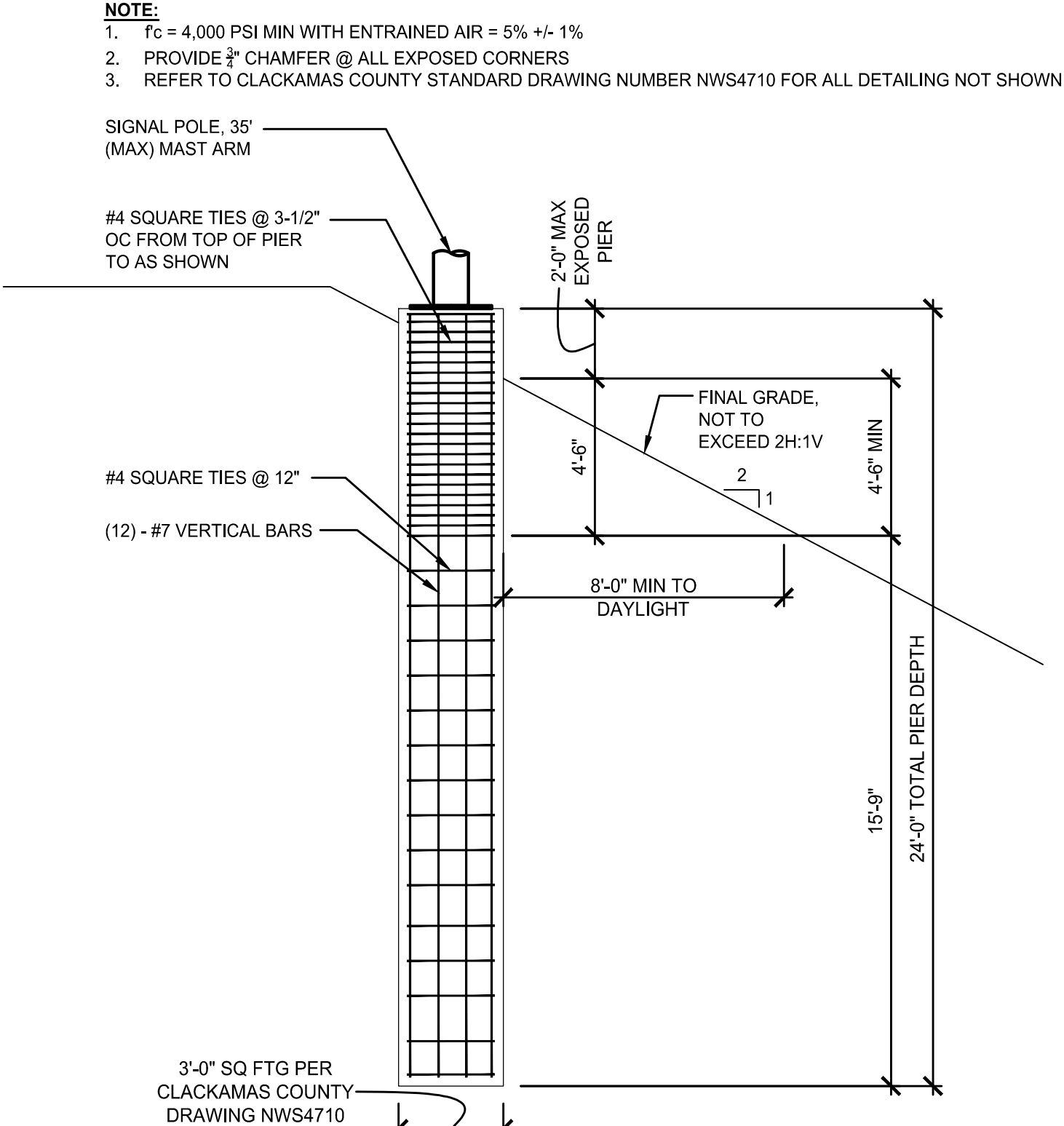
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NO.	DATE:				

Sheet No. 7.0

A
7.0
SCALE: 1/4" = 1'-0"

SIGNAL POLE FOUNDATION ON SLOPE



CLACKAMAS COUNTY



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

DIRECTOR

DAN JOHNSON

DESIGNED BY:
NAW/JSE

DRAFTED BY:
JSE

CHECKED BY:
NAW

SIGNAL POLE FOUNDATION

82ND DRIVE & JENNIFER
ST SIGNAL
REPLACEMENT

DATE: JUNE 2024 PROJECT NO.: 23303

PAVEMENT MARKING LEGEND

<div>EX</div> <div>W</div>	RETAIN AND PROTECT EXTG. 4" WHITE LINE
<div>EX</div> <div>W-2</div>	RETAIN AND PROTECT EXTG. 8" WHITE LINE
<div>EX</div> <div>ND</div>	RETAIN AND PROTECT EXTG. NARROW DOUBLE NO-PASS TWO 4" YELLOW LINES
<div>EX</div> <div>BIKE</div>	RETAIN AND PROTECT EXTG. "BIKE" (WHITE)
<div>EX</div> <div>ONLY</div>	RETAIN AND PROTECT EXTG. "ONLY" (WHITE)
<div>EX</div> <div>DIA</div>	RETAIN AND PROTECT EXTG. DIAMOND SYMBOL (WHITE)
<div>RX</div> <div>W</div>	REMOVE EXTG. 4" WHITE LINE
<div>RX</div> <div>W-2</div>	REMOVE EXTG. 8" WHITE LINE
<div>RX</div> <div>RA</div>	REMOVE EXTG. RIGHT TURN ARROW (WHITE)
<div>RX</div> <div>BIKE</div>	REMOVE EXTG. "BIKE" (WHITE)
<div>RX</div> <div>ONLY</div>	REMOVE EXTG. "ONLY" (WHITE)
<div>RX</div> <div>DIA</div>	REMOVE EXTG. DIAMOND SYMBOL (WHITE)

SIGNING LEGEND

<div>N</div>	INSTALL NEW SIGN (N).
<div>N</div> <div>M</div>	INSTALL NEW SIGN (N) ON NEW (M) SIGN SUPPORT.
<div>EXN</div>	MAINTAIN AND PROTECT EXISTING SIGN (N) AND SUPPORT.
<div>RXN</div> <div>M</div>	REMOVE EXISTING SIGN (N) AND (M) SIGN SUPPORT.
<div>RXN</div>	REMOVE EXISTING SIGN (N).

N = SIGN NUMBER
M = MATERIAL

MATERIAL OPTIONS:
SSC = STAINLESS STEEL CLAMP
ST = PERFORATED STEEL SQUARE TUBE
W = WOOD UTILITY POLE
MA = MAST ARM

STRIPING NOTES

- LOCATE CROSSWALKS SO RAMPS ARE FULLY CONTAINED WITHIN THE MARKED CROSSWALK. CROSSWALK WIDTH AS SHOWN.
ALL PAVEMENT MARKING SHALL CONFORM TO THE 2024 ODOT SPECIFICATIONS FOUND AT THE FOLLOWING WEBSITE:
https://www.oregon.gov/ODOT/Business/Pages/Standard_Specifications.aspx
- ALL LONGITUDINAL MARKINGS MUST BE METHOD A EXTRUDED, SURFACE, NON-PROFILED, THERMOPLASTIC, UNLESS OTHERWISE NOTED.
- MATCH POINTS TO EXISTING PAVEMENT MARKINGS AND STATION CALL-OUTS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED.
- REMOVE ALL PAVEMENT MARKINGS THAT CONFLICT WITH THESE PLANS. PAVEMENT MARKINGS SHALL BE REMOVED AS DIRECTED BY THE ENGINEER.
- ALL LEGENDS AND BARS ARE METHOD "B-HS", PERFORMED, FUSED, THERMOPLASTIC HIGH SKID FILM. SEE SECTION 00867 IN THE SPECIAL PROVISIONS.

STANDARD DRAWINGS

- TM500 PAVEMENT MARKING STANDARD DETAIL BLOCKS
- TM501 PAVEMENT MARKING STANDARD DETAIL BLOCKS
- TM502 PAVEMENT MARKING STANDARD DETAIL BLOCKS
- TM503 PAVEMENT MARKING STANDARD DETAIL BLOCKS
- TM520 DURABLE PAVEMENT MARKINGS METHOD "A" & "D" SURFACE INSTALLED PROFILED
- TM530 INTERSECTION PAVEMENT MARKINGS (CROSSWALK, STOP BAR, BIKE LANE STENCIL)
- TM531 TURN ARROW MARKING DETAILS
- TM560 ALIGNMENT LAYOUT: GENERAL
- TM561 ALIGNMENT LAYOUT: LEFT TURN LANE, CENTERLINE & MEDIANS
- TM688 PERFORATED STEEL SQUARE TUBE (PSST) SLIP BASE FOUNDATION
- T100 STREET NAME SIGNS AND DETAILS CLACKAMAS COUNTY STANDARD
- T130 STREET NAME SIGNS AND DETAILS (CONTINUED) CLACKAMAS COUNTY STANDARD

SIGNING MATERIALS:

- ALL SIGN MATERIALS SHALL CONFORM TO THE CURRENT MUTCD, CLACKAMAS COUNTY, AND ODOT STANDARD SPECIFICATIONS.
- STREET NAME SIGNS SHALL BE GREEN 3M HIGH INTENSITY PRISMATIC (HIP) REFLECTIVE SHEETING.
- ALL LETTERS, NUMBERS, AND SYMBOLS ON STREET NAME SIGNS SHALL BE WHITE 3M HIGH INTENSITY PRISMATIC (HIP) REFLECTIVE SHEETING.

SIGNING 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.
- 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.
- SIGN LOCATIONS SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION.
- OVERHEAD STREET NAME SIGNS USE GREEN TYPE III OR TYPE IV SHEETING BACKGROUND WITH WHITE TYPE IX PERMANENT (3M DIAMOND GRADE) SHEETING PER CLACKAMAS COUNTY STANDARD DRAWING T100.

SIGNING AND PAVEMENT MARKINGS LEGEND

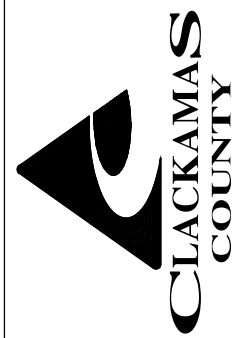
82ND DRIVE & JENNIFER ST
SIGNAL REPLACEMENT

PROJECT NO.: 23303

DATE: JUNE 2024

CLACKAMAS COUNTY

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



DIRECTOR

DAN JOHNSON

DESIGNED BY:

C. GALIZA

DRAFTED BY:

R. SNELLINGS

CHECKED BY:

N. SCHROEDER

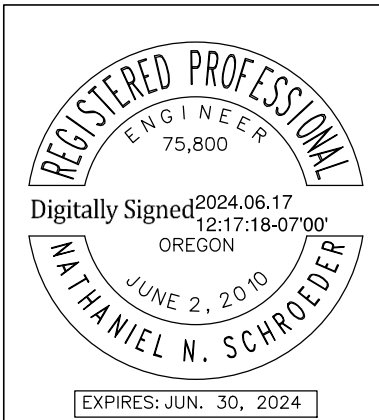
REVISIONS

NO. DATE:

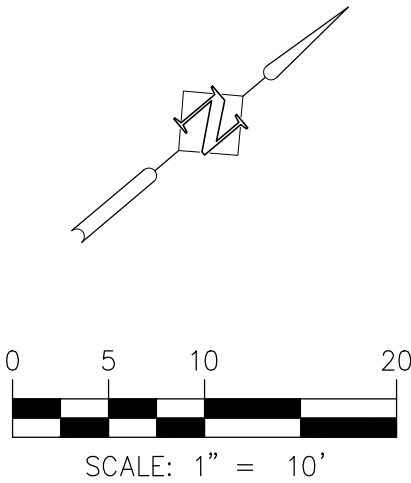
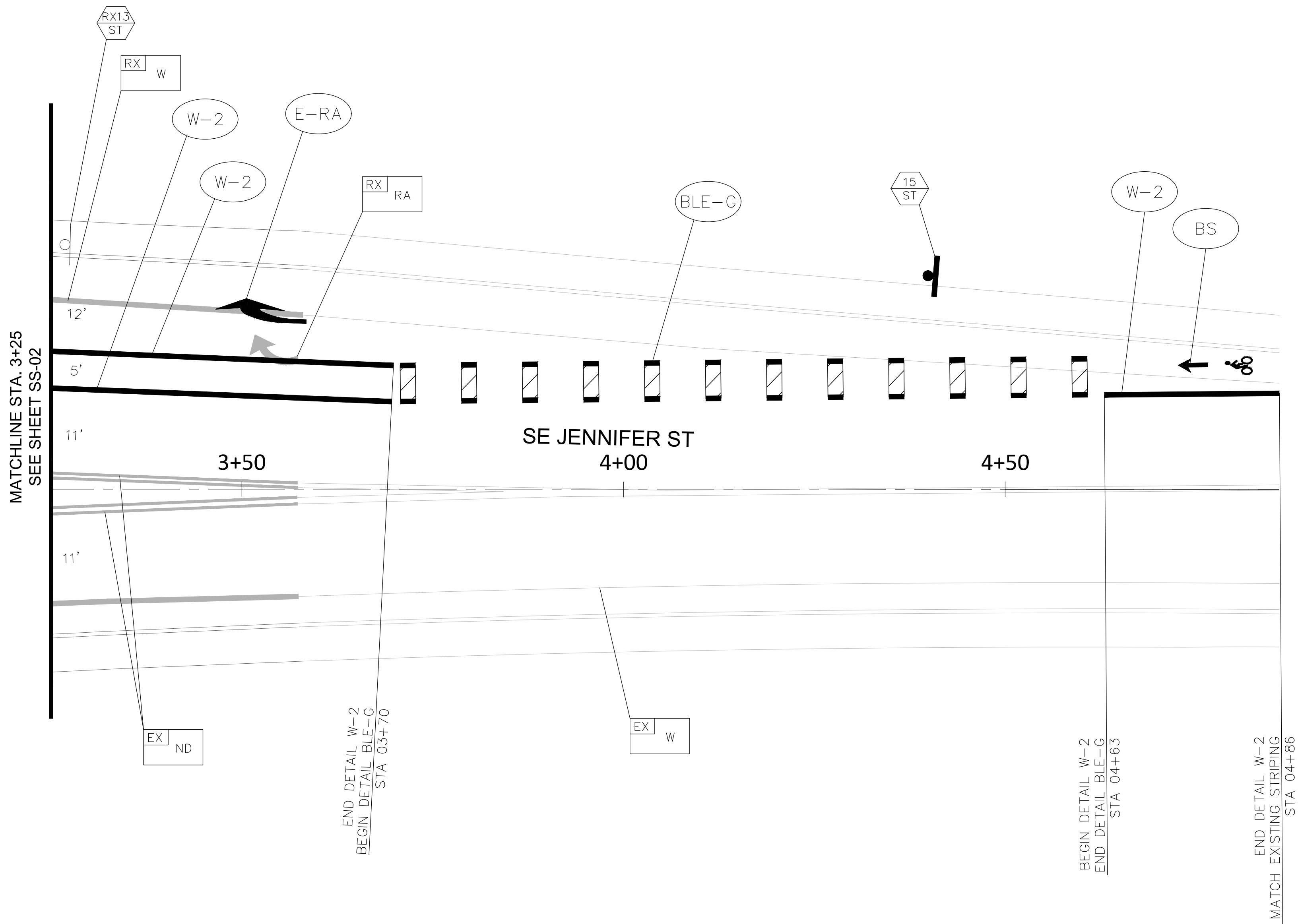
Sheet No.

SS-01

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www.dksassociates.com




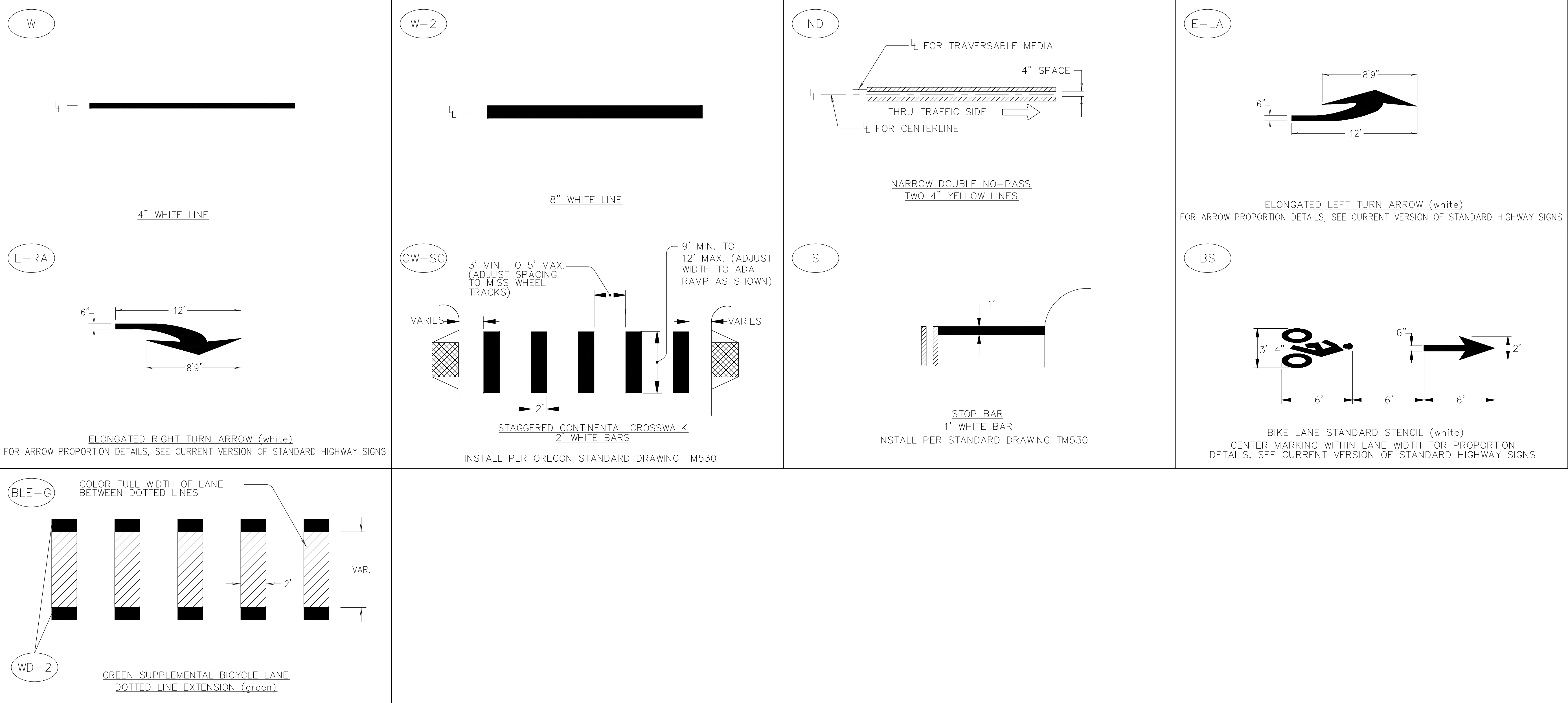
SIGNING AND STRIPING PLAN
SE 82ND DR/SE JENNIFER ST
(CLACKAMAS COUNTY, OREGON)




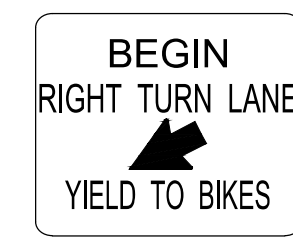
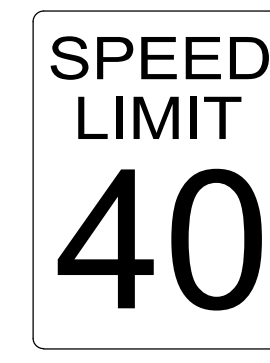
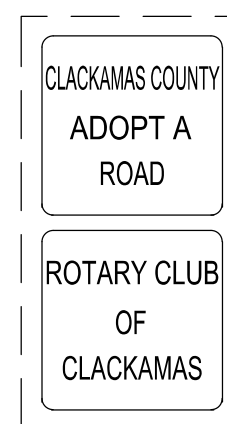
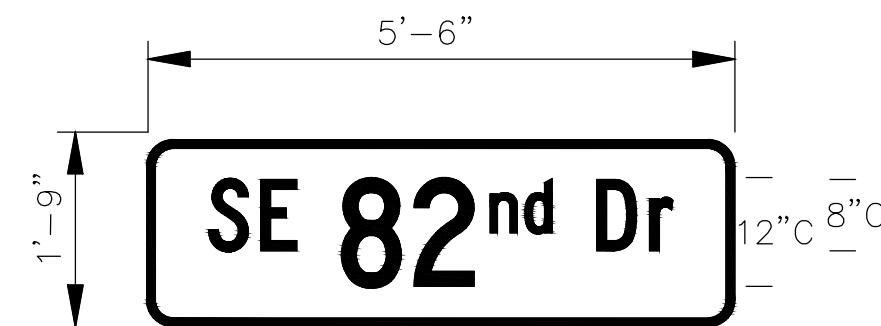
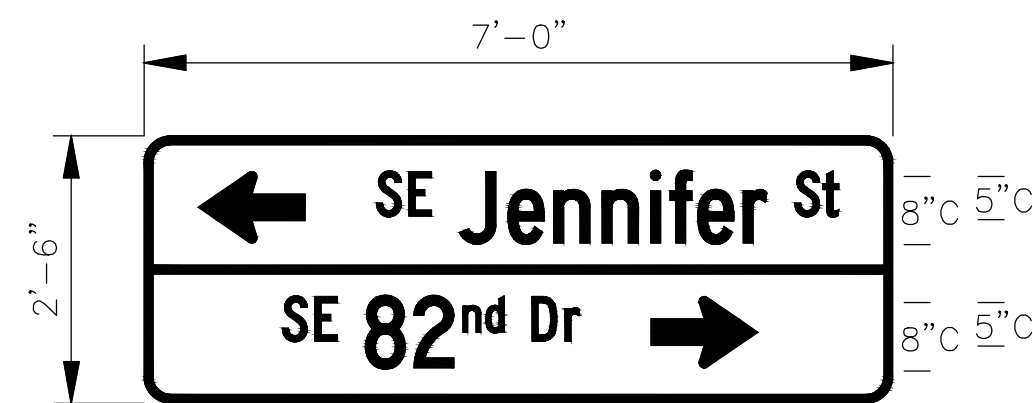
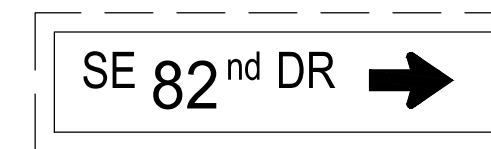
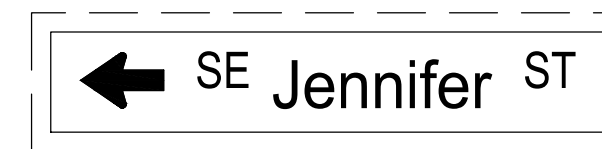
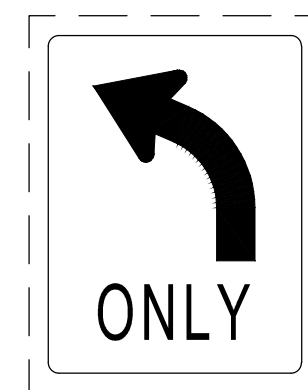
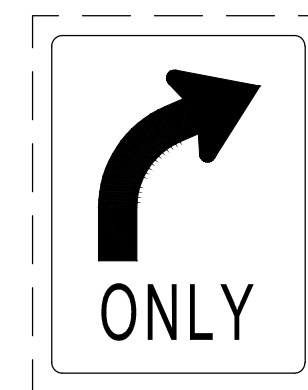
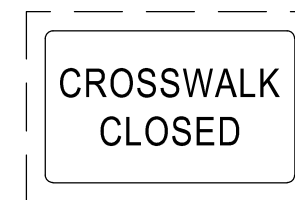
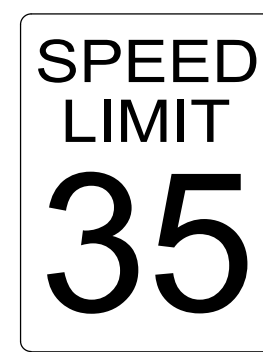
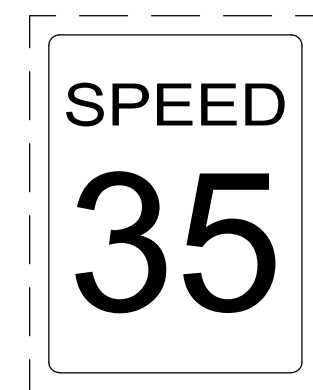
DKS 1050 SW 6th Avenue, Suite 600
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SIGNING AND STRIPING PLAN		CLACKAMAS COUNTY DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045		DESIGNED BY: C. GALIZA	
82ND DRIVE & JENNIFER ST SIGNAL REPLACEMENT		 CLACKAMAS COUNTY		DRAFTED BY:	
DATE: JUNE 2024				R. SNELLINGS	
PROJECT NO.: 23303				CHECKED BY:	
				N. SCHROEDER	
		DAN JOHNSON		DIRECTOR	
REVISIONS					
NO.	DATE:				
Sheet No.		SS-03			




REVISIONS		PAVEMENT MARKING DETAILS	
NO.	DATE:	CLACKAMAS COUNTY DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045	
			
		DIRECTOR	
		DAN JOHNSON	
		DESIGNED BY: C. GALIZA	
		DRAFTED BY: R. SNELLINGS	
		CHECKED BY: N. SCHROEDER	
Sheet No.		PROJECT NO.: 23303	
SS-04		DATE: JUNE 2024	
		82ND DRIVE & JENNIFER ST SIGNAL REPLACEMENT	



NOTE:
SIGNS WITH DASHED BORDER
ARE EXISTING SIGNS.



Sheet No. SS-05	REVISIONS		DESIGNED BY: C. GALIZA	SIGNING DETAILS
	NO. DATE:	DRAFTED BY:	R. SNELLINGS	
		CHECKED BY:		
		N. SCHROEDER		
 CLACKAMAS COUNTY DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045			CLACKAMAS COUNTY DIRECTOR	
			82ND DRIVE & JENNIFER ST SIGNAL REPLACEMENT	
			DATE: JUNE 2024 PROJECT NO.: 23303	

SIGN NO.	SIGN LOCATION 4/	SIGN DIMENSIONS		SUB-STRATE				COLOR 1/				LEGEND TYPE		SIGN NO. 2/	TYPE OF SUPPORT																POST		FOOTING		REMARKS		
								BACK-GROUND		LEGEND					SECONDARY SIGN (TM676 & TM678)																						
		WIDTH (IN.)	HEIGHT (IN.)	PLYWOOD	SHEET ALUMINUM	EXTRUDED ALUMINUM (ODOT TM675)	DOUBLE-SIDED	ASTM TYPE III OR TYPE IV	ASTM TYPE IX	ASTM TYPE III OR TYPE IV	ASTM TYPE IX	NON-REFLECTIVE	PERMANENT						DEMOUNTABLE	WOOD POST (ODOT TM670-671, TM676)	PERF. STEEL SQUARE TUBE (CLACKAMAS COUNTY T150)	TRIANGULAR BASE BREAKAWAY (ODOT TM602)	MULTI-POST BREAKAWAY (ODOT TM220, TM600-601)	STAINLESS STEEL CLAMP (SSC) (TM677)	SIGNAL POLE MOUNT (ODOT TM680)	BRIDGE RAIL MOUNT	STRUCTURE MOUNT	CANTILEVER	CROSSWALK CLOSURE BARRICADE (ODOT TM240)	VERTICAL SIGN MOUNT ON EXISTING STRUCTURE	ADJUSTABLE SIGN MOUNT	MAST ARM SINS MOUNT	C 4 X 5.4	C 4 X 7.25		ROUTE MARKER FRAME (ODOT TM676 & TM678)	LENGTH (FT.)
2	0+09.0 L	30	36		✓			SW				BK	✓	2		✓																				3/ EDGE OF CURB	
10	1+47.1 L	84	30		✓			G			W		✓	10													✓										
11	1+01.0 L	66	21		✓			G			W		✓	11														✓									
	2+48.5 R	66	21		✓			G			W		✓	11														✓									
14	3+08.5 R	30	36		✓			SW				BK	✓	14		✓																				3/ EDGE OF CURB	
15	4+40.0 L	36	30		✓			SW				BK	✓	15		✓																				3/ EDGE OF CURB	

1/
BK=BLACK
BL=BLUE
BR=BROWN
FY=FLUORESCENT YELLOW
G=GREEN
O=ORANGE
P=PURPLE
R=RED
RB=RED-BLUE
SW=SILVER-WHITE
W=WHITE
Y=YELLOW
YG=FOLOURESCENT YELLOW-GREEN

2/
L,C,R ARE LOCATIONS OF POSTS
FACING THE SIGN.
L = LEFT POST
C = CENTER POST
R = RIGHT POST

3/
DISTANCE FROM EDGE OF TRAVEL LANE,
FACE OF CURB, GUARDRAIL, OR BARRIER
TO THE CENTERLINE OF FOOTING. FOR
ADDITIONAL INFORMATION SEE STANDARD
DRAWNGS TM635

4/
THE LOCATIONS SHOWN ARE APPROXIMATE
EXCEPT FOR SPEED ZONES, SCHOOL ZONES, OBJECT
MARKERS AND MILEPOST MARKERS. EXACT LOCATIONS
ARE TO BE DETERMINED BY THE ENGINEER

DKS 1050 SW 6th Avenue, Suite 600
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REVISIONS

NO.	DATE:	DESIGNED BY: C. GALIZA
		DRAFTED BY: R. SNELLINGS
		CHECKED BY: N. SCHROEDER

CLACKAMAS COUNTY

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



DAN JOHNSON

DIRECTOR

SIGN AND POST DATA TABLE

82ND DRIVE & JENNIFER ST
SIGNAL REPLACEMENT

DATE: JUNE 2024 PROJECT NO.: 23303

LEGEND		TRAFFIC SIGNAL LEGEND	
CONTROLLERS		SE 82ND DR/SE JENNIFER ST (CLACKAMAS COUNTY, OREGON)	
<div><div>C</div><div>ATC</div></div>	FURNISH (ODOT STYLE) MODEL ATC CONTROLLER (INTELLIGHT PART NUMBER 2070LDX) WITH MAXVIEW ATMS SOFTWARE (SINGLE LICENSE). CONTROLLER TO BE INSTALLED BY CLACKAMAS COUNTY.		
<div><div>RS</div><div>SDLC</div></div>	REMOVE AND SAVE EXISTING SYNCHRONOUS DATA LINK CONTROL (SDLC) CONNECTION.		
<div><div>RI</div><div>SDLC</div></div>	REINSTALL EXISTING SYNCHRONOUS DATA LINK CONTROL (SDLC) CONNECTION.		
<div><div>RS</div><div>656</div></div>	REMOVE AND SAVE EXISTING RADAR CABINET INTERFACE DEVICE (CID) AND SHELF FOR RADAR DETECTION SYSTEM.		
<div><div>RI</div><div>656</div></div>	REINSTALL EXISTING RADAR CABINET INTERFACE DEVICE (CID) AND SHELF FOR RADAR DETECTION SYSTEM.		
<div><div>RX</div><div>CC</div></div>	REMOVE EXISTING CONTROLLER CABINET AND CONTROLLER.		
CABINETS			
<div><div>BMCL</div></div>	INSTALL BASE MOUNTED SERVICE CABINET, 120/240 VOLT METERED WITH PHOTOELECTRIC CELL. SEE SHEET TS–09 FOR ADDITIONAL DETAILS.		
<div><div>C</div></div>	CONTROLLER CABINET (SEE SIGNAL PLAN).		
<div><div>SC</div></div>	SERVICE CABINET (SEE SIGNAL PLAN).		
<div><div>332S</div></div>	INSTALL A MODEL 332S CABINET AND CONTROLLER EQUIPMENT WITH RISER FRAME, ORIENT LOUVERED DOOR AS SHOWN.		
<div><div>RTC</div></div>	TRAFFIC SIGNAL POLE SHALL HAVE RECESSED TERMINAL CABINET PER CLACKAMAS COUNTY STANDARDS WITH COPPER NEUTRAL BAR AND MARATHON 1112 OR EQUIVALENT TERMINAL BLOCKS AS CONNECTORS.		
<div><div>RX</div><div>SC</div></div>	REMOVE EXISTING POLE–MOUNTED SERVICE CABINET AND METER.		
POLES			
<div><div>CCSM</div><div>TL</div></div>	INSTALL (T=TYPE) TRAFFIC SIGNAL MAST ARM POLE AND FOUNDATION WITH LUMINAIRE EXTENSION PER CLACKAMAS COUNTY STANDARDS, SEE SHEETS TS–05 AND ("POLE ENTRANCE CHART"). FOUNDATION TO BE FLUSH WITH SIDEWALK.		
<div><div>PP</div><div>N</div></div>	INSTALL SIGNAL PEDESTAL WITH FRANGIBLE BASE ON (N=NUMBER) FOUNDATION PER STANDARD DRAWING TM457.		
<div><div>MA</div><div>L</div></div>	INSTALL (L=LENGTH) FOOT TRAFFIC SIGNAL MAST ARM.		
<div><div>RX</div><div>SP</div></div>	REMOVE EXISTING STRAIN POLE AND TERMINAL CABINET.		
<div><div>RX</div><div>LA</div></div>	REMOVE EXISTING LUMINAIRE ARM.		
<div><div>RX</div><div>WP</div></div>	REMOVE EXISTING WOOD POLE.		
<div><div>EX</div><div>WP</div></div>	EXISTING WOOD POLE.		
<div><div>LP</div><div>PGE</div></div>	PGE TO FURNISH AND INSTALL NEW PGE APPROVED 35' STREET LIGHT POLE WITH 8' LUMINAIRE ARM.		
<div><div>FND</div></div>	INSTALL PGE APPROVED FOUNDATION FOR STREET LIGHT POLE. FOUNDATION TO BE PROVIDED BY PGE.		
SIGNALS			
<div><div>V</div><div>Ph</div></div>	INSTALL PHASE (Ph=PHASE) VEHICLE SIGNAL WITH 2" FLUORESCENT YELLOW REFLECTIVE SHEETING ON BACKBOARD PER STANDARD DRAWING TM460.		
<div><div>C/A</div><div>Ph</div></div>	INSTALL PHASE (Ph=PHASE) COUNTDOWN PEDESTRIAN SIGNAL WITH CLAMSHELL MOUNT AND PUSHBUTTON WITH MOUNT AND PUSHBUTTON WITH MOUNT. INCLUDE PHASE (Ph=PHASE) AUDIBLE PEDESTRIAN SIGNAL (SEE SPECIAL PROVISIONS).		
<div><div>RX</div><div>V</div></div>	REMOVE EXISTING VEHICLE SIGNAL.		
<div><div>RX</div><div>PS</div></div>	REMOVE EXISTING PUSHBUTTON POST.		
<div><div>RX</div><div>P/B</div></div>	REMOVE EXISTING PEDESTRIAN SIGNAL, PUSHBUTTON, AND INSTRUCTIONAL SIGN.		
DETECTION			
<div><div>R-N</div><div>T</div></div>	INSTALL NEAR–RANGE RADAR DETECTOR UNIT (T=RADAR).		
<div><div>R-F</div><div>T</div></div>	INSTALL FAR–RANGE RADAR DETECTOR UNIT (T=RADAR).		
<div><div>RR</div><div>RAD</div></div>	REMOVE AND RELOCATE EXISTING RADAR DETECTOR UNIT. COORDINATE WITH CLACKAMAS COUNTY, (503) 650–3713, 14 DAYS PRIOR TO REMOVALS. SEE DETECTOR PLAN SHEET TS–04).		
DETECTION CONT.			
<div><div>RI</div><div>RAD</div></div>	REINSTALL EXISTING RADAR DETECTOR UNIT. COORDINATE WITH CLACKAMAS COUNTY, (503) 650–3713, 14 DAYS PRIOR TO REINSTALLATION.		
<div><div>LD</div><div>Ph</div></div>	INSTALL PHASE (Ph=PHASE) 6' ROUND DETECTOR LOOP (SEE DETAIL ON SHEET TS–08).		
<div><div>LB</div><div>Ph</div></div>	INSTALL PHASE (Ph=PHASE) 4' PARALLELOGRAM BICYCLE DETECTOR LOOP (SEE DETAIL ON SHEET TS–08).		
<div><div>LF</div><div>X-Ph</div></div>	INSTALL (X=NUMBER OF CABLES) PHASE (Ph=PHASE) LOOP FEEDER CABLES.		
<div><div>RAD</div></div>	RADAR DETECTION UNIT, SEE SIGNAL PLAN FOR INSTALLATION.		
<div><div>PhU</div><div>CH</div></div>	INSTALL PHASE (Ph) DETECTION ZONE ON RADAR UNIT (U=RADAR UNIT ID) ON MAXTIME NO. (CH=CHANNEL).		
<div><div>N</div><div>LW</div></div>	INSTALL (N=NUMBER) PAIR OF LOOPS.		
FIRE PREEMPTION			
<div><div>FN</div><div>Ch</div></div>	INSTALL CHANNEL (Ch=CHANNEL), (N=NUMBER) BARREL FIRE PREEMPTION DETECTOR UNIT.		
<div><div>FF</div><div>Ch</div></div>	INSTALL CHANNEL (Ch=CHANNEL) FIRE PREEMPTION DETECTOR FEEDER CABLE.		
<div><div>RX</div><div>FD</div></div>	REMOVE EXISTING FIRE PREEMPTION DETECTION UNIT.		
LUMINAIRES			
<div><div>LED</div></div>	INSTALL LIGHT EMITTING DIODE (LED) LUMINAIRE (SEE SPECIAL PROVISIONS). BOND LUMINAIRE TO POLE GROUNDING TERMINAL.		
<div><div>LED</div><div>PGE</div></div>	PGE TO INSTALL LEOTEK GCL1–80G–MV–WW–3R–GY–610–PCR7–RWG–WL–FDC–PGE LUMINAIRE.		
<div><div>RX</div><div>LUM</div></div>	REMOVE EXISTING LUMINAIRE.		
MISCELLANEOUS			
<div><div>RR</div><div>PTZ</div></div>	REMOVE AND RELOCATE EXISTING PAN–TILT–ZOOM CAMERA AND MOUNTING HARDWARE ON SIGNAL POLE. COORDINATE WITH CLACKAMAS COUNTY, (503) 650–3713, 14 DAYS PRIOR TO REMOVALS.		
<div><div>RI</div><div>PTZ</div></div>	REINSTALL EXISTING PAN–TILT–ZOOM CAMERA AND MOUNTING HARDWARE ON SIGNAL POLE. SEE DETAIL ON SHEET TS–05. PRIOR TO CAMERA MOUNTING, CAMERA LOCATION SHALL BE FIELD APPROVED BY CLACKAMAS COUNTY.		
JUNCTION BOXES			
<div><div>JB</div><div>1</div></div>	INSTALL 17"x10"x12" (MIN. DIMENSION) PRECAST CONCRETE JUNCTION BOX.		
<div><div>JB</div><div>2</div></div>	INSTALL 22"x12"x12" (MIN. DIMENSION) PRECAST CONCRETE JUNCTION BOX.		
<div><div>JB</div><div>3/T</div></div>	INSTALL TANDEM 30"x17"x12" (MIN. DIMENSION) PRECAST CONCRETE JUNCTION BOXES (SEE TM472 FOR DETAILS).		
<div><div>JB</div><div>PGE</div></div>	INSTALL PGE APPROVED 17"x30"x18" (MIN. DIMENSION) PRECAST CONCRETE JUNCTION BOX.		
<div><div>RX</div><div>HH</div></div>	REMOVE EXISTING HAND HOLE.		
<div><div>RX</div><div>JB</div></div>	REMOVE EXISTING JUNCTION BOX.		
<div><div>JB</div><div>SP</div></div>	JUNCTION BOX (SEE SIGNAL PLAN).		
<div><div>JB</div><div>DP</div></div>	JUNCTION BOX (SEE DETECTOR PLAN).		
<div><div>JB</div><div>IP</div></div>	JUNCTION BOX (SEE INTERCONNECT PLAN).		
<div><div>SP</div><div>S</div></div>	INSTALL 6" MAX. SAND POCKET BLOCK–OUT WITH (S=SIZE) INCH CONDUIT TO JUNCTION BOX.		
CONDUITS			
<div><div>HDD</div></div>	INSTALL CONDUIT BY HORIZONTAL DIRECTIONAL DRILLING, OPEN TRENCH NOT ALLOWED.		
<div><div>S</div></div>	INSTALL (S=SIZE) INCH CONDUIT.		
<div><div>EX</div><div>EC</div></div>	RETAIN AND PROTECT EXISTING ELECTRICAL CONDUIT.		
<div><div>AX</div><div>C</div></div>	ABANDON EXISTING CONDUIT.		
<div><div>DC</div></div>	DETECTOR CONDUIT (SEE DETECTOR PLAN).		
<div><div>EC</div></div>	ELECTRICAL CONDUIT (SEE SIGNAL PLAN).		
CONDUITS CONT.			
<div><div>EX</div><div>DC</div></div>	RETAIN AND PROTECT EXISTING DETECTOR CONDUIT.		
<div><div>RX</div><div>EC</div></div>	REMOVE EXISTING ELECTRICAL CONDUIT.		
WIRES AND CABLES			
<div><div>N</div><div>G</div></div>	INSTALL (N=NUMBER) NO. (G=WIRE SIZE) AWG XHHW WIRE(S).		
<div><div>X-N</div><div>G</div></div>	INSTALL (X=NUMBER OF CABLES) CONTROL CABLE(S) WITH (N=NUMBER) NO. (G=WIRE SIZE) AWG CONDUCTORS.		
<div><div>N-C</div></div>	INSTALL (N=NUMBER) NO. 8 AWG THWN WIRE(S) FOR SIGNAL SYSTEM COMMON.		
<div><div>NET</div></div>	INSTALL SHIELDED CAT6 INDUSTRIAL ETHERNET CABLE.		
<div><div>RCC</div><div>T</div></div>	INSTALL RADAR CONTROL CABLE (T=RADAR).		
<div><div>PL</div></div>	INSTALL POLY PULL LINE.		
<div><div>EX</div><div>W</div></div>	RETAIN AND PROTECT EXISTING WIRING.		
<div><div>RX</div><div>38</div></div>	REMOVE EXISTING MESSENGER CABLE AND TETHER CABLE.		
<div><div>RX</div><div>39</div></div>	REMOVE EXISTING MESSENGER CABLE.		
<div><div>RX</div><div>W</div></div>	REMOVE EXISTING WIRING.		
<div><div>RX</div><div>D</div></div>	REMOVE EXISTING DETECTOR CABLES.		
GENERAL NOTES			
1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO CLACKAMAS COUNTY ORDINANCES AND SPECIAL PROVISIONS, THE 2024 OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION, AND THE OREGON STANDARD DRAWINGS LISTED BELOW.			
2. THE CONTRACTOR SHALL SUPPLY ALL EQUIPMENT, MATERIALS, AND LABOR REQUIRED FOR THE SIGNAL OPERATIONS SHOWN ON THIS PLAN. ALL SIGNAL CONTROL EQUIPMENT SHALL BE TESTED AT THE ODOT SIGNAL LAB IN SALEM AT THE CONTRACTORS EXPENSE PER SPECIFICATION.			
3. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES AND COORDINATE THIS WORK WITH THE UTILITY COMPANIES/AGENCIES TO ELIMINATE ANY CONFLICTS.			
4. 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.			
5. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL SIGNAL EQUIPMENT BEFORE INSTALLATION.			
6. CLACKAMAS COUNTY WILL PROVIDE SIGNAL FIELD TESTING SERVICES AT THE CONTRACTOR'S EXPENSE.			
7. CLACKAMAS COUNTY WILL PROVIDE SIGNAL TIMING.			
8. 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.			
9. RETAIN AND PROTECT EXISTING SIGNAL AND DETECTION DURING CONSTRUCTION UNTIL NEW SIGNAL INSTALLATION IS COMPLETE. AND READY FOR TURN–ON. MAINTAIN MINIMUM SIGNAL OPERATION DOWN TIME.			
10. ALL JUNCTION BOXES SHALL BE PLACED IN SIDEWALK OR CONCRETE APRON AS PROVIDED.			
11. INSTALL #12 STANDARD COPPER (ORANGE) TRACER WIRE IN ALL CONDUITS. GROUND ALL TRACER WIRES.			
12. CONDUIT SHALL BE PLACED IN THE SAME TRENCH WITH OTHER CONDUITS WHEN POSSIBLE.			
13. TOP OF SIGNAL AND PEDESTRIAN FOUNDATIONS SHALL MATCH TOP OF FINISHED GRADE OF SIDEWALKS.			
14. ALL CONDUIT RUNS SHALL BE WITHIN RIGHT–OF–WAY.			
15. INSTALL POLY PULL TAPE (1800 LBF MIN. STRENGTH, NON CONDUCTIVE) IN ALL CONDUITS.			
16. ALL UNDERGROUND CONDUITS AND FITTINGS SHALL BE SCHEDULE 80 PVC.			
17. IF PEDESTRIAN RAMP DESIGNS REQUIRED FIELD MODIFICATIONS, PUSHBUTTON POSTS AND AND PEDESTRIAN POLE LOCATIONS WILL NEED FIELD ADJUSTMENT TO MODIFIED LANDING AREAS. IF FIELD ADJUSTMENTS ARE REQUIRED ENSURE A MINIMUM 10" REACH TO PUSHBUTTON IS ACHIEVABLE FROM LANDING AREA, AND MINIMUM 4' PEDESTRIAN ZONE IS ACHIEVABLE AROUND POLES.			
18. ACCOMPANIED BY OREGON STANDARD DRAWINGS TM450, TM457, TM460, TM462, TM466, TM467, TM470, TM471, TM472, TM482, TM485 & CLACKAMAS STANDARD DRAWINGS U200.			
19. FOR PGE–RELATED ILLUMINATION WORK, STREET POLE, LUMINAIRE ARM, LUMINAIRE, LAMP, AND WIRING SHALL BE FURNISHED BY PGE. FOUNDATION SHALL BE FURNISHED BY PGE AND INSTALLED BY THE CONTRACTOR.			
20. FOR PGE–RELATED ILLUMINATION WORK, SEE PGE PLANS FOR APPROXIMATE LOCATIONS OF ILLUMINATION CONDUIT, JUNCTION BOX, AND POWER SOURCE.			
21. FOR PGE–RELATED ILLUMINATION WORK, STREET LIGHTING MATERIALS AND INSTALLATIONS SHALL CONFORM TO PORTLAND GENERAL ELECTRIC (P.G.E.) SCHEDULE 95 OPTION "A" SPECIFICATIONS. MATERIALS AND INSTALLATION SHALL BE APPROVED BY P.G.E., UNLESS NOTED OTHERWISE.			
22. PLANS ARE SHOWN FOR BIDDING AND REFERENCE ONLY. CONTACT RICO TORRES SOLIS AT (503) 403–9084 FOR PGE PLANS AND SPECIFICATIONS TO BE USED FOR CONSTRUCTION. REFERENCE PGE WORK ORDER NUMBER M3529660.			
TRAFFIC SIGNAL LEGEND SE 82ND DR/SE JENNIFER ST (CLACKAMAS COUNTY, OREGON)			

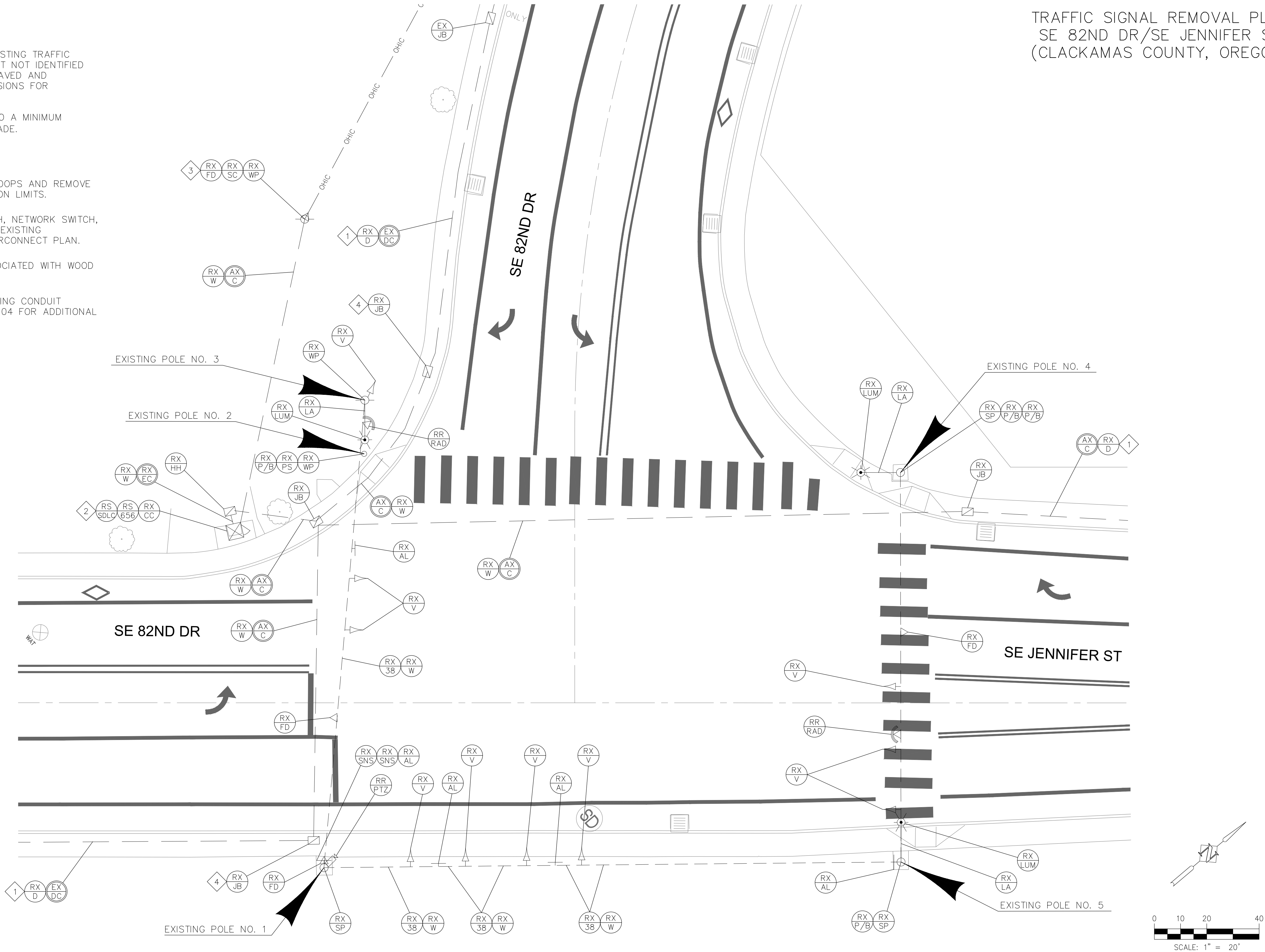
TRAFFIC SIGNAL REMOVAL PLAN
SE 82ND DR/SE JENNIFER ST
(CLACKAMAS COUNTY, OREGON)

REMOVAL NOTES

1. REMOVE AND DISPOSE OF ALL EXISTING TRAFFIC SIGNAL MATERIALS AND EQUIPMENT NOT IDENTIFIED BY CLACKAMAS COUNTY TO BE SAVED AND REINSTALLED. SEE SPECIAL PROVISIONS FOR ADDITIONAL DETAILS.
2. REMOVE EXISTING FOUNDATIONS TO A MINIMUM DEPTH OF 2' BELOW FINISHED GRADE.

CONSTRUCTION NOTES

- 1 ABANDON EXISTING DETECTOR LOOPS AND REMOVE CABLE OUTSIDE OF CONSTRUCTION LIMITS.
- 2 PROTECT EXISTING GATOR PATCH, NETWORK SWITCH, AND COMMUNICATIONS RACK IN EXISTING CONTROLLER CABINET. SEE INTERCONNECT PLAN.
- 3 REMOVE OVERHEAD WIRING ASSOCIATED WITH WOOD UTILITY POLE REMOVAL.
- 4 CONTRACTOR TO PROTECT EXISTING CONDUIT SWEEPS. SEE DETAIL SHEET TS-04 FOR ADDITIONAL DETAILS.



TRAFFIC SIGNAL REMOVAL PLAN

82ND DRIVE & JENNIFER ST
SIGNAL REPLACEMENT

DATE: JUNE 2024 PROJECT NO.: 23303

CLACKAMAS COUNTY

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



DAN JOHNSON

DIRECTOR

DESIGNED BY:

C. GALIZA

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R. SNELLINGS

CHECKED BY:

N. SCHROEDER

REVISIONS

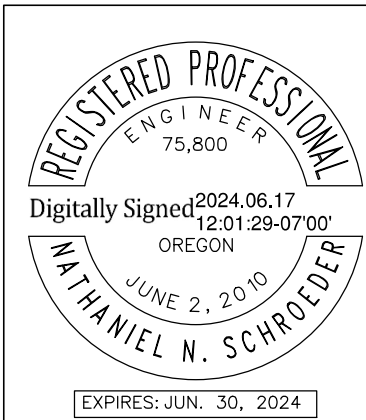
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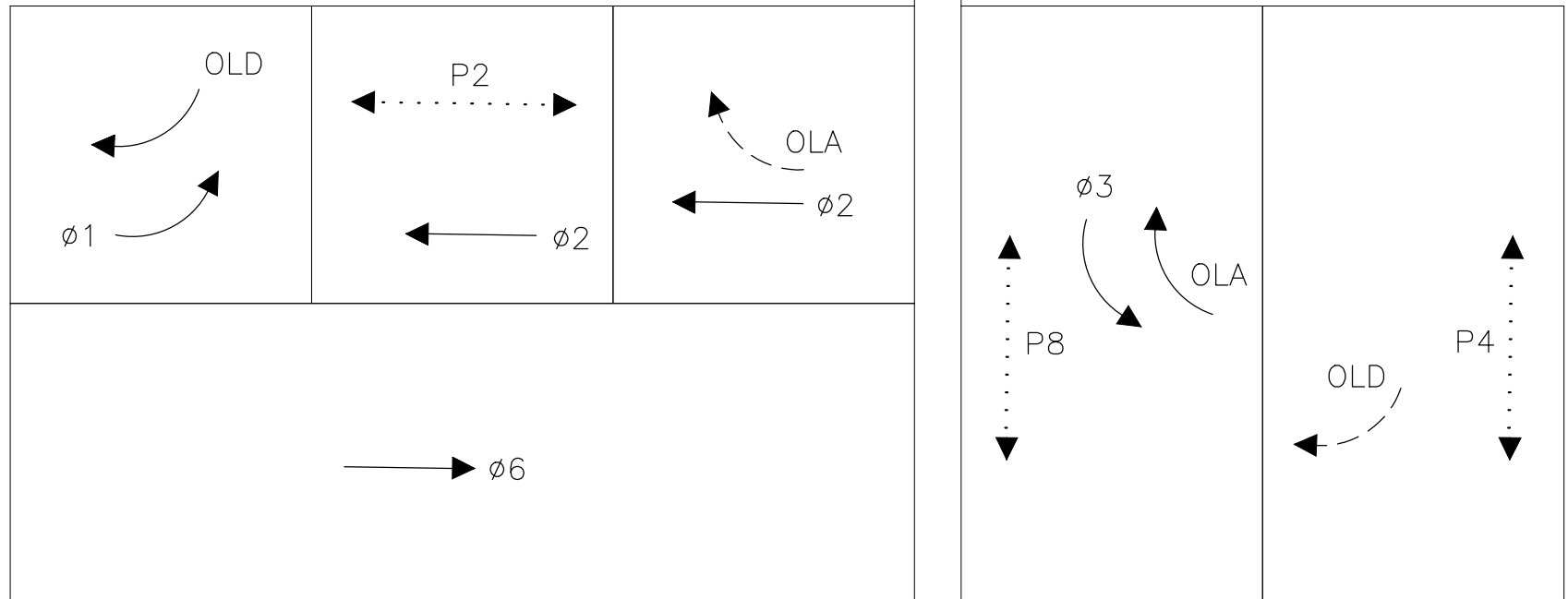
Sheet No.

TS-02

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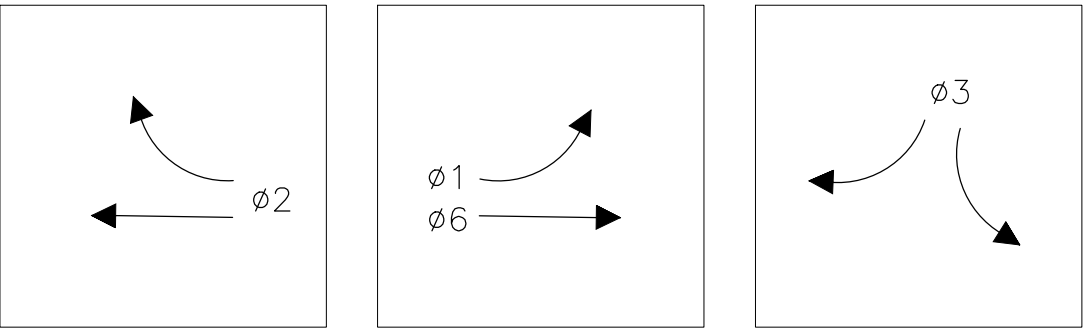




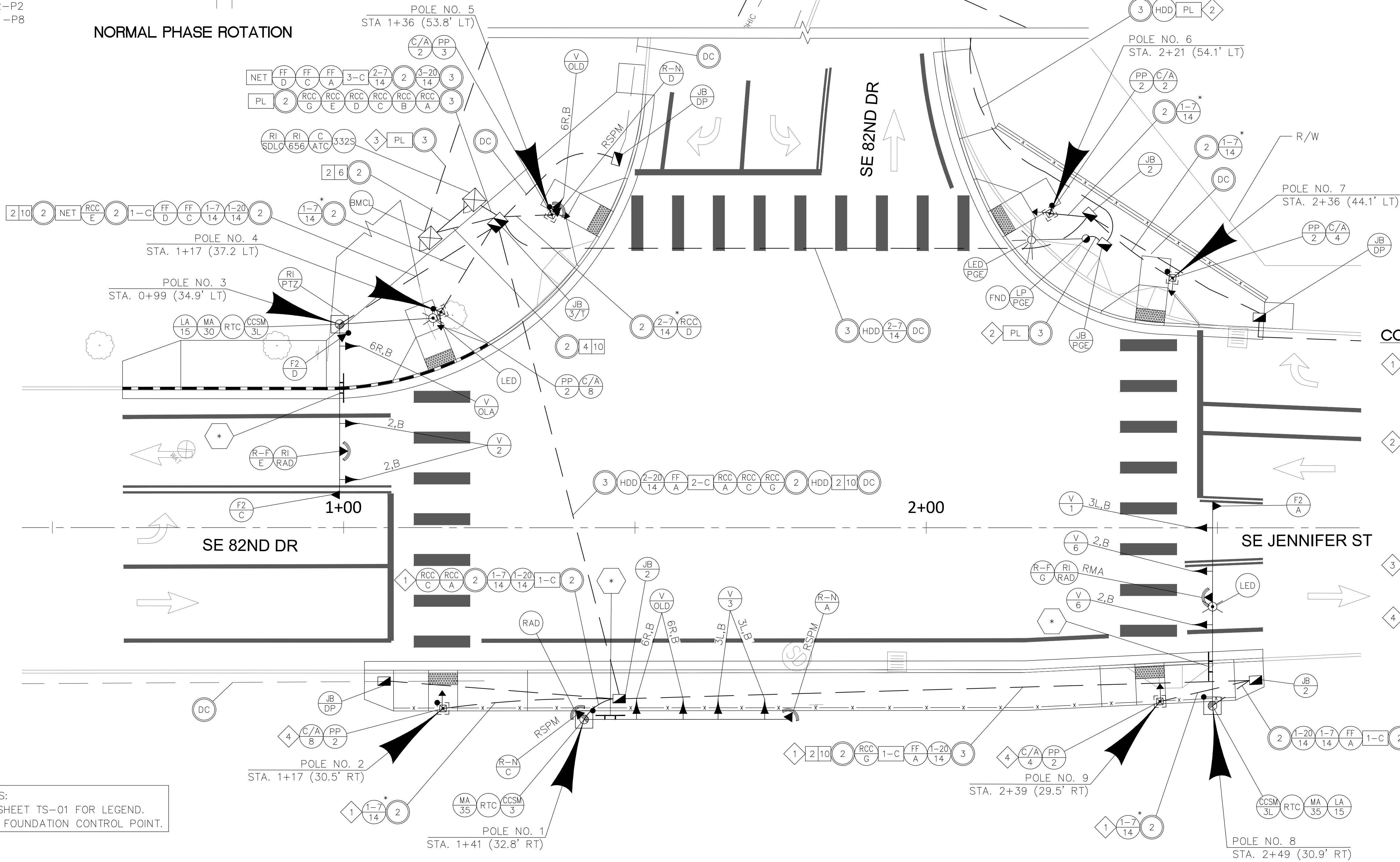
OLA = ø3+ø2-P2
OLD = ø3+ø1-P8

NORMAL PHASE ROTATION

TRAFFIC SIGNAL INSTALLATION PLAN SE 82ND DR/SE JENNIFER ST (CLACKAMAS COUNTY, OREGON)



FIRE PREEMPTION OPERATION



CONSTRUCTION NOTES

- 1 TO AVOID EXPOSURE OF CONDUIT DUE TO BACKSLOPE, CONDUIT SHALL BE INSTALLED WITHIN THE PERIMETER OF THE NEW SIDEWALK AND CONNECTIONS TO THE SIGNAL POLES SHALL BE MADE FROM THE ROADWAY SIDE.
- 2 CONTRACTOR TO INSTALL 200 FEET OF CONDUIT TO PGE POWER POLE FOR STREET LIGHTING SERVICE. CONDUIT TO BE INSTALLED ACROSS SE 82ND DR THROUGH HORIZONTAL DIRECTIONAL DRILLING TO NEW PGE-INSTALLED TRANSFORMER ON EXISTING WOODEN UTILITY POLE IN 2-INCH CONDUIT. CONTRACTOR TO COORDINATE WITH PGE FOR INSTALLATION.
- 3 CONTRACTOR TO INSTALL 230 FEET OF 3-INCH CONDUIT TO PGE UTILITY POLE FOR TRAFFIC SIGNAL SERVICE CONNECTION.
- 4 ADD 1 FOOT TO DEPTH OF PEDESTRIAN SIGNAL FOUNDATION SHOWN IN TM457.

NOTES:
SEE SHEET TS-01 FOR LEGEND.
● = FOUNDATION CONTROL POINT.



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TRAFFIC INSTALLATION PLAN

82ND DRIVE & JENNIFER ST SIGNAL REPLACEMENT

DATE: JUNE 2024 PROJECT NO.: 23303

CLACKAMAS COUNTY

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



DAN JOHNSON
DIRECTOR

DESIGNED BY:

C. GALIZA

DRAFTED BY:

R. SNELLINGS

CHECKED BY:

N. SCHROEDER

REVISIONS

NO. DATE:

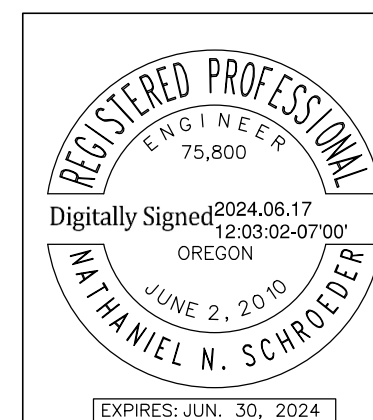
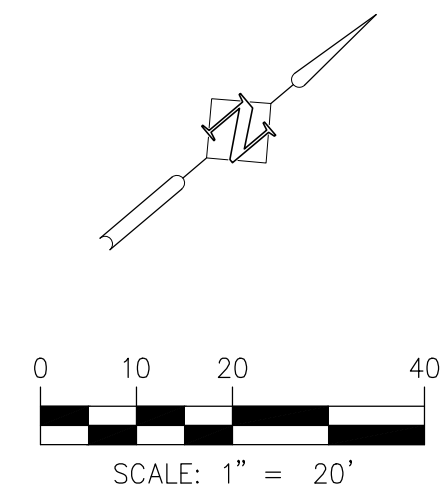
Sheet No.

TS-03

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1. LOOP 6 AND LOOP 11 SHALL BE CUT WITH A ONE-FOOT OFFSET FROM THE OLD ABANDONED LOOPS.
2. CONTRACTOR TO INSTALL NEW JUNCTION BOX IN THE SAME LOCATION AS EXISTING CONDUIT SWEEPS AT NEW FINISHED GRADE.

"DISTANCE" IS FROM STOP LINE TO CENTER OF LOOP IN FEET.



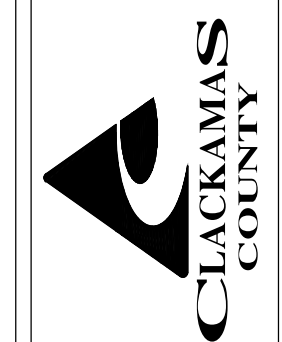
DETECTOR PLAN

82ND DRIVE & JENNIFER ST
SIGNAL REPLACEMENT

PROJECT NO.: 23303

CLACKAMAS COUNTY

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



DIRECTOR

DAN JOHNSON

DESIGNED BY:

C. GALIZA
DRAFTED BY:

R. SNELLINGS

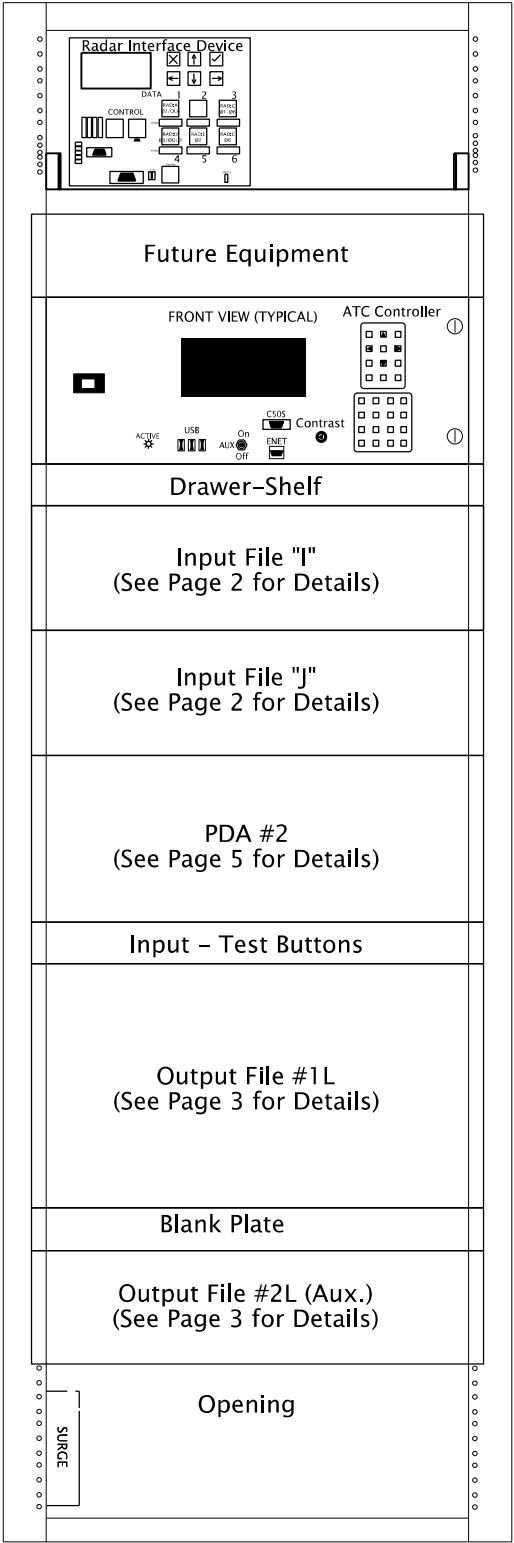
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REVISIONS

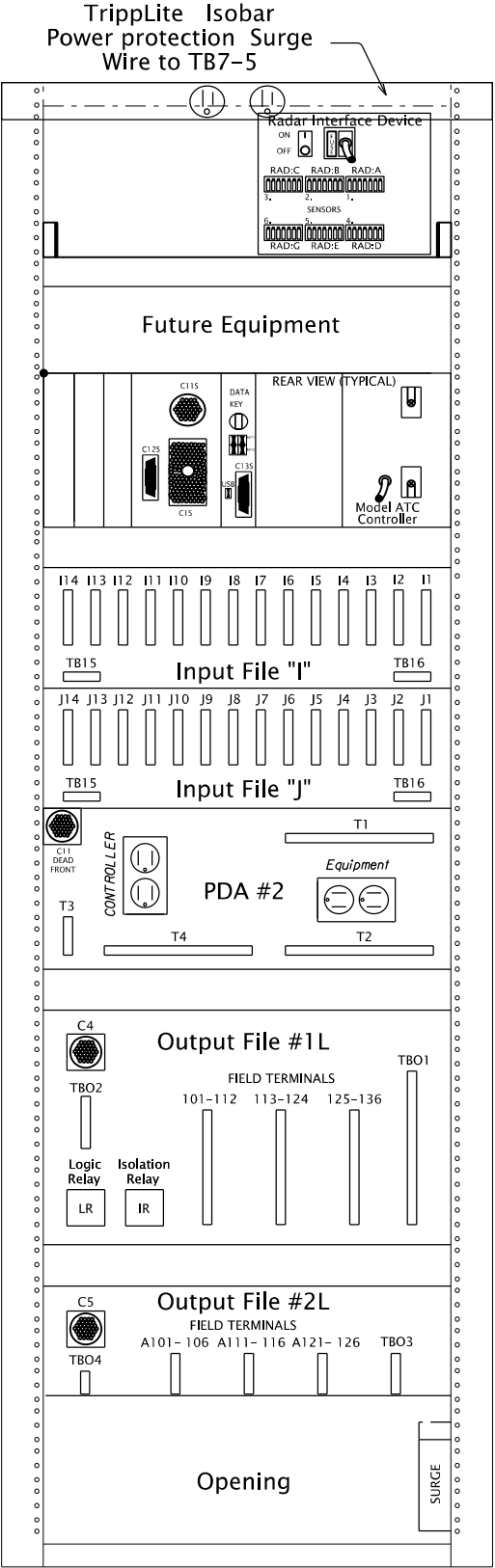
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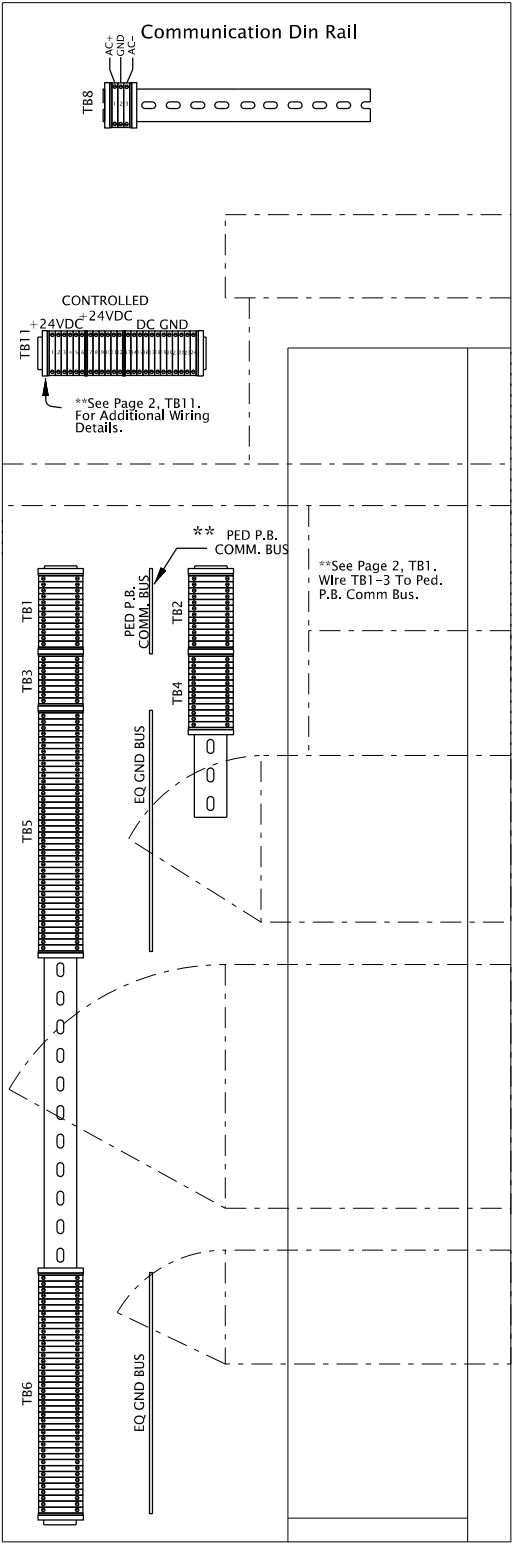
TS-04



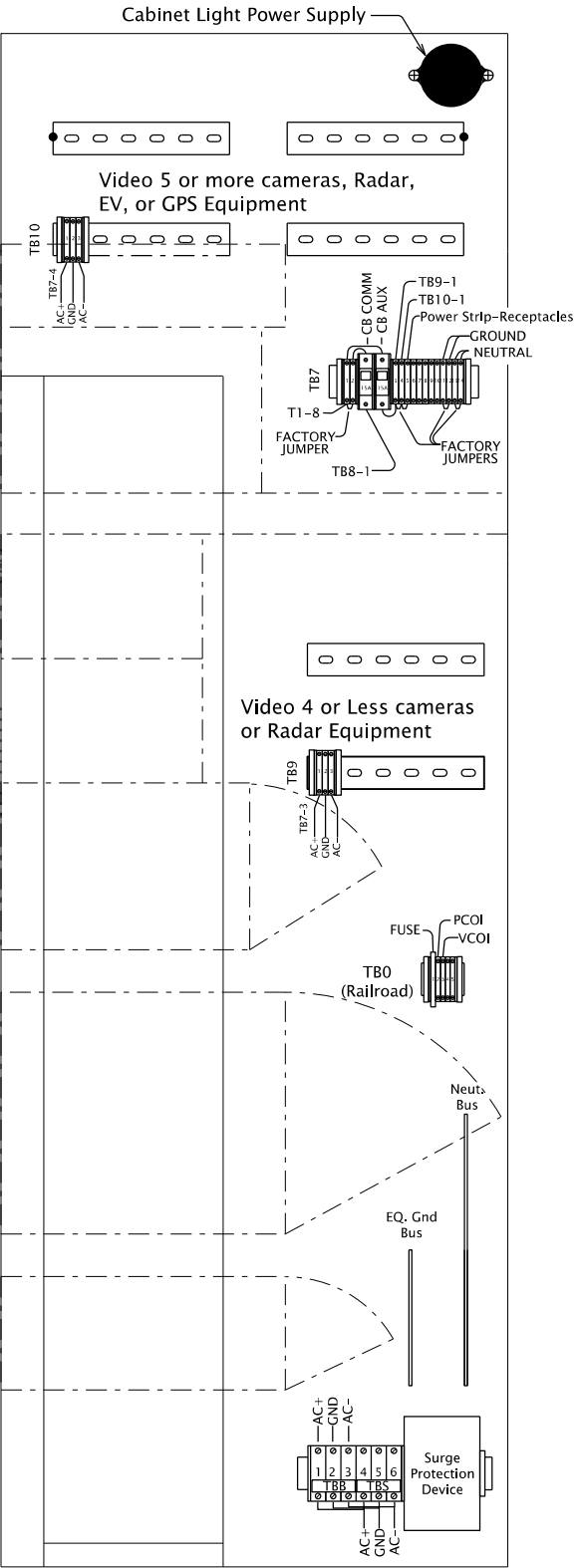
FRONT VIEW



REAR VIEW



SIDE VIEW (REAR LEFT)

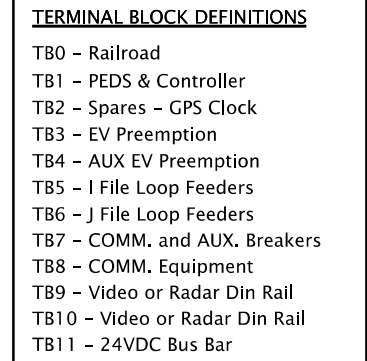
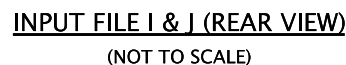


SIDE VIEW (REAR RIGHT)

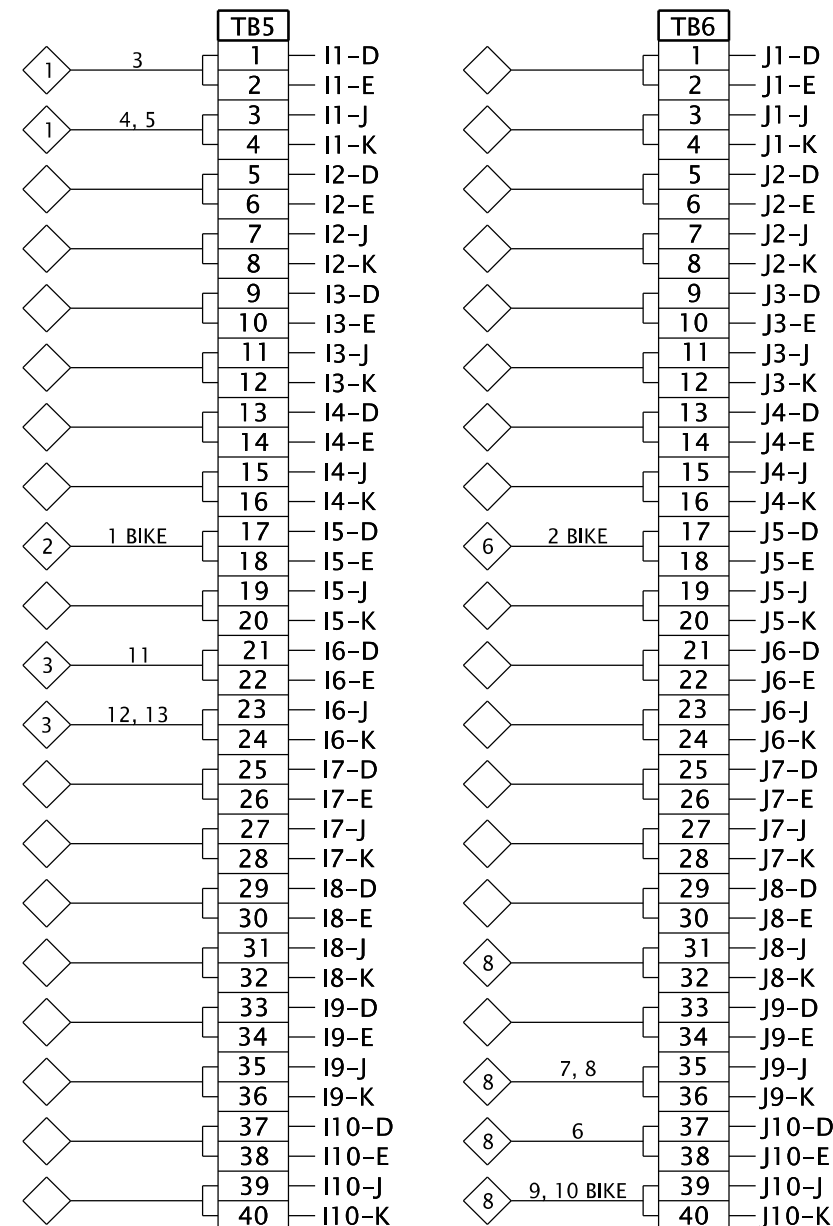
PAGE 1 of 7	332S ODOT STRETCH CABINET HOUSING	REV. NO.	DATE	INITIAL	REMARKS	INTERSECTION: ● SE 82nd Drive @ SE Jennifer Street Clackamas County, OR HWY#: XXX M.P.#: XXX.XX TSSU ID#: XXXXX	OREGON DEPARTMENT OF TRANSPORTATION TRAFFIC - ROADWAY SECTION 332S ODOT CABINET PRINT 08/17/22
		1	08/17/22	JS	UPDATED LEVELS AND REFERENCES SEE WORD DOC		

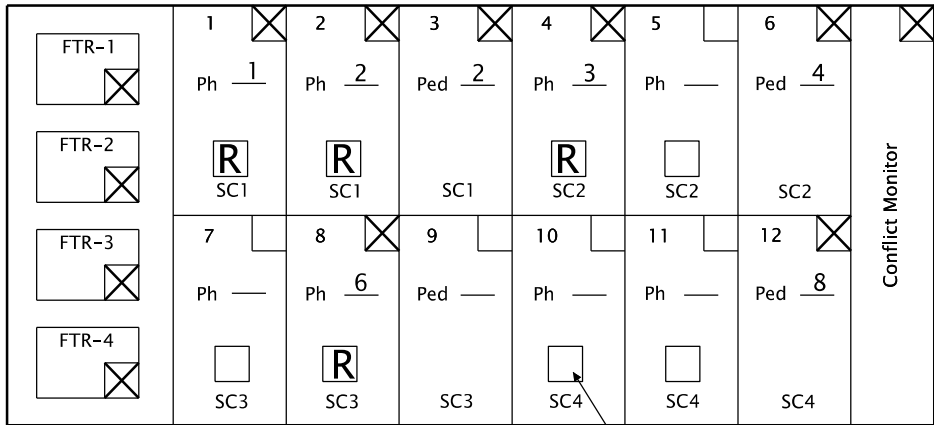


INPUT FILE I & J (FRONT VIEW)
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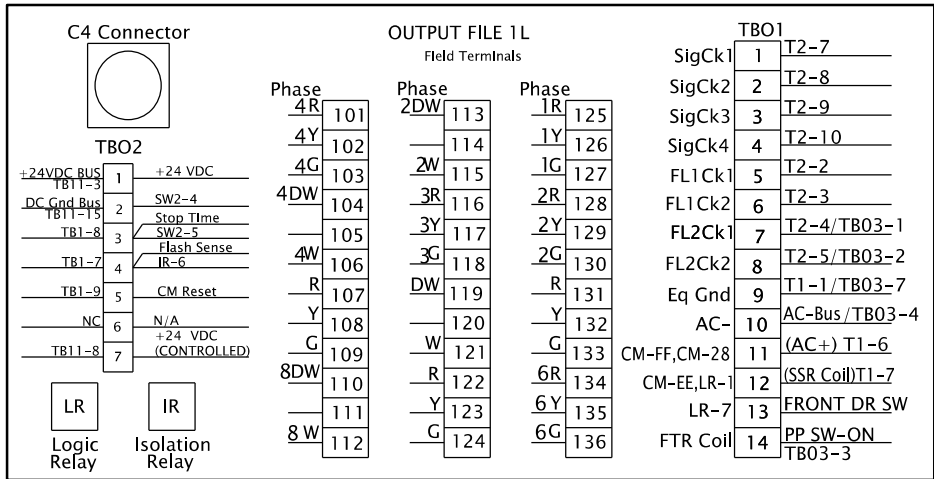


* NOTE
See Pages 1 & 5 For
Railroad Interconnect
Wiring Details

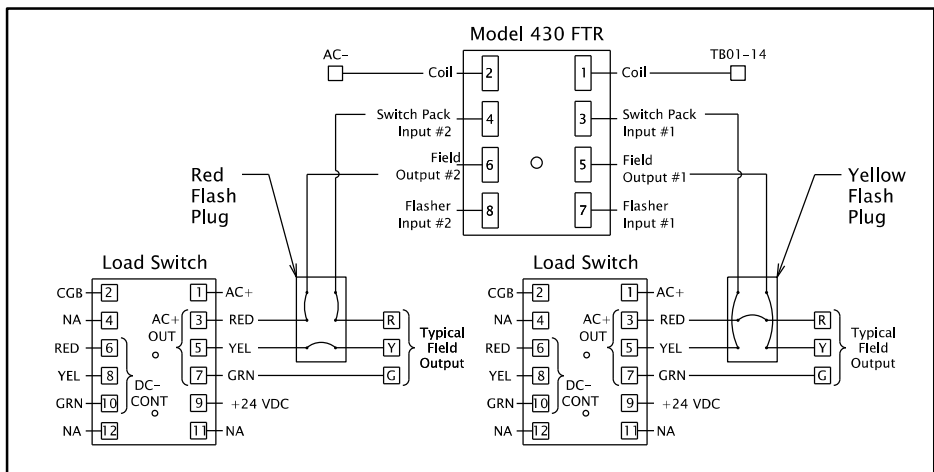




OUTPUT FILE 1L (FRONT VIEW)
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OUTPUT FILE 1L (REAR VIEW)
(NOT TO SCALE)



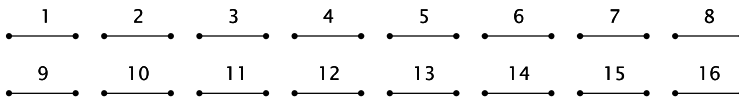
FIELD OUTPUTS – TYPICAL WIRING

CONFLICT MONITOR DIODE CARD

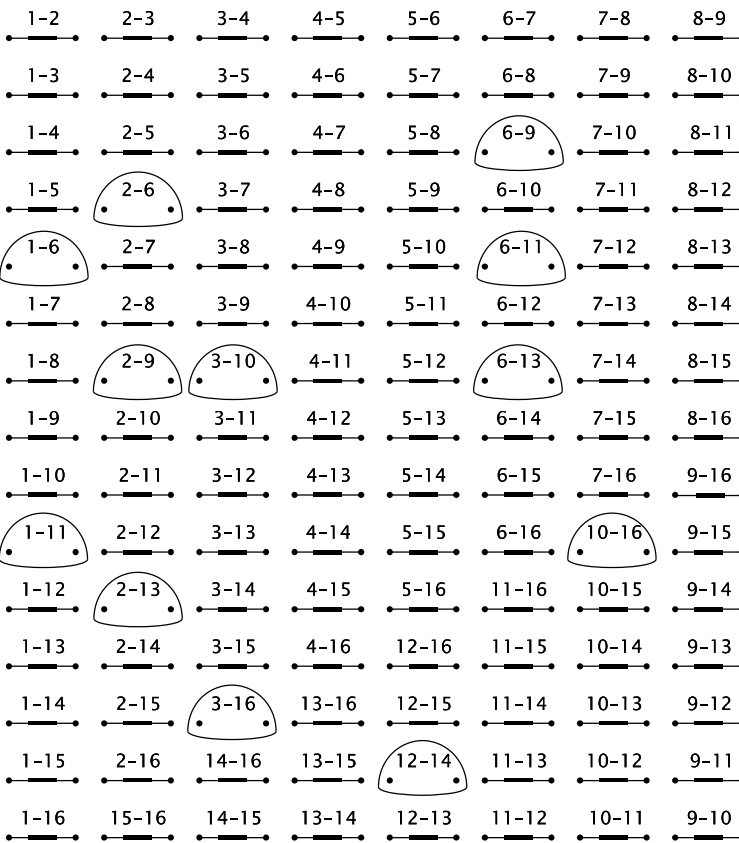
CHANNEL ASSIGNMENT

Ch.1	Ph 1	Ch.5	NU	Ch.9	OLA FY	Ch.13	Ped 2
Ch.2	Ph 2	Ch.6	Ph 6	Ch.10	OLA	Ch.14	Ped 4
Ch.3	Ph 3	Ch.7	NU	Ch.11	OLD	Ch.15	NU
Ch.4	NU	Ch.8	NU	Ch.12	OLD FY	Ch.16	Ped8

YELLOW INHIBIT JUMPERS



DIODES – Diode Removed Makes Movement Allowable (Diode IN4148)



CONFLICT MONITOR DIODE CARD CUTOUT

(NOT TO SCALE)

CONFLICT MONITOR – TYPICAL CONNECTOR PIN ASSIGNMENTS

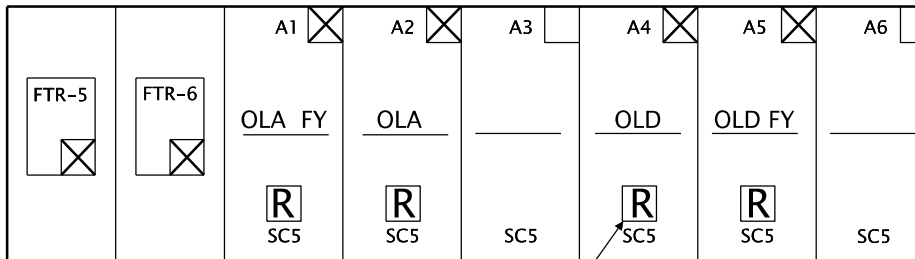
Term	Function	Pin	CHANNEL ASSIGNMENTS (TYPICAL)		Pin	Function	Term
130	SP2-G	1			A	SP2-Y	129
115	SP3-W	2			B	SP8-G	136
135	SP8-Y	3			C	SP9-W	121
103	SP5-G	4			D	SP5-Y	102
106	SP6-W	5	E	SP11-G	109		
108	SP-11Y	6	F	SP12-W	112		
133	SP7-G	7	H	SP7-Y	132		
114	SP3-Y	8	J	SP1-G	127		
126	SP1-Y	9	K	SP9-Y	120		
124	SP10-G	10	L	SP10-Y	123		
105	SP6-Y	11	M	SP4-G	118		
117	SP4-Y	12	N	SP12-Y	111		
A123	ASP1-G	13	P	NC	-		
-	NC	14	R	ASP2-G	A126		
-	T&B	15	S	ASP4-G	A116		
-	T&B	16	T	NC	-		
-	NC	17	U	T&B	-		
-	T&B	18	V	ASP5-G	A103		
-	NC	19	W	NC	-		
TB01-9	EQ Gnd	20	X	NC	-		
TB01-10	AC-	21	Y	DC Gnd	TB02-2		
C4-37	Watch Dog	22	Z	Ext. Reset	TB02-5		
TB02-1	+24VDC	23	AA	T&B	-		
LRColl	Interlock	24	BB	Stop Time	TB02-3		
TB02-2	Interlock	25	CC	NC	-		
-	NC	26	DD	NC	-		
-	NC	27	EE	Clapper	TB01-12		
TB01-11	Norm. Closed	28	FF	AC+	TB01-11		

Ch	PH
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	OLA, Ø1FYA/YA
10	OLB, Ø3FYA/YA
11	OLC, Ø5FYA/YA
12	OLD, Ø7FYA/YA
13	2PED
14	4PED
15	6PED
16	8PED

T&B= Tied & Bundled

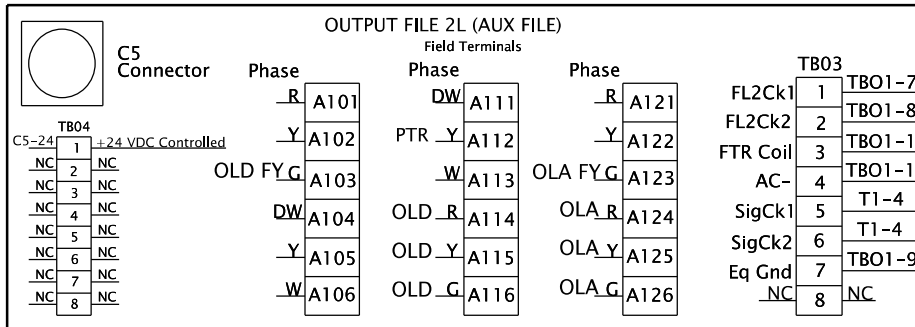
CONFLICT MONITOR

(NOT TO SCALE)



OUTPUT FILE 2L (AUX FILE)

FRONT VIEW – (NOT TO SCALE)



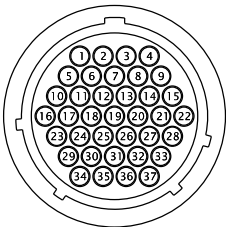
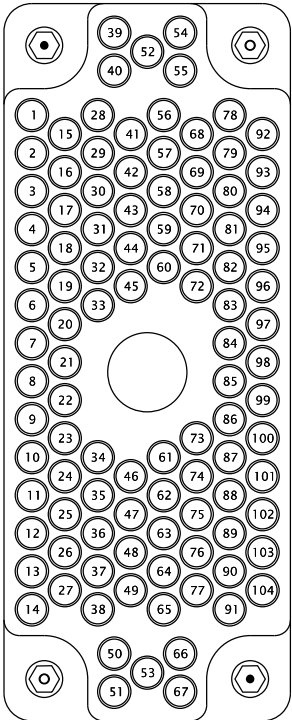
OUTPUT FILE 2L (AUX FILE)

REAR VIEW – (NOT TO SCALE)

Program Assigned Functions	C1 Connector		C4 Connector				Field Term.
	Pin	Termination	Pin	Switch Pack			
				In	Position	Out	
DC Gnd	1	DC Gnd Bus	-	-	-	-	-
Ø 4 D.WALK	2	C4-1	1	6	6-DW	3	104
Ø 4 WALK	3	C4-2	2	10	6-W	7	106
Ø 4 RED	4	C4-3	3	6	5-R	3	101
Ø 4 YELLOW	5	C4-4	4	8	5-Y	5	102
Ø 4 GREEN	6	C4-5	5	10	5-G	7	103
Ø 3 RED	7	C4-6	6	6	4-R	3	116
Ø 3 YELLOW	8	C4-7	7	8	4-Y	5	117
Ø 3 GREEN	9	C4-8	8	10	4-G	7	118
Ø 2 D.WALK	10	C4-9	9	6	3-DW	3	113
Ø 2 WALK	11	C4-10	10	10	3-W	7	115
Ø 2 RED	12	C4-11	11	6	2-R	3	128
Ø 2 YELLOW	13	C4-12	12	8	2-Y	5	129
Input Gnd	14	TB15-4"1"	-	-	-	-	-
Ø 2 GREEN	15	C4-13	13	10	2-G	7	130
Ø 1 RED	16	C4-14	14	6	1-R	3	125
Ø 1 YELLOW	17	C4-15	15	8	1-Y	5	126
Ø 1 GREEN	18	C4-16	16	10	1-G	7	127
Ø 8 D.WALK	19	C4-17	17	6	12-DW	3	110
Ø 8 WALK	20	C4-18	18	10	12-W	7	112
Ø 8 RED	21	C4-19	19	6	11-R	3	107
Ø 8 YELLOW	22	C4-20	20	8	11-Y	5	108
Ø 8 GREEN	23	C4-21	21	10	11-G	7	109
Ø 7 RED	24	C4-22	22	6	10-R	3	122
Ø 7 YELLOW	25	C4-23	23	8	10-Y	5	123
Ø 7 GREEN	26	C4-24	24	10	10-G	7	124
Ø 6 D.WALK	27	C4-25	25	6	9-DW	3	119
Ø 6 WALK	28	C4-26	26	10	9-W	7	121
Ø 6 RED	29	C4-27	27	6	8-R	3	134
Ø 6 YELLOW	30	C4-28	28	8	8-Y	5	135
Ø 6 GREEN	31	C4-29	29	10	8-G	7	136
Ø 5 RED	32	C4-30	30	6	7-R	3	131
Ø 5 YELLOW	33	C4-31	31	8	7-Y	5	132
Ø 5 GREEN	34	C4-32	32	10	7-G	7	133
Ø 1 FLTYA	35	C4-33	33	8	3-Y	5	114
Ø 5 FLTYA	36	C4-34	34	8	9-Y	5	120
Ø 3 FLTYA	37	C4-35	35	8	6-Y	5	105
Ø 7 FLTYA	38	C4-36	36	8	12-Y	5	111

Program Assigned Functions	C1 Connector		Input Files		
	Pin	Termination	Terminals		Field Terminals
			Out	In	
Ø2 DET	39	I3-1	F	D&E	TB5-9&10
Ø6 DET	40	J3-1	F	D&E	TB6-9&10
Ø4 DET	41	I8-1	F	D&E	TB5-29&30
Ø8 DET	42	J8-1	F	D&E	TB6-29&30
Ø2 DET	43	I3-2	W	J&K	TB5-11&12
Ø6 DET	44	J3-2	W	J&K	TB6-11&12
Ø4 DET	45	I8-2	W	J&K	TB5-31&32
Ø8 DET	46	J8-2	W	J&K	TB6-31&32
Ø2 DET	47	I5-1	F	D&E	TB5-17&18
Ø6 DET	48	J5-1	F	D&E	TB6-17&18
Ø4 DET	49	I10-1	F	D&E	TB5-37&38
Ø8 DET	50	J10-1	F	D&E	TB6-37&38
PCOI	51	J12-1	F	D	TB0-2
VCOI	52	J12-2	W	J	TB0-3
ADV ENABLE	53	-	-	-	TB1-11
SPARE	54	J11-1	F	D&E	TB2-9&10
Ø5 DET	55	J1-1	F	D&E	TB6-1&2
Ø1 DET	56	I1-1	F	D&E	TB5-1&2
Ø7 DET	57	J6-1	F	D&E	TB6-21&22
Ø3 DET	58	I6-1	F	D&E	TB5-21&22
Ø5 DET	59	J1-2	W	J&K	TB6-3&4
Ø1 DET	60	I1-2	W	J&K	TB5-3&4
Ø7 DET	61	J6-2	W	J&K	TB6-23&24
Ø3 DET	62	I6-2	W	J&K	TB5-23&24
Ø2 DET	63	I4-1	F	D&E	TB5-13&14
Ø6 DET	64	J4-1	F	D&E	TB6-13&14
Ø4 DET	65	I9-1	F	D&E	TB5-33&34
Ø8 DET	66	J9-1	F	D&E	TB6-33&34
Ph2 Ped	67	I13-1	F	D	TB1-1
Ph6 Ped	68	I14-1	F	D	TB1-4
Ph4 Ped	69	I13-2	W	J	TB1-2
Ph8 Ped	70	I14-2	W	J	TB1-5
EVA	71	J13-1	F	D	TB3-3
EVB	72	J14-1	F	D	TB3-6
EVC	73	J13-2	W	J	TB3-4
EVD	74	J14-2	W	J	TB3-7
GPS CLOCK	75	J11-2	W	J&K	TB2-11&12
Ø2 DET	76	I4-2	W	J&K	TB5-15&16
Ø6 DET	77	J4-2	W	J&K	TB6-15&16
Ø4 DET	78	I9-2	W	J&K	TB5-35&36
Ø8 DET	79	J9-2	W	J&K	TB6-35&36
Advance	80	-	-	-	TB1-10
Flash Sense	81	-	-	-	TB1-7
Stop Time	82	-	-	-	TB1-8

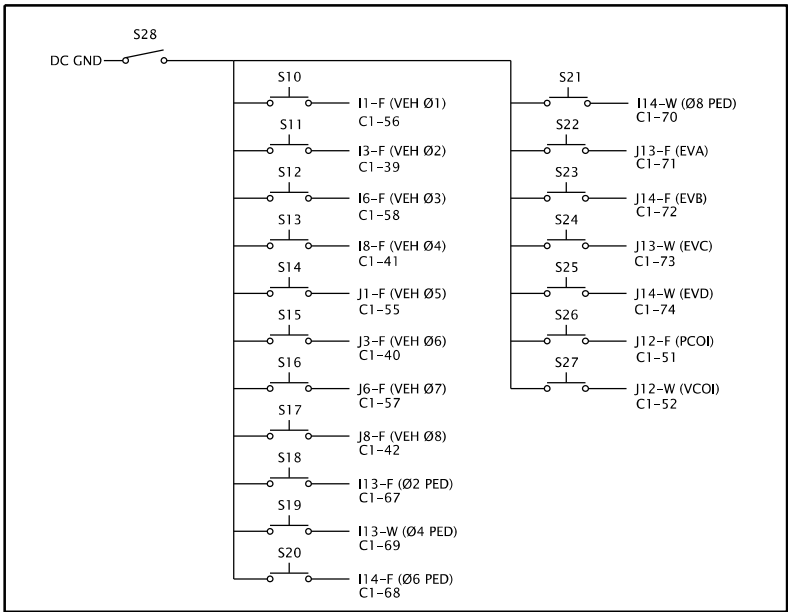
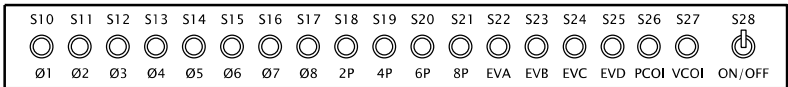
Program Assigned Functions	C1 Connector		C5 Connector				Field Term.
	Pin	Termination	Pin	Switch Pack			
				In	Position	Out	
Ø 3 D.WALK	83	C5-1	1	6	A6-DW	3	A104
Ø 3 WALK	84	C5-2	2	10	A6-W	7	A106
OLD RED	85	C5-3	3	6	A5-R	3	A101
OLD YELLOW	86	C5-4	4	8	A5-Y	5	A102
OLD GREEN	87	C5-5	5	10	A5-G	7	A103
OLC RED	88	C5-6	6	6	A4-R	3	A114
OLC YELLOW	89	C5-7	7	8	A4-Y	5	A115
OLC GREEN	90	C5-8	8	10	A4-G	7	A116
Ø1 D.WALK	91	C5-9	9	6	A3-DW	3	A111
DC Gnd	92	DC Gnd Bus	-	-	-	-	-
Ø1 WALK	93	C5-10	10	10	A3-W	7	A113
OLB RED	94	C5-11	11	6	A2-R	3	A124
OLB YELLOW	95	C5-12	12	8	A2-Y	5	A125
OLB GREEN	96	C5-13	13	10	A2-G	7	A126
OLA RED	97	C5-14	14	6	A1-R	3	A121
OLA YELLOW	98	C5-15	15	8	A1-Y	5	A122
OLA GREEN	99	C5-16	16	10	A1-G	7	A123
PTR SIGN	100	C5-17	17	8	A6-Y	5	A105
PTR SIGN	101	C5-18	18	8	A3-Y	5	A112
FLASH OUT	102	TB15-3"I"	Monitor-Pin 22				
Watchdog	103	C4-37					
Input Gnd	104	TB15-4"J"					
			19...23	-	NC	-	-
			24	TB11-7	All	9	+24VDC CONTROL



C11 PLUG PINOUT

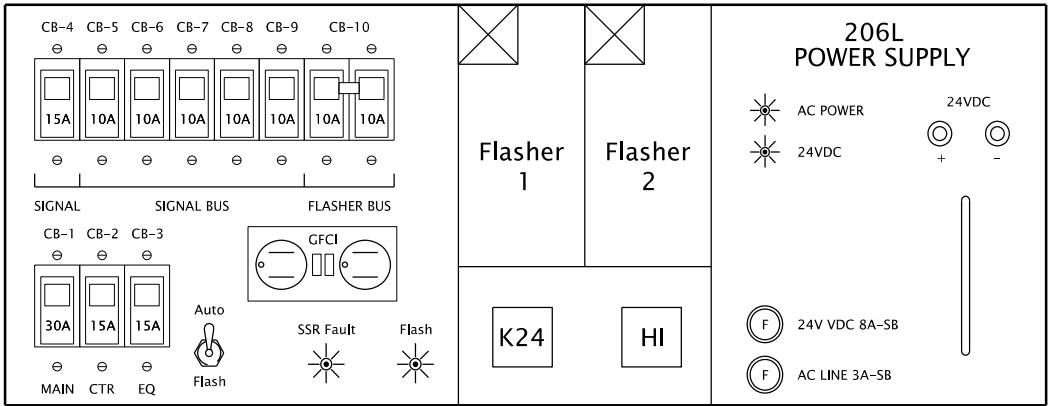
C1 PLUG PINOUT

Program Assigned Functions	C11 Connector		Input Files		
	Pin	Termination	Terminals		Field Terminals
			Out	In	
NOT ASSIGN	1...8	T&B	-	-	- -
DC Gnd	9	DC Gnd Bus	-	-	- -
Ø2 DET	10	I5-2	W	J&K	TB5-19&20
Ø6 DET	11	J5-2	W	J&K	TB6-19&20
Ø4 DET	12	I10-2	W	J&K	TB5-39&40
Ø8 DET	13	J10-2	W	J&K	TB6-39&40
DC Gnd	14	DC Gnd Bus	-	-	- -
Ø5 DET	15	J2-1	F	D&E	TB6-5&6
Ø1 DET	16	I2-1	F	D&E	TB5-5&6
Ø7 DET	17	J7-1	F	D&E	TB6-25&26
Ø3 DET	18	I7-1	F	D&E	TB5-25&26
Ø5 DET	19	J2-2	W	J&K	TB6-7&8
Ø1 DET	20	I2-2	W	J&K	TB5-7&8
Ø7 DET	21	J7-2	W	J&K	TB6-27&28
Ø3 DET	22	I7-2	W	J&K	TB5-27&28
SPARE	23	I11-1	F	D&E	TB2-1&2
SPARE	24	I12-1	F	D&E	TB2-5&6
SPARE	25	I11-2	W	J&K	TB2-3&4
SPARE	26	I12-2	W	J&K	TB2-7&8
NOT ASSIGN	27...30	T&B	-	-	- -
DC Gnd	31	DC Gnd Bus	-	-	- -
NOT ASSIGN	32...36	T&B	-	-	- -
DC Gnd	37	DC Gnd Bus	-	-	- -

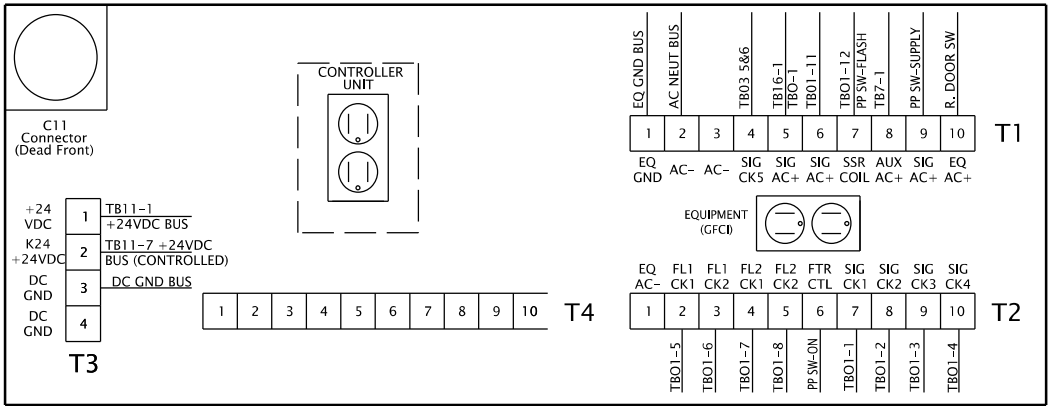


Detector Test Panel Wiring
Typical Wiring Diagram

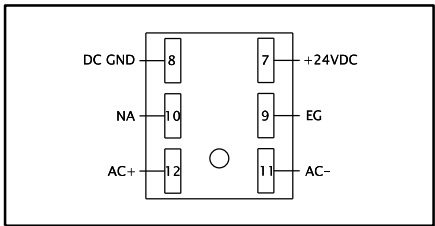
PAGE 4 of 7	CONTROLLER (C1),(C11) WIRING DETAILS	REV. NO.	DATE	INITIAL	REMARKS	INTERSECTION: ● SE 82nd Drive @ SE Jennifer Street Clackamas County, OR HWY#: XXX M.P.#: XXX.XX TSSU ID#: XXXXX	OREGON DEPARTMENT OF TRANSPORTATION TRAFFIC - ROADWAY SECTION 332S ODOT CABINET PRINT 08/17/22
		1	08/17/22	JS	UPDATED LEVELS AND REFERENCES SEE WORD DOC		



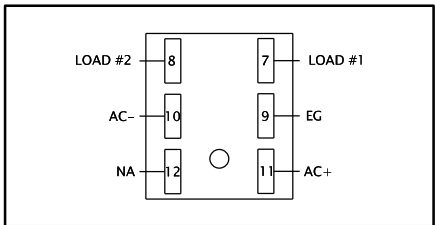
ODOT PDA 2 LAYOUT (FRONT VIEW)
(NOT TO SCALE)



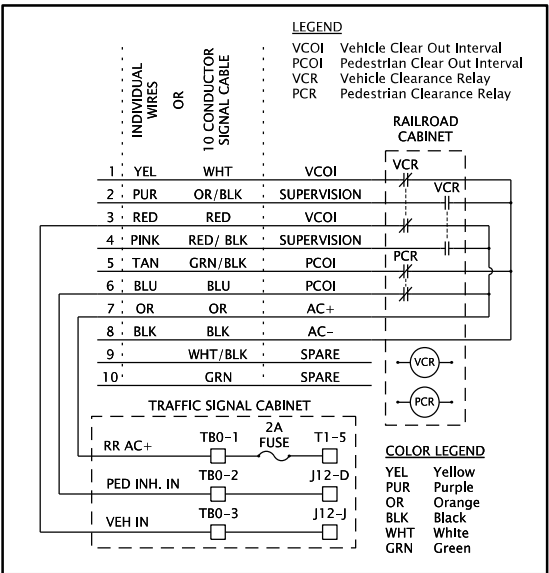
ODOT PDA 2 LAYOUT (REAR VIEW)
(NOT TO SCALE)



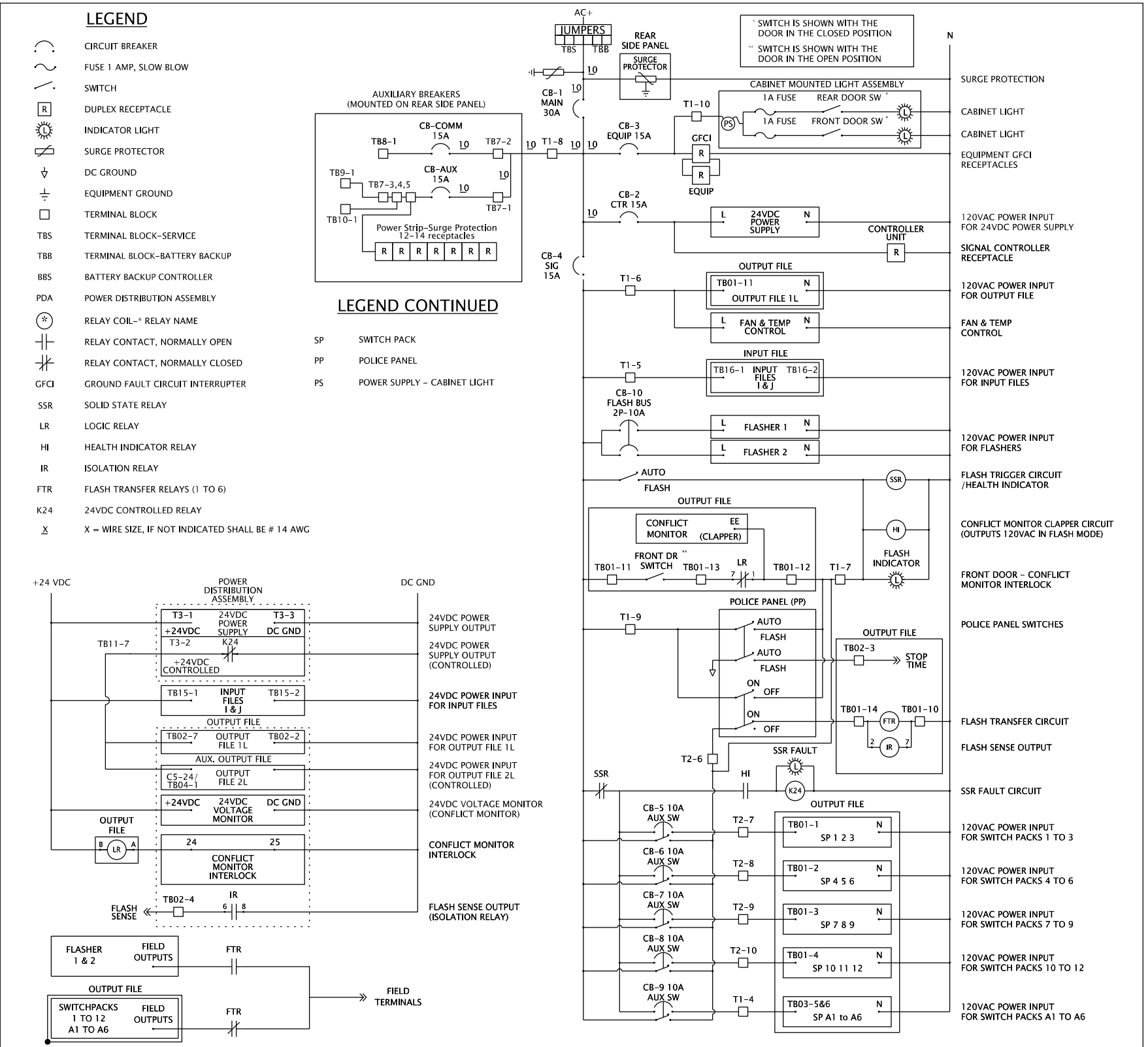
MODEL 206L POWER SUPPLY
TYPICAL CONNECTOR DETAIL



MODEL 204 FLASHER
TYPICAL CONNECTOR DETAIL

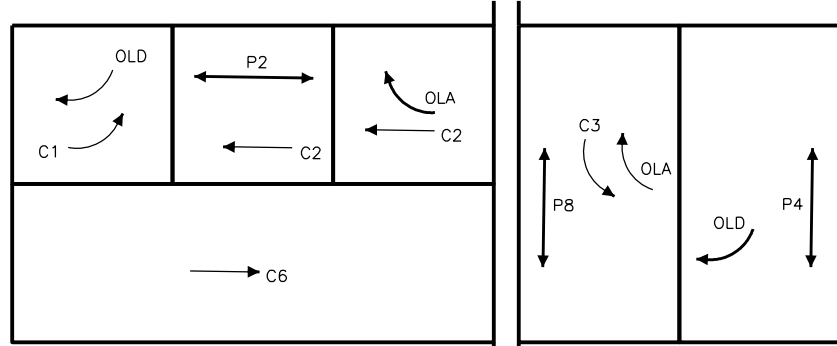


RAILROAD INTERCONNECT
TYPICAL WIRING DETAILS



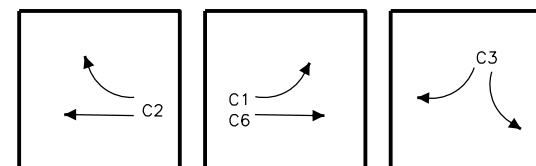
PDA #2 ELEMENTARY DIAGRAM
TYPICAL WIRING DETAILS

PAGE 5 of 7	PDA 2: Layout & Elementary Diagram	REV. NO.	DATE	INITIAL	REMARKS	INTERSECTION: ● SE 82nd Drive @ SE Jennifer Street Clackamas County, OR	HWY#: <u>XXX</u> M.P.#: <u>XXX.XX</u> TSSU ID#: <u>XXXXX</u>	OREGON DEPARTMENT OF TRANSPORTATION TRAFFIC - ROADWAY SECTION
		1	08/17/22	JS	UPDATED LEVELS AND REFERENCES SEE WORD DOC			332S ODOT CABINET PRINT

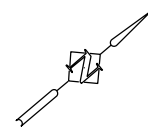
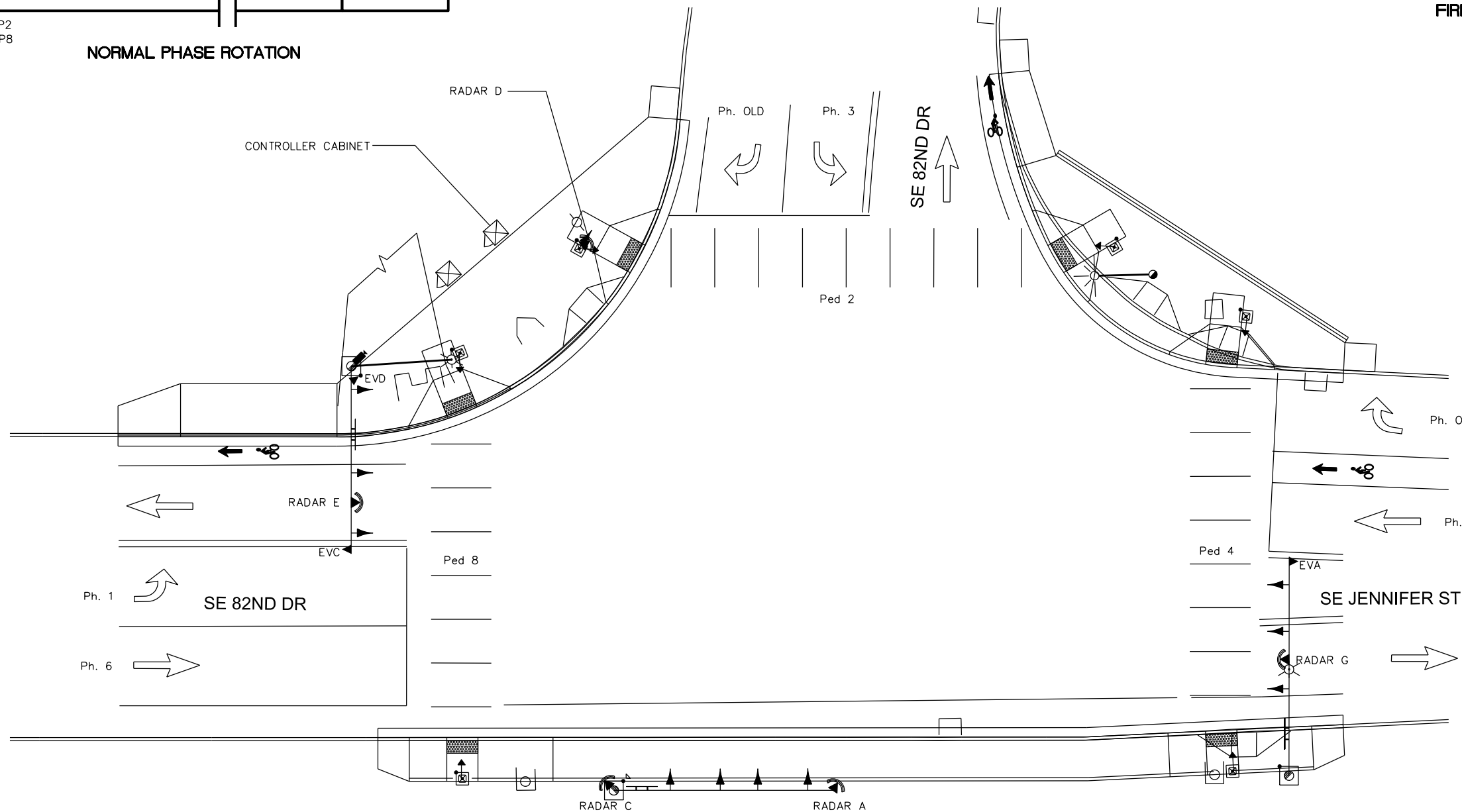


OLA = 03+02-P2
OLD = 04+01-P8

NORMAL PHASE ROTATION



FIRE PREEMPTION OPERATION



PAGE 6 of 7	Additional Intersection Information	REV. NO. 1	DATE 08/17/22	INITIAL IS	REMARKS UPDATED LEVELS AND REFERENCES SEE WORD DOC	INTERSECTION: ● SE 82nd Drive @ SE Jennifer Street HWY#: XXX M.P.#: XXX.XX TSSU ID#: XXXXX	Clackamas County, OR	OREGON DEPARTMENT OF TRANSPORTATION TRAFFIC - ROADWAY SECTION 332S ODOT CABINET PRINT 08/17/22
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LOOP NUMBER	DISTANCE	BIKE	PHASE	SLOT	MAXTIME NUMBER
1	50	BIKE	2	I5U	6
2	50	BIKE	6	J5U	20
3	75		1	I1U	1
4	15		1	I1L	13
5	5		OLD	J10U	26
6	75		OLD	J9L	25
7	15		OLD	J10L	40
8	5		OLD	J10L	40
9	50	BIKE	OLD	J10L	40
10	5	BIKE	OLD	J10L	40
11	75		3	I6U	7
12	15		3	I6L	14
13	5		3	I6L	14

LOOP DETECTOR WIRING DIAGRAM

"DISTANCE" IS FROM STOP LINE TO CENTER OF LOOP IN FEET.

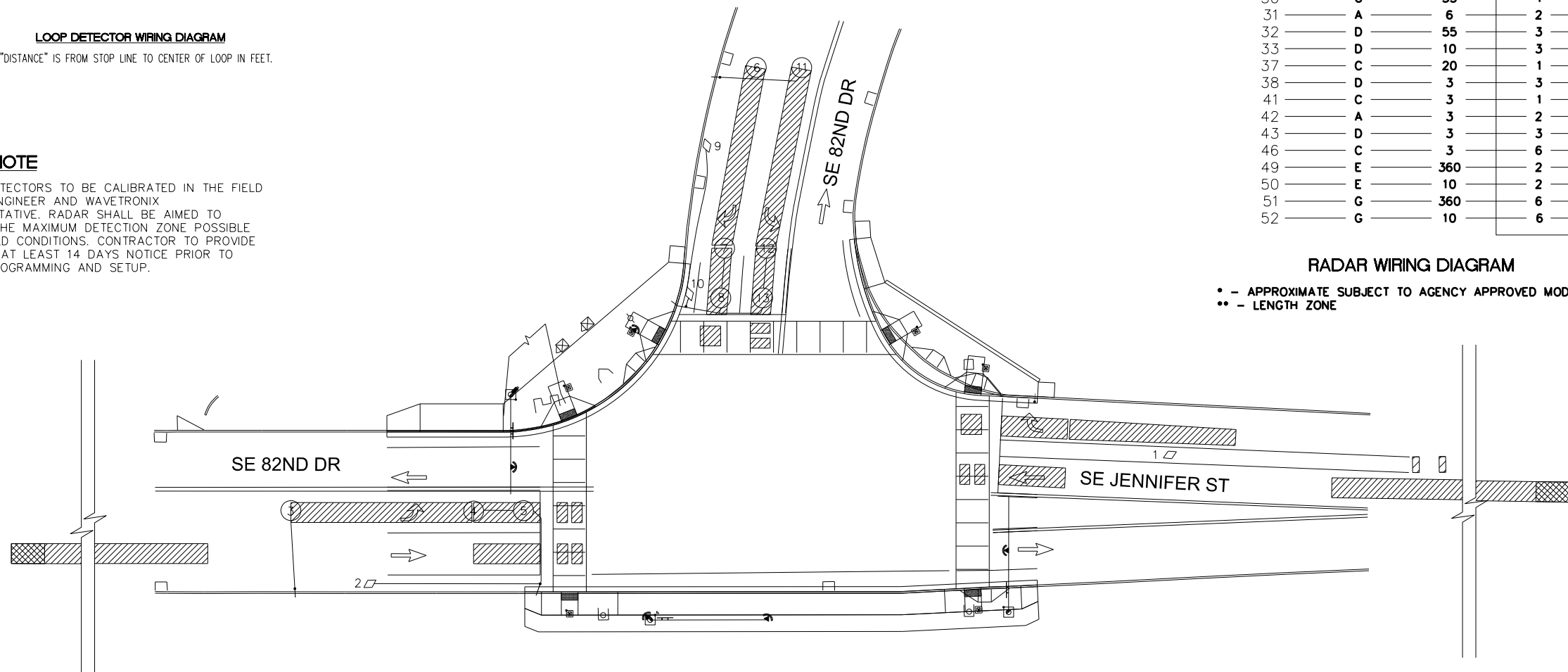
GENERAL NOTE

- RADAR DETECTORS TO BE CALIBRATED IN THE FIELD BY THE ENGINEER AND WAVETRONIX REPRESENTATIVE. RADAR SHALL BE AIMED TO ACHIEVE THE MAXIMUM DETECTION ZONE POSSIBLE GIVEN FIELD CONDITIONS. CONTRACTOR TO PROVIDE ENGINEER AT LEAST 14 DAYS NOTICE PRIOR TO RADAR PROGRAMMING AND SETUP.

MAXTIME NUMBER	RADAR UNIT	DISTANCE (FEET)**	PHASE	BIU#
2	A	20	2	9
3	A	3	2	9
4	A	20	2	9
5	A	55	2	9
16	C	20	6	9
17	C	3	6	9
22	D	55	OLD	9
23	D	20	OLD	9
24	D	6	OLD	9
29	C	3	1	9
30	C	55	1	10
31	A	6	2	10
32	D	55	3	10
33	D	10	3	10
37	C	20	1	10
38	D	3	3	10
41	C	3	1	10
42	A	3	2	10
43	D	3	3	11
46	C	3	6	11
49	E	360	2	11
50	E	10	2	11
51	G	360	6	11
52	G	10	6	12

RADAR WIRING DIAGRAM

- APPROXIMATE SUBJECT TO AGENCY APPROVED MODIFICATION
- LENGTH ZONE



CONSTRUCTION NOTE

- LOOP 6 AND LOOP 11 SHALL BE CUT WITH A ONE-FOOT OFFSET FROM THE OLD ABANDONED LOOPS.

PAGE 7 of 7	Additional Intersection Information	REV. NO.	DATE	INITIAL	REMARKS	INTERSECTION: ● SE 82nd Drive @ SE Jennifer Street Clackamas County, OR HWY#: XXX M.P.#: XXX.XX TSSU ID#: XXXXX	OREGON DEPARTMENT OF TRANSPORTATION TRAFFIC - ROADWAY SECTION 332S ODOT CABINET PRINT 08/17/22
		1	08/17/22	JS	UPDATED LEVELS AND REFERENCES SEE WORD DOC		

POLE ENTRANCE CHART

TRAFFIC SIGNAL DETAILS
SE 82ND DR/SE JENNIFER ST
(CLACKAMAS COUNTY, OREGON)

			EQUIPMENT ON POLE						EQUIPMENT ON MAST ARM (Length in Feet and Equipment Type)										FOUNDATION INFORMATION <small>(See Clackamas County Mast Arm Foundation Std. Dwg. on Sheet TS-07, Anchor Rod Detail on this sheet, and Special Provisions)</small>		LUMINAIRES								
POLE NO.	DWG. NO.	TYPE	PED. SIGNAL DEG.	PED. PUSHBUTTON DEG.	TERM. CABINET DEG.	TRAFFIC SIGNAL DEG.	PTZ CAM. DEG.	RADAR DEG.	ARM LENGTH	D 1	D 2	D 3	D 4	D 5	D 6	D 7	D 8	D 9	D 10	REQUIRED FOUNDATION DEPTH	FOUNDATION CONTROL POINT ^{*,**} ELEVATION	ARM LENGTH	ARM DEG.	MOUNTING HEIGHT	TYPE	FIXTURE			
																										TYPE	WATTAGE	COLOR TEMP	
1	TS-02	CCSM3			310			225 [30]	35	0.5 RAD(90)	4.0 V3L	12.0 V3L	18.0 V6R	26.0 V6R	31.0 SNS					24 FEET SEE SHT 7.0	123.64								
2	TS-02	PP/3	220	220																SEE TM457	122.42								
3	TS-02	CCSM3L			83		315 [32]		30	0.5 F	3.4 V2	8.2 RAD(90)	13.0 V2	19.0 SNS	26.2 V6R	27.7 F				13 FEET SEE SHT TS-07	122.55	15	270	35	LED	II	167	4K	
4	TS-02	PP/2	220	220																SEE TM457	122.75								
5	TS-02	PP/2	310	310		344														SEE TM457	123.05								
6	TS-02	PP/2	310	310																SEE TM457	124.78								
7	TS-02	PP/2	40	220																SEE TM457	125.94								
8	TS-02	CCSM3L			310				35	0.5 F	4.5 3L	12.0 V2	16.5 RAD(90)	22.0 V2	29.0 SNS					24 FEET SEE SHT 7.0	126.53	15	0	35	LED	II	167	4K	
9	TS-02	PP/2	40	220																SEE TM457	126.00								

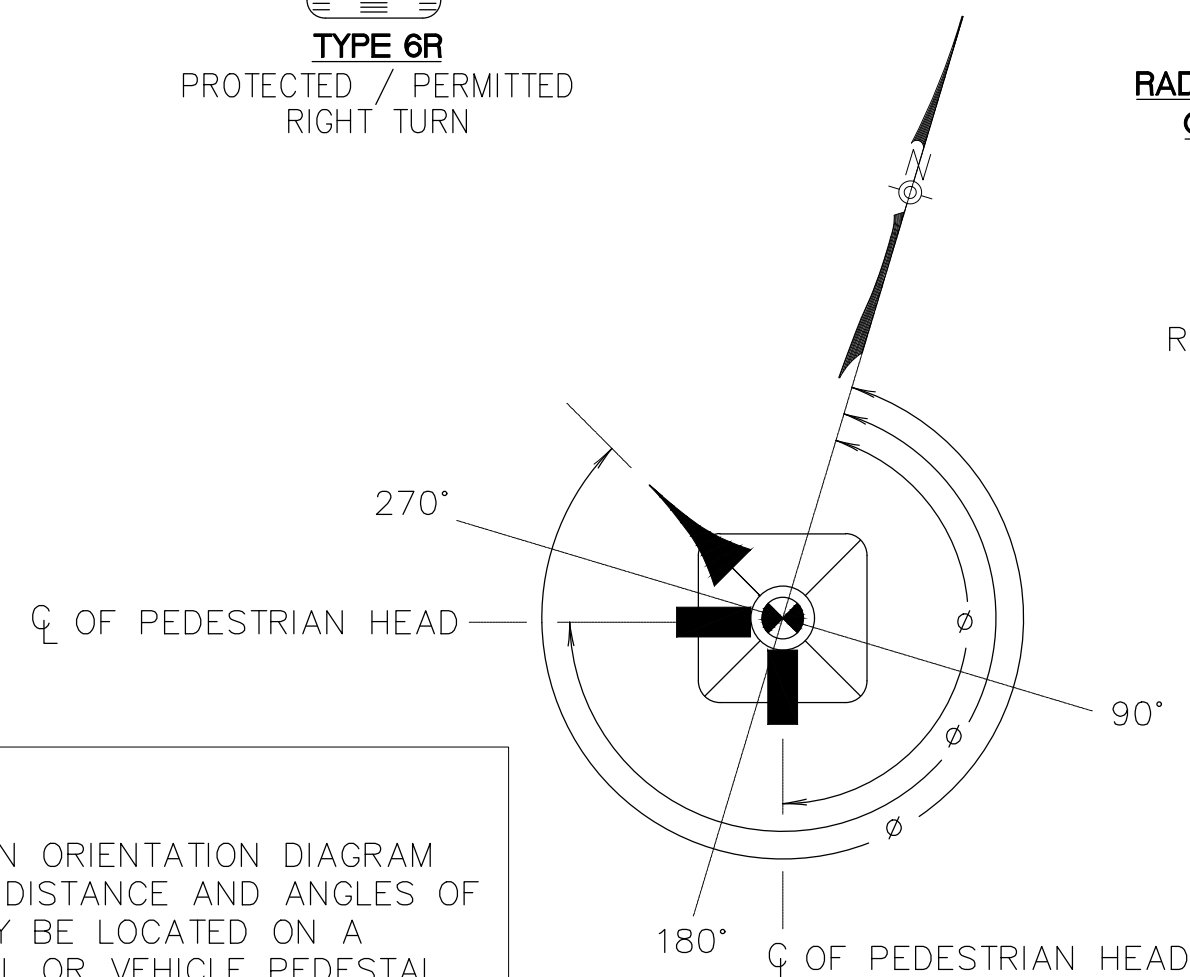
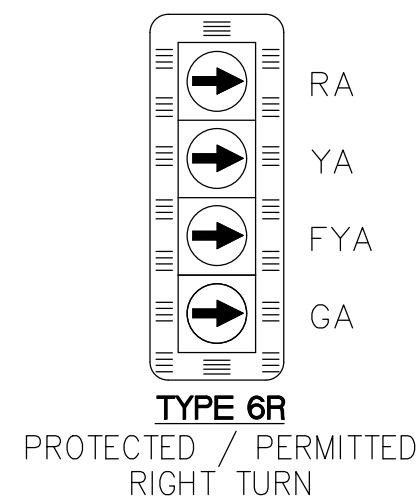
BRACKET MOUNT (SEE TRAFFIC SIGNAL PLAN FOR MOUNT TYPE)

V2 = TRAFFIC SIGNAL TYPE 2, ADJUSTABLE SKYBRACKET MOUNT (SEE STD. DWG. TM462)
V3L = TRAFFIC SIGNAL TYPE 3L, ADJUSTABLE SKYBRACKET MOUNT (SEE STD. DWG. TM462)
V6R = TRAFFIC SIGNAL TYPE 6R, ADJUSTABLE SKYBRACKET MOUNT (SEE STD. DWG. TM462)
RAD = RADAR VEHICLE DETECTION UNIT
SA = SIGN, 30"x36" ALUMINUM WITH ADJUSTABLE BRACKET MOUNT (SEE STD. DWG. TM465)
SNS = STREET NAME SIGN

MISC. ITEMS:

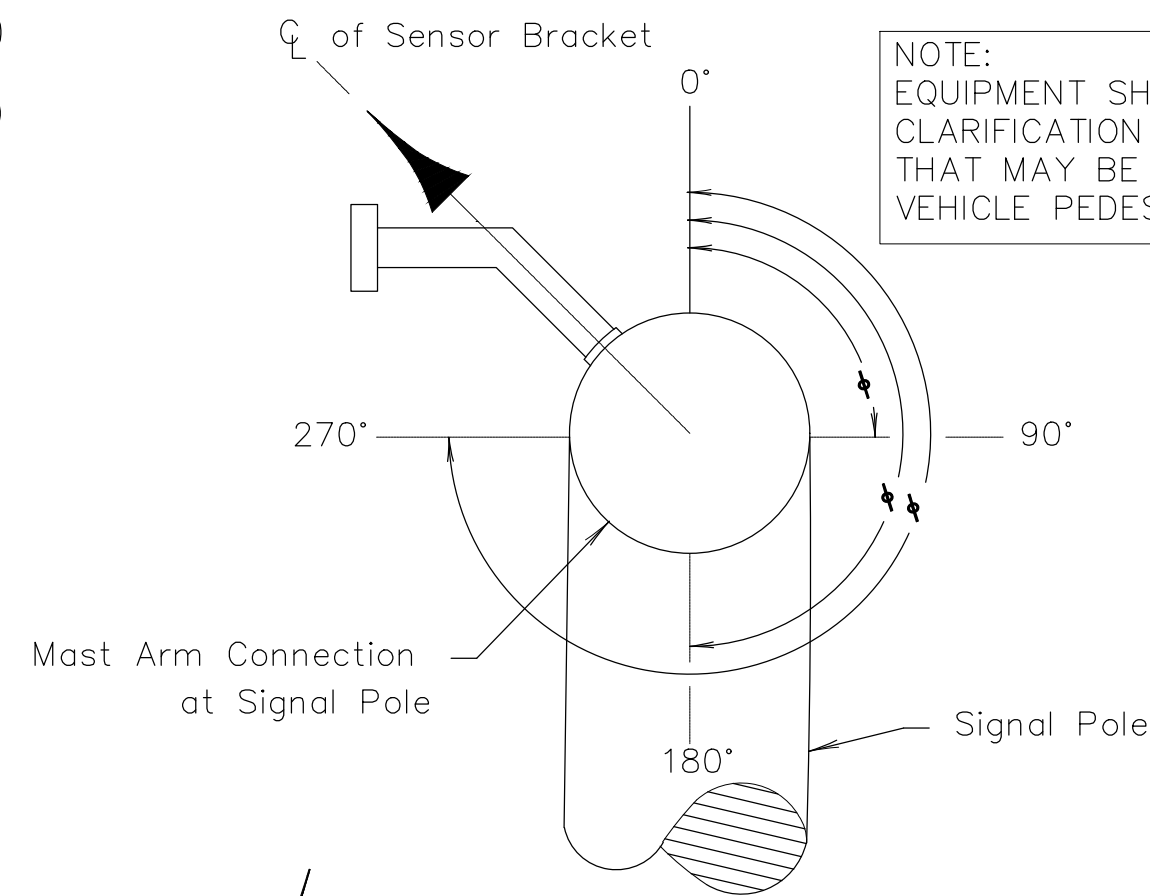
F = FIRE PREEMPTION, (SEE STD. DWG. TM465)
PP/2 = PEDESTRIAN SIGNAL PEDESTAL (SEE STD. DWG. 465) , PEDESTAL FOUNDATION 2.
PP/3 = PEDESTRIAN SIGNAL PEDESTAL (SEE STD. DWG. 465) , PEDESTAL FOUNDATION 3.

* = SEE TRAFFIC SIGNAL PLANS FOR FOUNDATION CONTROL POINT LOCATION
** = FOUNDATION CONTROL POINT AND TOP OF ANCHOR ROD ELEVATIONS TO BE VERIFIED PRIOR TO FOUNDATION INSTALLATION
() = RADAR MOUNTING DEGREE
[] = RADAR MOUNTING HEIGHT
X = NON-STANDARD

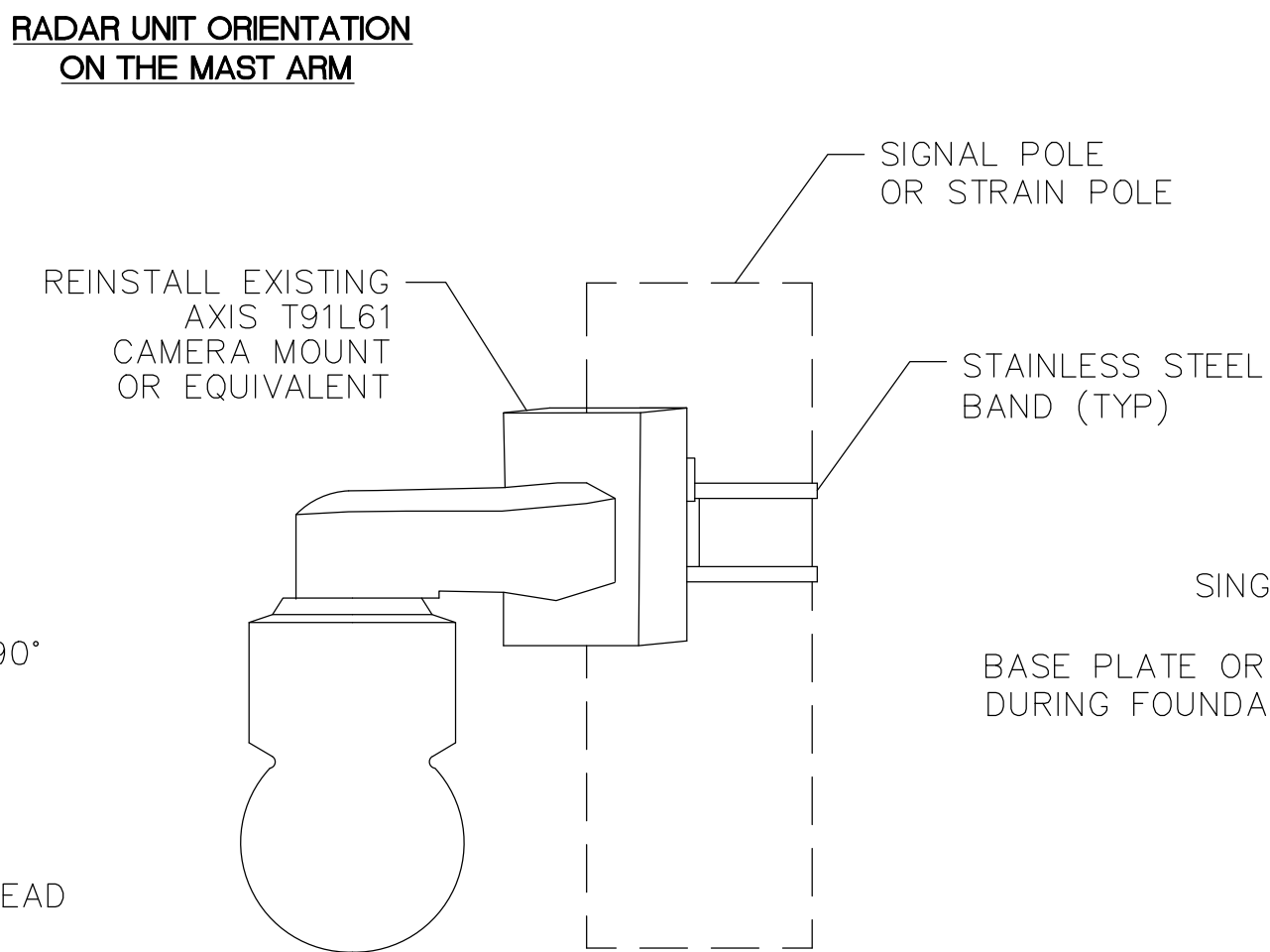


NOTE:
EQUIPMENT SHOWN ON ORIENTATION DIAGRAM IS CLARIFICATION OF DISTANCE AND ANGLES OF EQUIPMENT THAT MAY BE LOCATED ON A PEDESTRIAN PEDESTAL OR VEHICLE PEDESTAL.

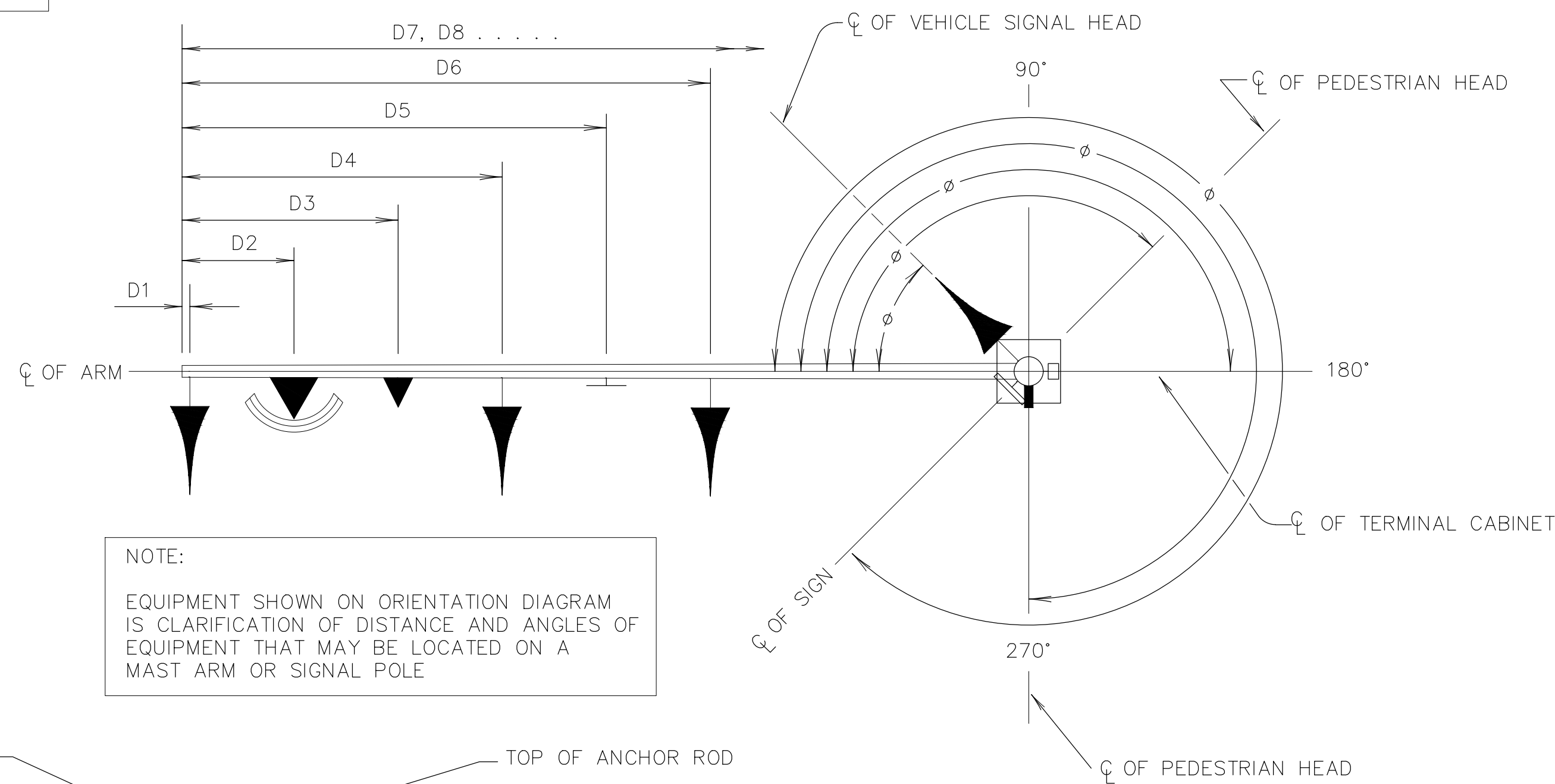
PEDESTRIAN PEDESTAL/ VEHICLE PEDESTAL



NOTE:
EQUIPMENT SHOWN ON ORIENTATION DIAGRAM IS CLARIFICATION OF DISTANCE AND ANGLES OF EQUIPMENT THAT MAY BE LOCATED ON A PEDESTRIAN PEDESTAL OR VEHICLE PEDESTAL.

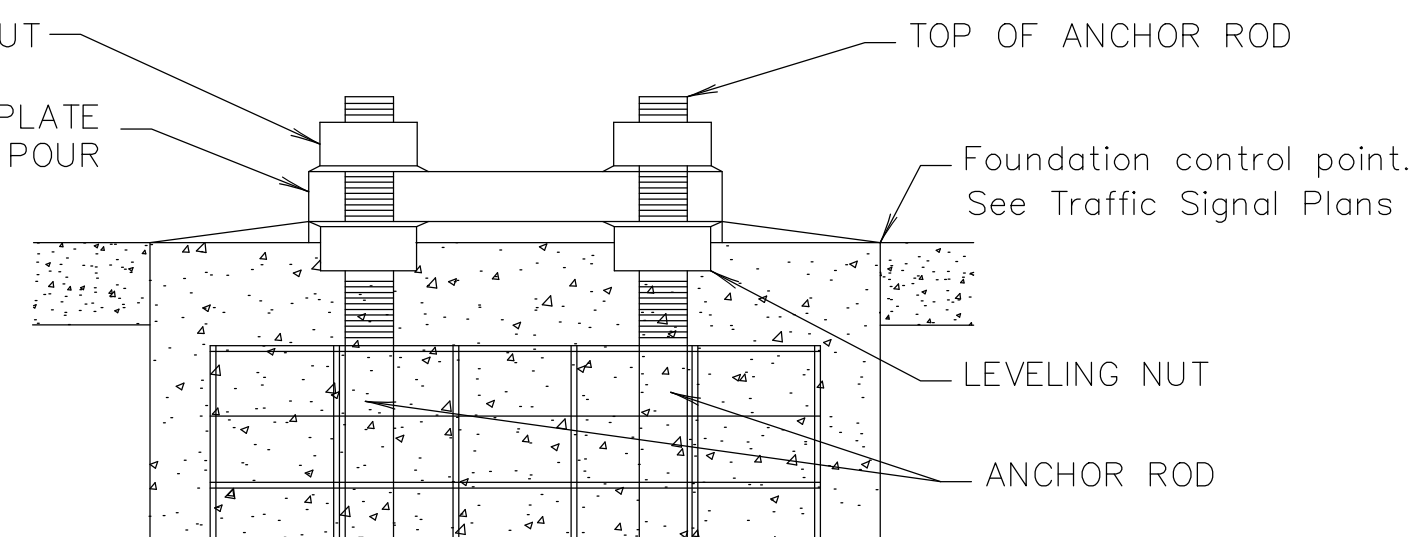


TYPICAL PTZ CAMERA MOUNTING DETAIL



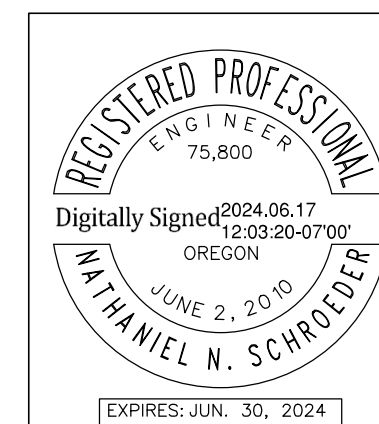
NOTE:
EQUIPMENT SHOWN ON ORIENTATION DIAGRAM IS CLARIFICATION OF DISTANCE AND ANGLES OF EQUIPMENT THAT MAY BE LOCATED ON A MAST ARM OR SIGNAL POLE

MAST ARM POLE ORIENTATION DIAGRAM



ANCHOR ROD DETAIL

DKS 1050 SW 6th Avenue, Suite 600
Portland, Oregon 97204
www.dksassociates.com



REVISIONS

NO.	DATE:	DESIGNED BY:	DRAFTED BY:	CHECKED BY:
		C. GALIZA	R. SNELLINGS	N. SCHROEDER

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

CLACKAMAS COUNTY

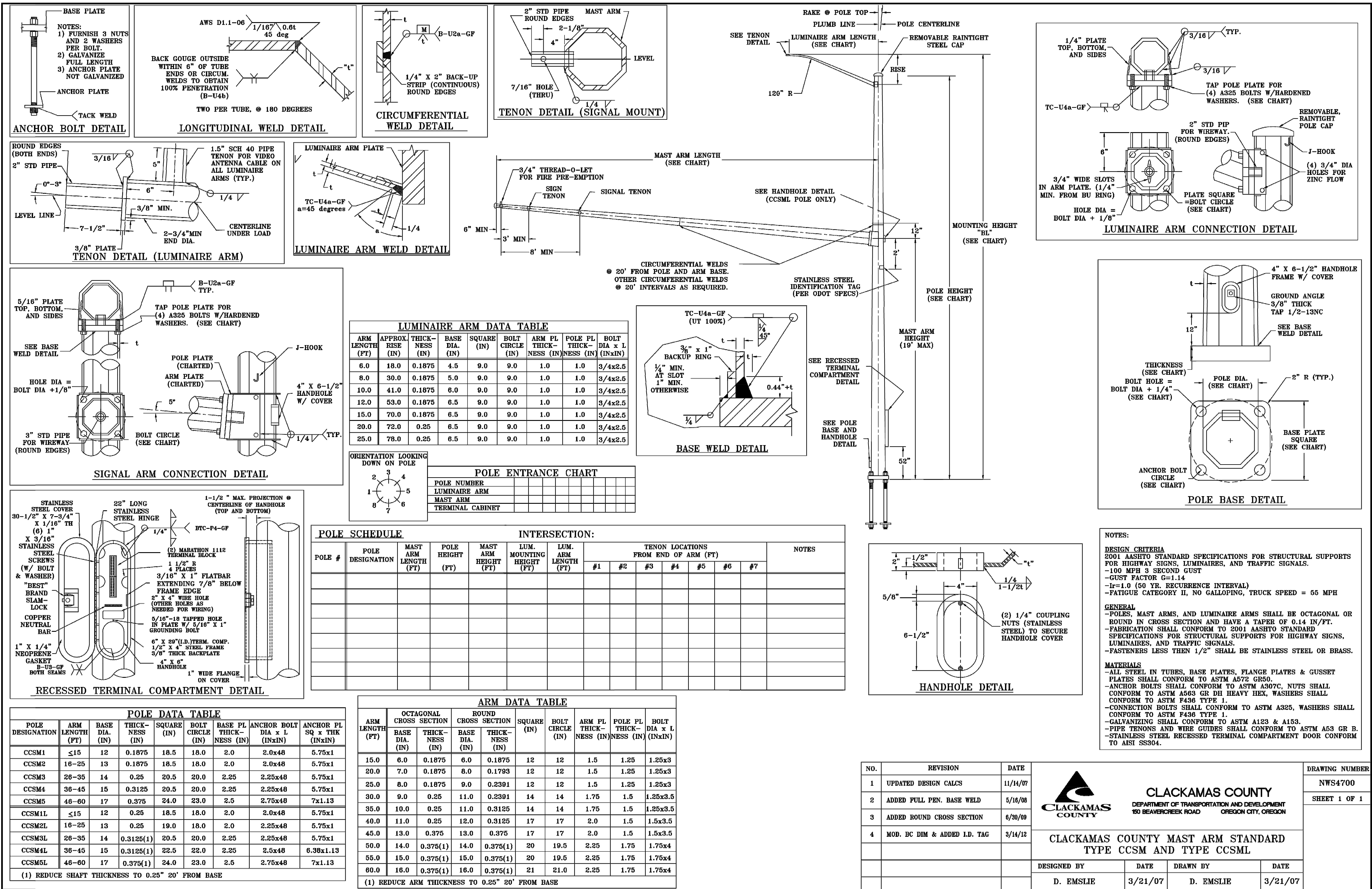
DAN JOHNSON
DIRECTOR

TRAFFIC SIGNAL DETAILS

82ND DRIVE & JENNIFER ST
SIGNAL REPLACEMENT

DATE: JUNE 2024 PROJECT NO.: 23303

TRAFFIC SIGNAL DETAILS
SE 82ND DR/SE JENNIFER ST
(CLACKAMAS COUNTY, OREGON)



TRAFFIC SIGNAL DETAILS

82ND DRIVE & JENNIFER ST
SIGNAL REPLACEMENT

DATE: JUNE 2024 PROJECT NO.: 23303

CLACKAMAS COUNTY

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



DAN JOHNSON
DIRECTOR

DESIGNED BY:

C. GALIZA

DRAFTED BY:

R. SNELLINGS

CHECKED BY:

N. SCHROEDER

REVISIONS

NO. DATE:

Sheet No.

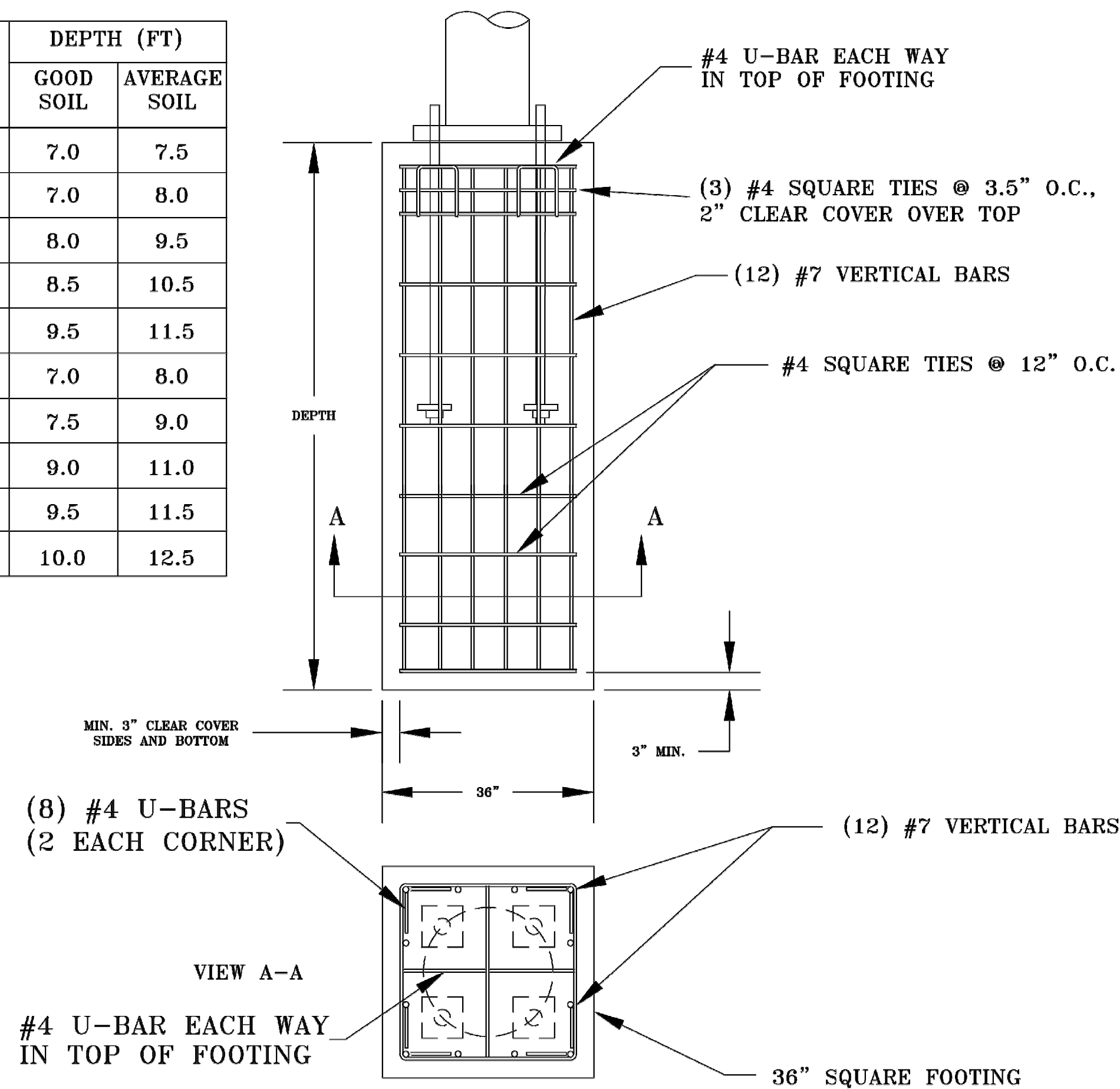
TS-06



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TRAFFIC SIGNAL DETAILS
SE 82ND DR/SE JENNIFER ST
(CLACKAMAS COUNTY, OREGON)

POLE DESIGATION	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

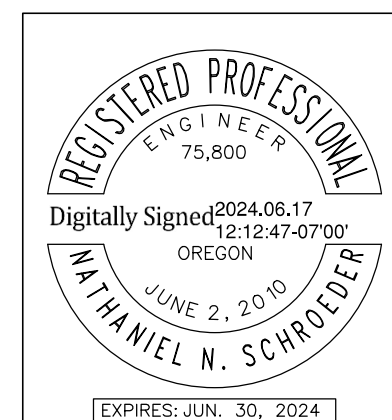


NOTES:

1. 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.
2. Vertical steel shall be ASTM A615 Gr 60 (rebar).
3. Minimum concrete strength, $f'c = 3,000$ psi
4. 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.
5. The top 4" shall be placed (using concrete or a non-shrinking grout) after installing the pole and appurtenances.

NO.	REVISION	DATE	 <div style="text-align: center;"> CLACKAMAS COUNTY DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OREGON </div>				DRAWING NUMBER
1	FOUNDATION DEPTH UPDATED	11/19/07					NWS4710
							SHEET 1 OF 1
			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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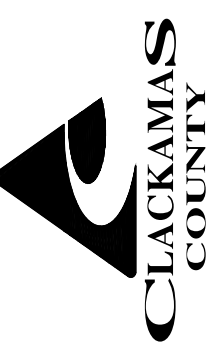


REVISIONS

NO.	DATE:
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Sheet No. **TS-07**

CLACKAMAS COUNTY



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

DIRECTOR

DAN JOHNSON

DESIGNED BY:
C. GALIZA

DRAFTED BY:

CHECKED BY:

CHECKED BY: _____

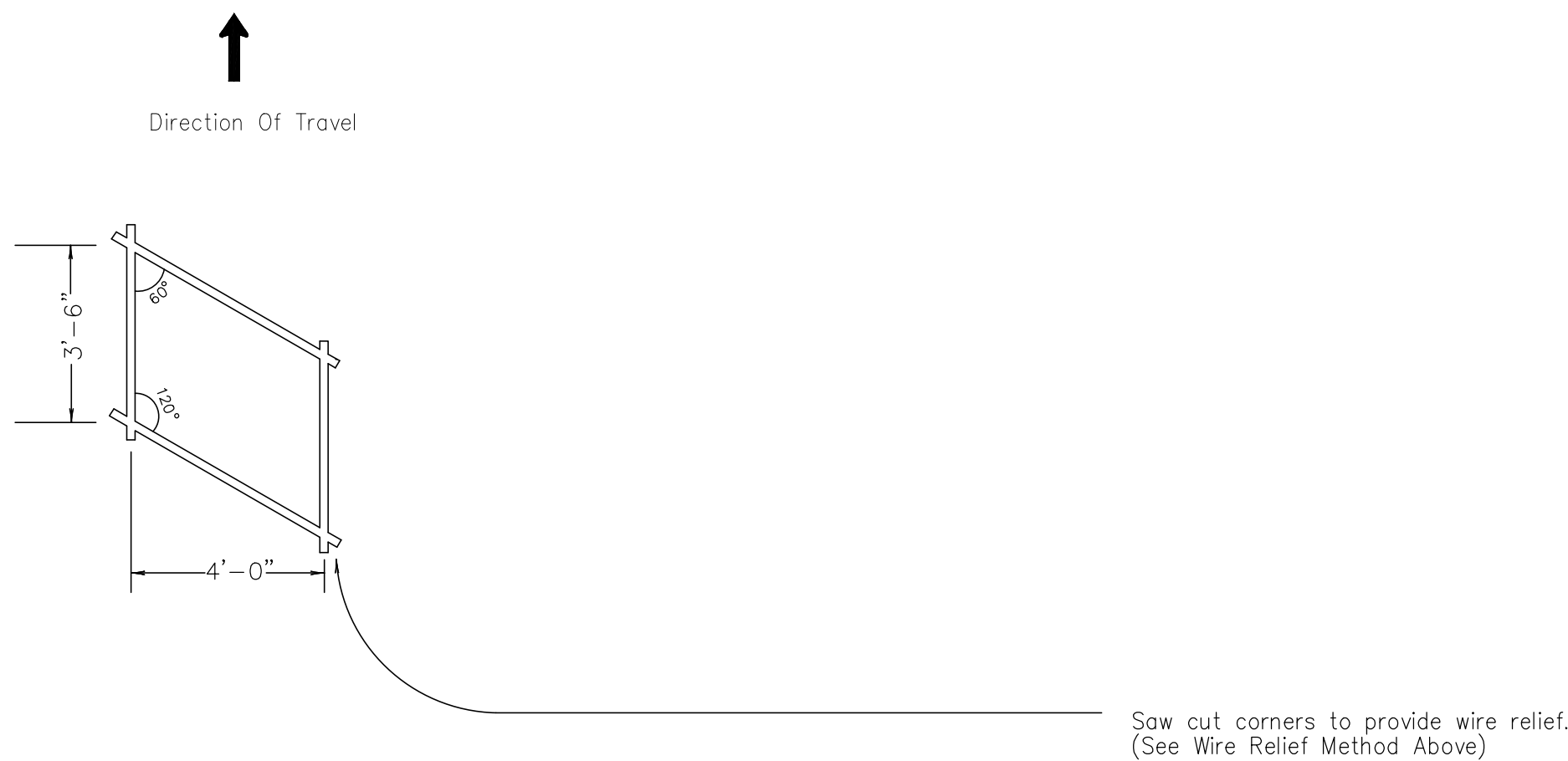
1. SOLIDATED _____

TRAFFIC SIGNAL DETAILS

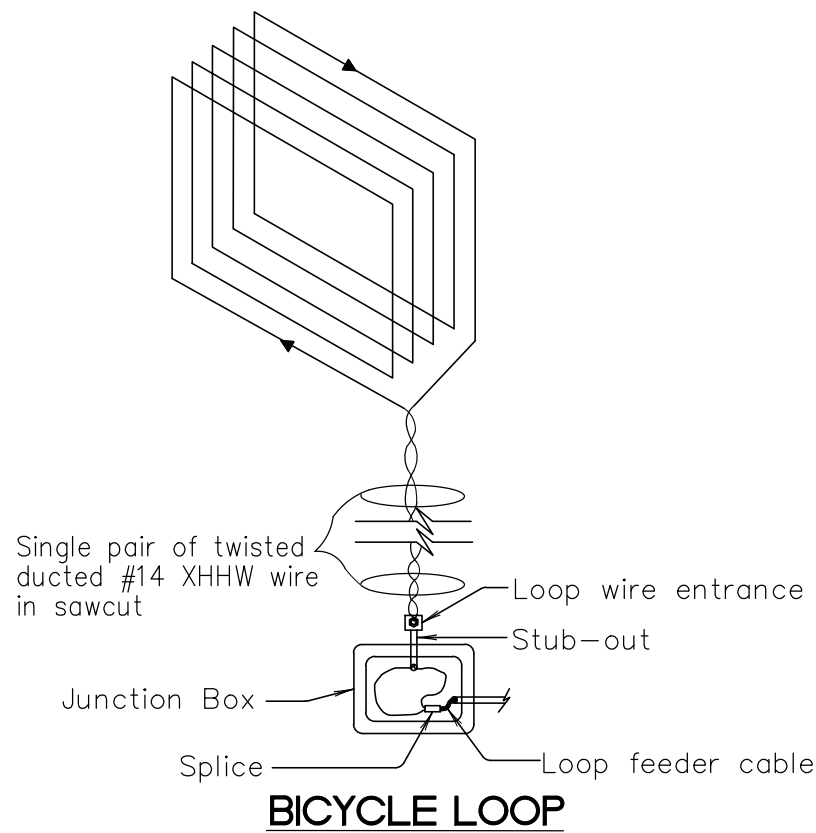
82ND DRIVE & JENNIFER ST SIGNAL REPLACEMENT

DATE: JUNE 2024	PROJECT NO.: 23303
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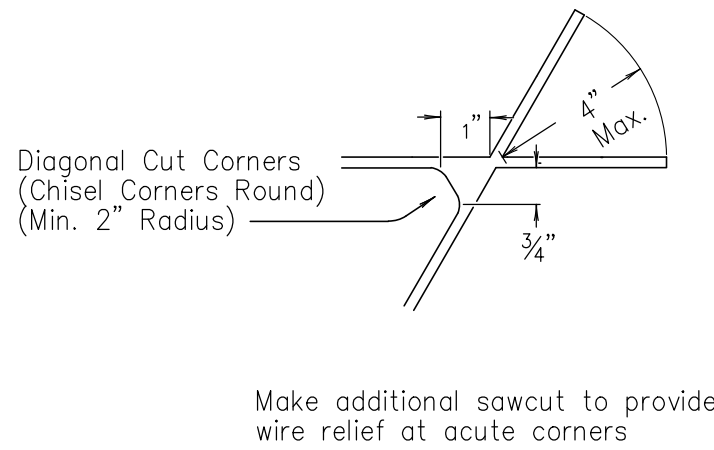
TRAFFIC SIGNAL DETAILS
SE 82ND DR/SE JENNIFER ST
(CLACKAMAS COUNTY, OREGON)



PARALLELOGRAM TRAFFIC DETECTION LOOPS



BICYCLE LOOP

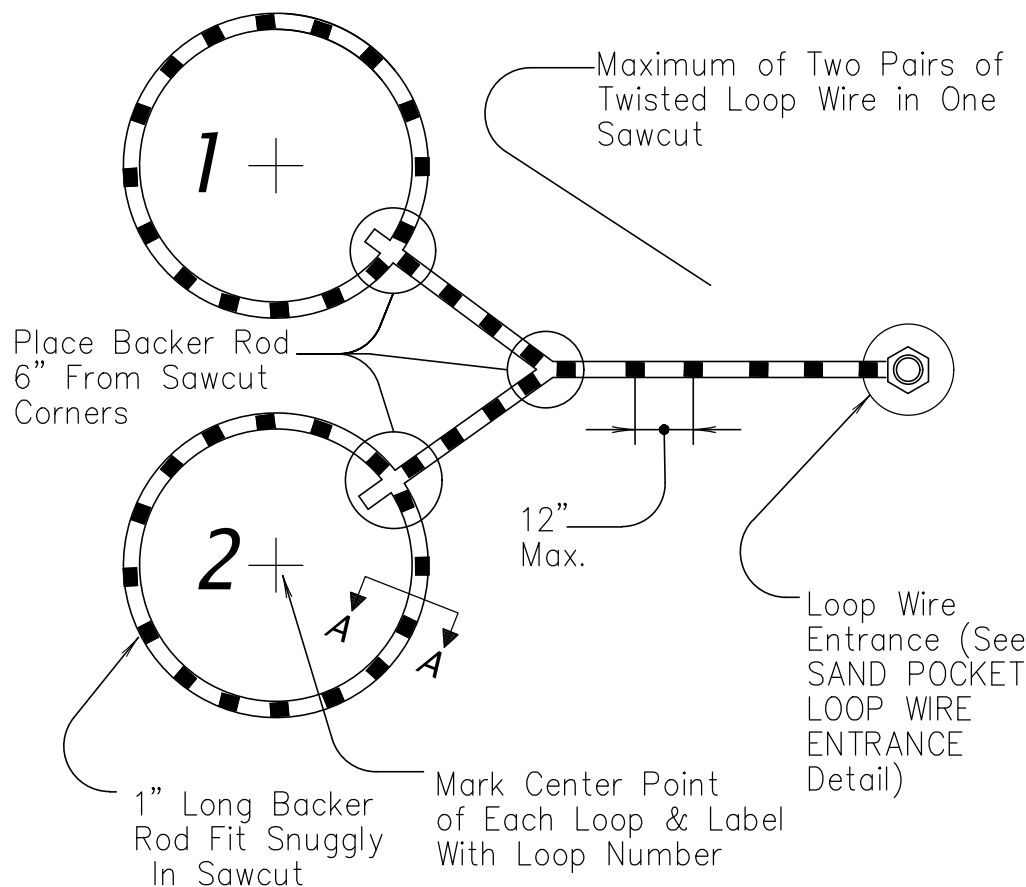


WIRE RELIEF METHOD

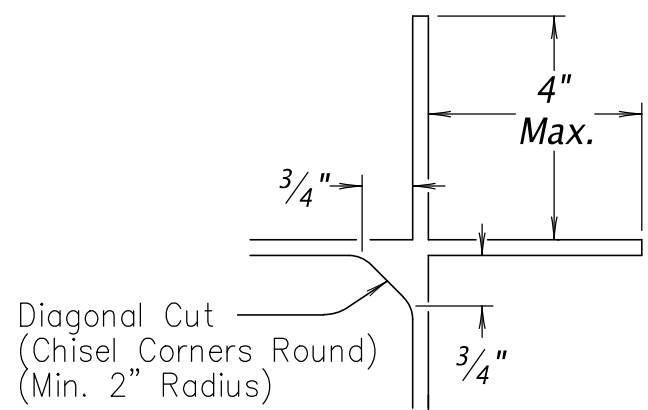
LOOP DETECTOR WINDING PATTERN

(Arrows Indicate Direction Of Loop Winding)

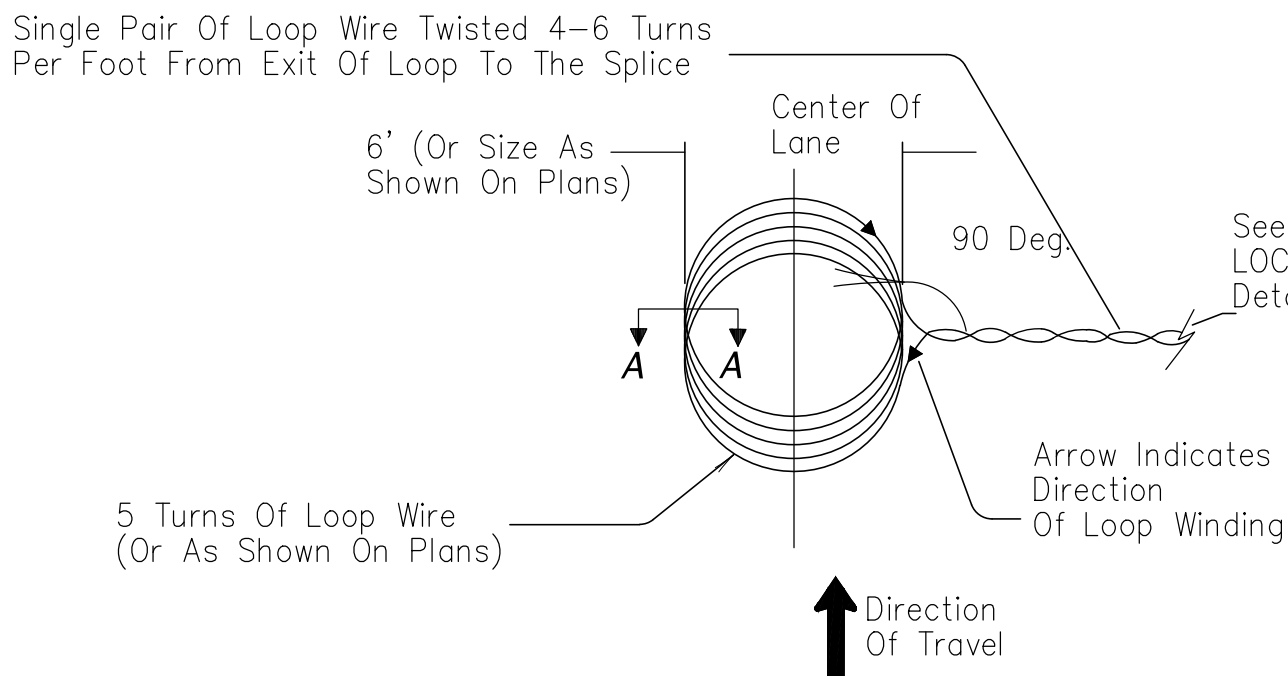
Loops Shall Be Of The Parallelogram Type With 5 Turns Of Ducted No. 14 XHHW Stranded Wire Centered In The Traffic Lane Or As Shown On Plans. Loop Wire Shall Be Twisted 4 To 6 Turns Per Foot Between Loop And Junction Box. All Loops Shall Be Individually Wired As Shown.



SAWCUT + BACKER ROD LAYOUT

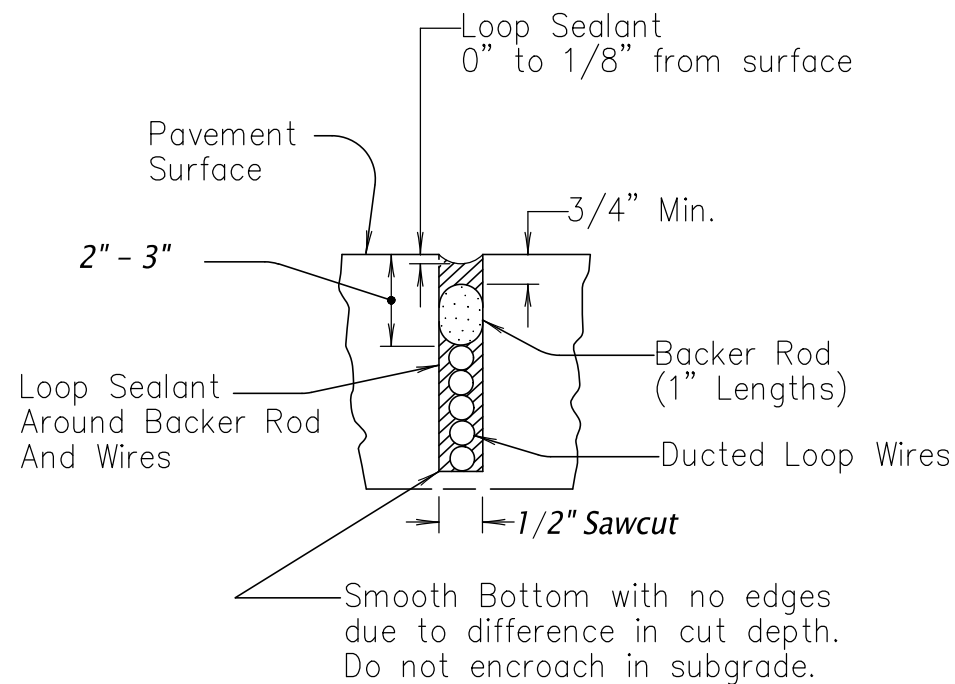


SAWCUT CHISEL DETAIL

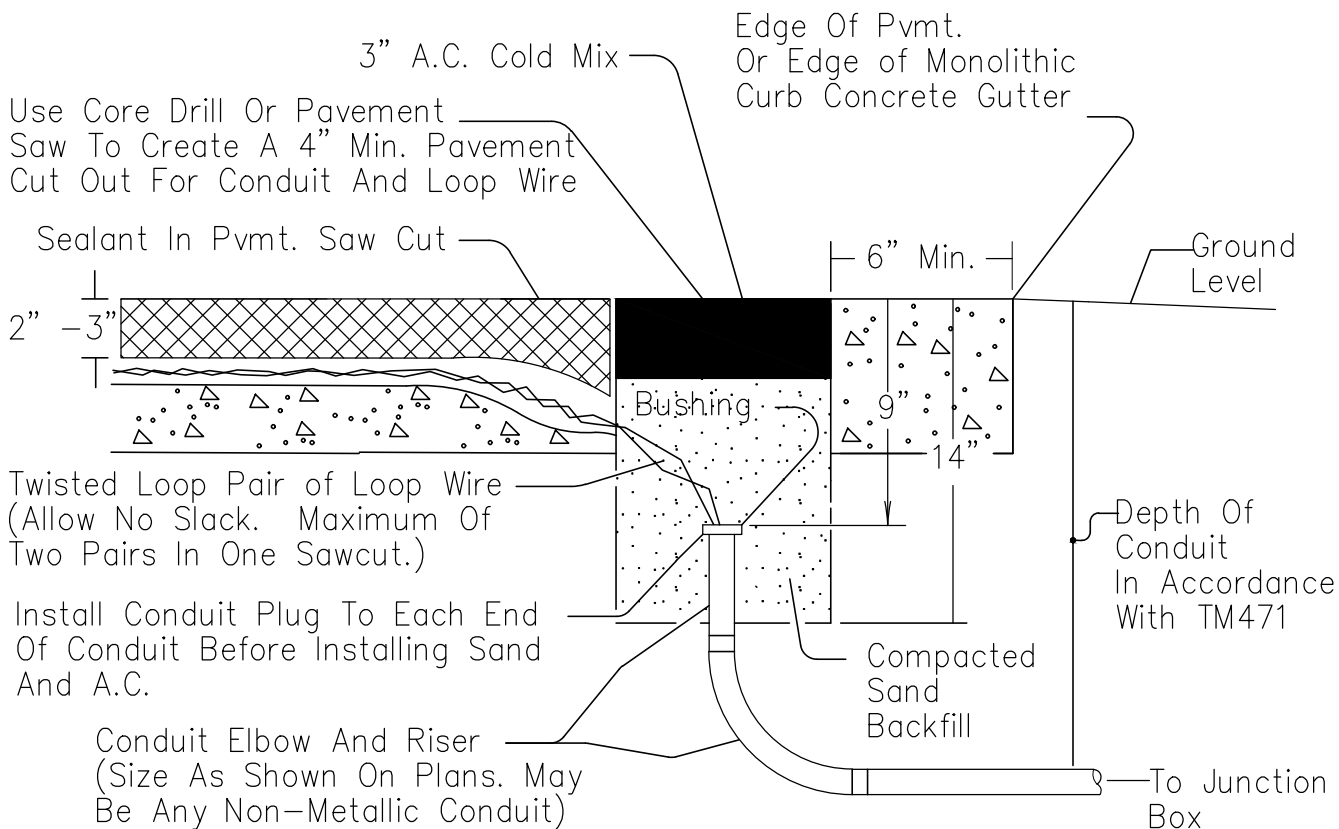


LOOP WIRE INSTALLATION

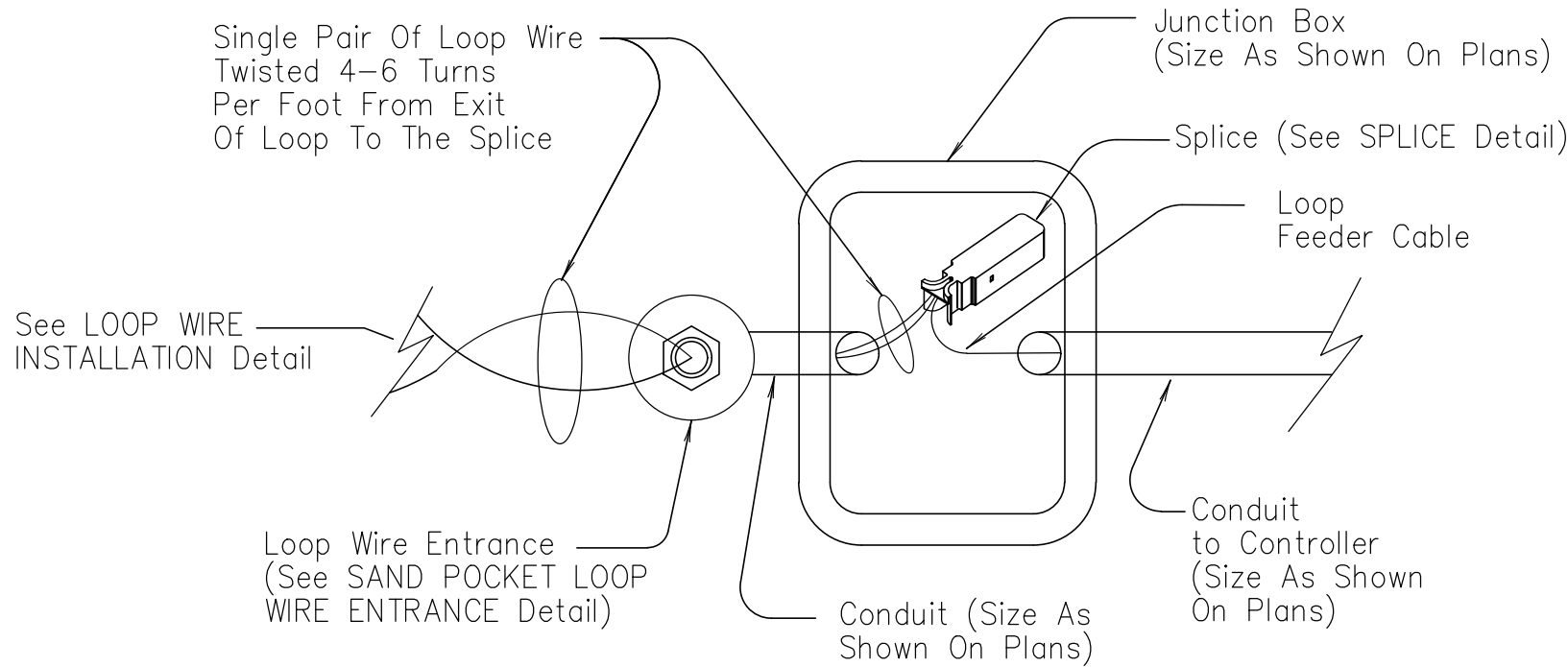
ROUND LOOP



SECTION A - A:
LOOP SAWCUT CROSS SECTION



SAND POCKET LOOP WIRE ENTRANCE



SPLICE LOCATION

General Notes:

1. Install Round Loops As Shown On The Plans
2. Limit Angle Of All Sawcuts With Loop Wire To 90 Degrees Minimum And Use Sawcut Chisel Detail To Avoid Kinking The Wire.
3. Sawcuts Shall Not Create Islands Of Pavement Less Than 2.5 Ft² In Area.
4. Mark Loop Number On All Exposed Locations Of Loop Wire And Loop Feeder Cable With Permanent Tags. Use Hand-Held Labeler (Brady Idxpert With XC-1500-580-WT-BK Tags, Or Approved Equal).
5. At Existing Installations, Re-Wire And Re-Number New And Existing Detector Loops And Loop Feeders Cables, In Junction Boxes And Cabinet, To Match Wiring Diagram. Remove Any Existing Labels That Do Not Match The Wiring Diagram.

TRAFFIC SIGNAL DETAILS

82ND DRIVE & JENNIFER ST
SIGNAL REPLACEMENT

DATE: JUNE 2024 PROJECT NO.: 23303

CLACKAMAS COUNTY

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



DAN JOHNSON

DIRECTOR

DESIGNED BY:

C. GALIZA

DRAFTED BY:

R. SNELLINGS

CHECKED BY:

N. SCHROEDER

REVISIONS

NO. DATE:

Sheet No.

TS-08

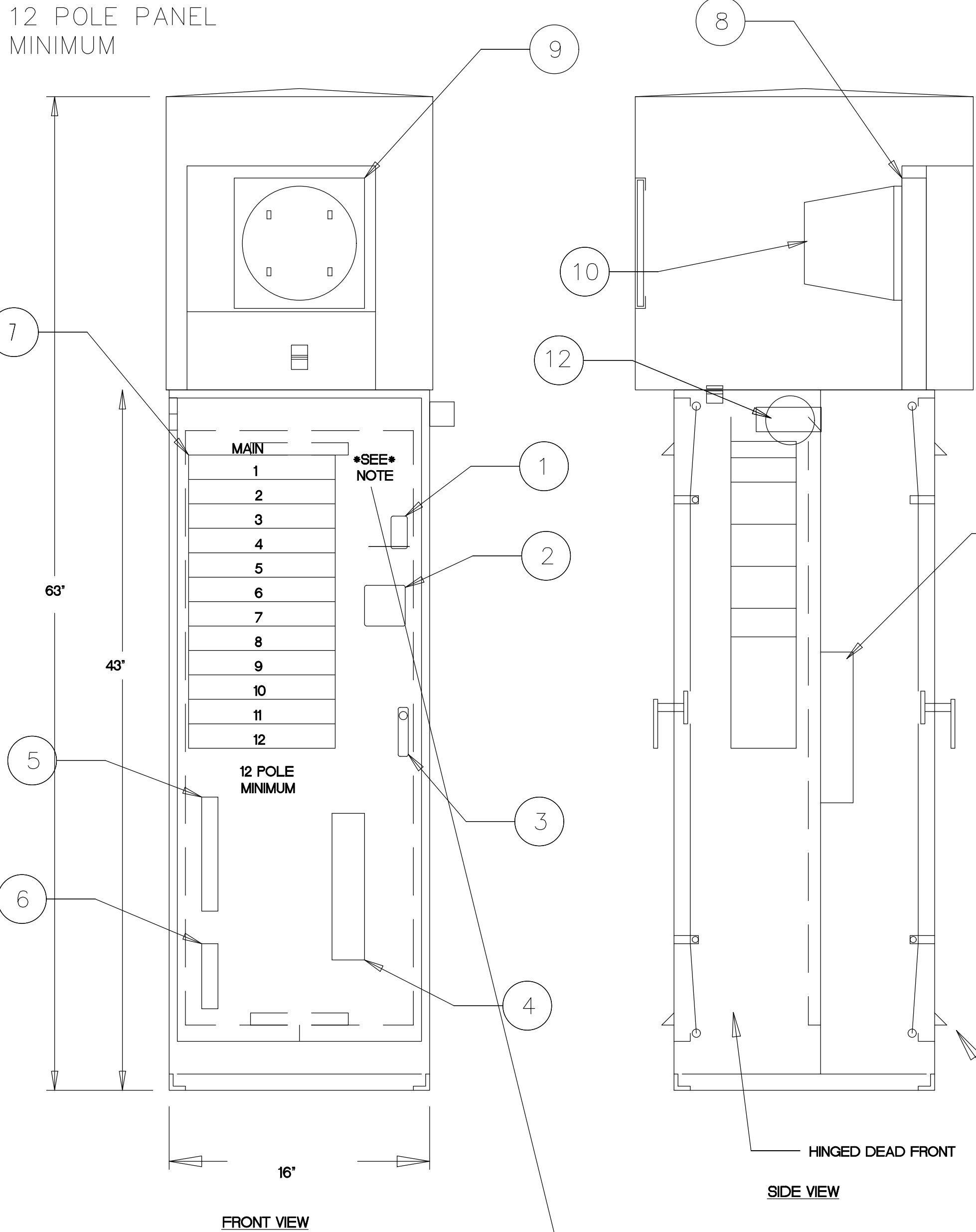


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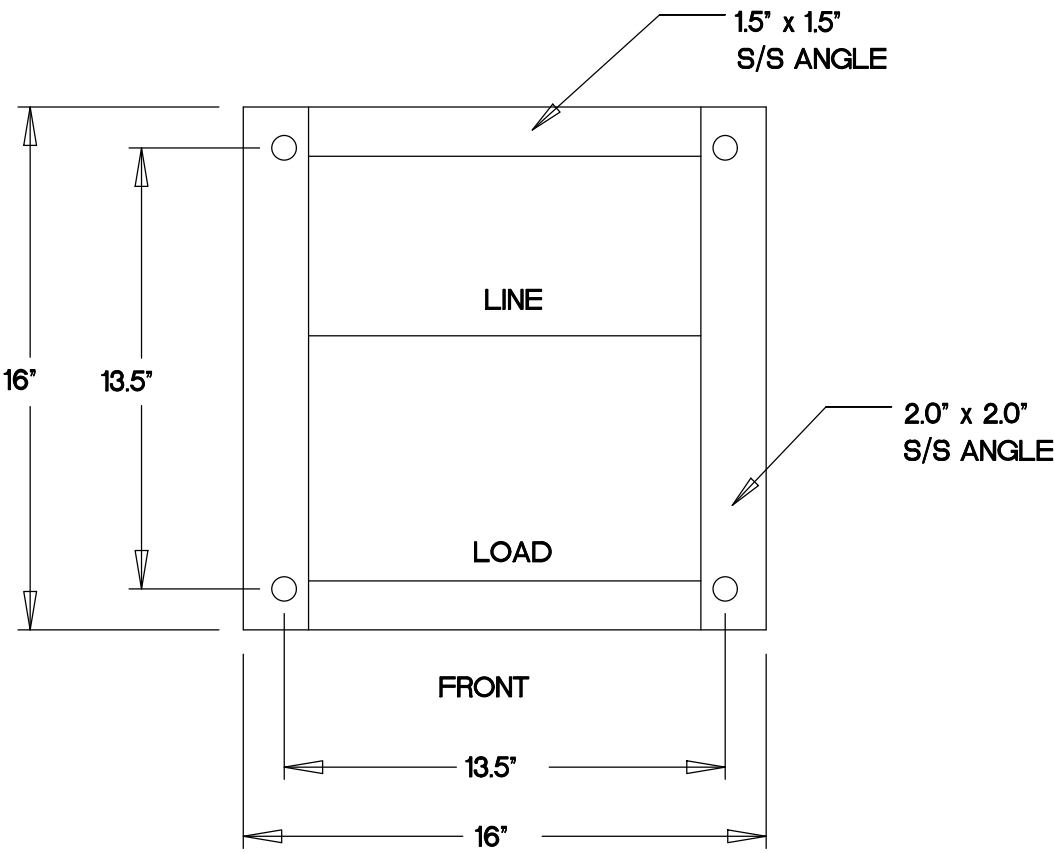
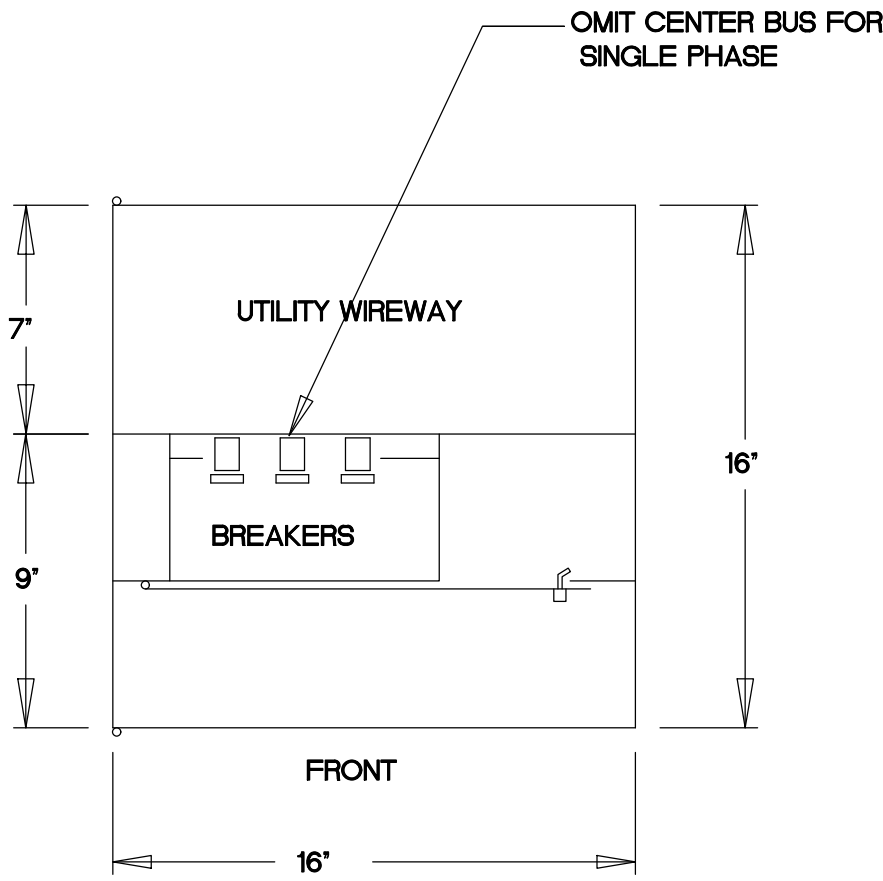


NEMA 3-R METERED BASE MOUNT SERVICE CABINET CLACKAMAS COUNTY

12 POLE PANEL
MINIMUM



NOTE:
CONTRACTOR TO VERIFY UTILITY
METERING REQUIREMENTS!



NOTE:
PE CELL IS REQUIRED, LOWER TEST SWITCH APP 6" AND INSTALL A
GLASTIC BARRIER BETWEEN PANEL AND PE CELL

4. UL 67 LABELED PANELBOARD
3. UL 50 LISTED AS SERVICE ENTRANCE EQUIPMENT LABLED CUTOUT BOX NEMA 3R
2. DEADFRONT CONSTRUCTED OF 14 GA TYPE 304 #4 SS BACKPAN 12GA TYPE 304 SS
1. CABINET CONSTRUCTED OF 14-GA TYPE-304 SS (GALVANIZED, PAINTED, MILD STEEL OPTIONAL)

NOTE:
MARATHON 1206 TERMINAL BLOCKS PROVIDED. WIRE
RANGE IS #18 - #4 CU. CUSTOMER MUST NOTIFY IF OTHER
SIZES ARE REQUIRED.

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
00	first drawing	07/02/2003	P.D.W.

POLE#	DESCRIPTION
1	1-100-2 "MAIN"
2	. . .
3	1-30-2 "ILLUMINATION"
4	. . .
5	1-60-1 "SIGNAL"
6	1-15-1 "CONTROL"
7	1-15-1 "STREET NAME SIGNS" (PHOTO CELL CONTROLLED)
8	1 - POLE SPACE
9	1 - POLE SPACE
10	1 - POLE SPACE
11	1 - POLE SPACE
12	1 - POLE SPACE

12	1	EA	PE CELL BEHIND POLYCARBONITE WINDOW WITH LIGHT DEFLECTING COVER
11	1	EA	POWER COMPANY TERMINAL BLOCK
10	1	EA	METER: SUPPLIED BY OTHER
9	1	EA	WINDOW: POLY CARBONATE ONE SIDE SCRATCH RESISTANT
8	1	EA	METERBASE: CIRCLE AW, 20324L, 1-P, 4-JAW, 600-VOLT, 200-AMP.
7	4	EA	BREAKERS: G.E. TYPE T.E.D., 18K, AIC • 240-VOLT.
6	2	EA	COPPER GROUND BAR
5	2	EA	100% RATED COPPER NEUTRAL
4	1	EA	TERMINAL BLOCK FOR POWER COMPANY HOOK UP
3	1	EA	HANDLE: PAD LOCKABLE SS 73-NS
2	1	EA	CONTACTOR: G.E. CR360L, 600V, 30A, 120V COIL, 3 POLE (2 POLE FOR ILLUMINATION AND 1 POLE FOR STREET NAME SIGNS)
1	1	EA	TEST SWITCH: HUBBEL 1221 20A 1P 120/277V

Item	Qty	U\M	Description
BILL OF MATERIALS			
FOUCH ELECTRIC MFG. CO. INC.			
2138 N INTERSTATE AVE. PORTLAND, OREGON. 97227			EMAIL: sales@fouch.com WEB: www.Fouch.com
JOB NAME: CLACKAMAS COUNTY			
CONTRACTOR: CLACKAMAS COUNTY			
JOB #: TBA			
DWG#: 0600-0074-00		REV: 01	QTY: 1

TRAFFIC SIGNAL DETAILS

82ND DRIVE & JENNIFER ST
SIGNAL REPLACEMENT

PROJECT NO.: 23303

DATE: JUNE 2024

DIRECTOR

DAN JOHNSON

CLACKAMAS COUNTY

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



DESIGNED BY:

C. GALIZA

DRAFTED BY:

R. SNELLINGS

CHECKED BY:

N. SCHROEDER

REVISIONS

NO. DATE:

Sheet No.

TS-09

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LEGEND

CABINETS

- C
SP

CONTROLLER CABINET (SEE SIGNAL PLAN TS-03).
- EX
C

EXISTING CONTROLLER CABINET (SEE SIGNAL REMOVAL PLAN TS-02).

POLES

- EX
WP

RETAIN AND PROTECT EXISTING WOOD POLE.

INTERCONNECT

- RR
FCPP

REMOVE AND RELOCATE EXISTING FIBER OPTIC COMMUNICATION PATCH PANEL.
- RI
FCPP

REINSTALL EXISTING FIBER OPTIC COMMUNICATION PATCH PANEL.
- EX
OHFC

MAINTAIN AND PROTECT EXISTING OVERHEAD FIBER OPTIC CABLE.
- EX
SPC

MAINTAIN AND PROTECT EXISTING AERIAL FIBER OPTIC SPLICE CLOSURE.
- RR
PFO

^(N) REMOVE AND RELOCATE EXISTING (N=NUMBER) FIBER OPTIC PIGTAIL FOR THE FIBER OPTIC COMMUNICATION PATCH PANEL.
- RI
PFO

^(N) REINSTALL EXISTING (N=NUMBER) FIBER OPTIC PIGTAIL FOR THE FIBER OPTIC COMMUNICATION PATCH PANEL.
- RR
COM

REMOVE AND RELOCATE EXISTING COMMUNICATIONS BRACKET AND APPURTENANCES.
- RI
COM

REINSTALL EXISTING COMMUNICATIONS BRACKET AND APPURTENANCES.
- RR
RS900G

REMOVE AND RELOCATE EXISTING SIEMENS RUGGEDCOM RS900G NETWORK SWITCH.
- RI
RS900G

REINSTALL EXISTING SIEMENS RUGGEDCOM RS900G NETWORK SWITCH.

JUNCTION BOXES

- HH
TA

INSTALL 24"x30"x24" (MIN. DIMENSION) FIBER OPTIC HAND HOLE WITH CONCRETE APRON.
- EX
JB

EXISTING JUNCTION BOX (SEE SIGNAL REMOVAL PLAN TS-02).

CONDUIT

- EX
IC

^(S) RETAIN AND PROTECT EXISTING (S=SIZE) INTERCONNECT CONDUIT.
- AX
IC

^(S) ABANDON EXISTING (S=SIZE) INCH INTERCONNECT CONDUIT.
- S

INSTALL (S=SIZE) INCH CONDUIT.

WIRES AND CABLES

- PL

INSTALL POLY PULL LINE.
- LW


INSTALL A NO. 16 AWG TFFN STRANDED COPPER WIRE WITH ORANGE BASE AND BLUE TRACER AS A LOCATE WIRE.

DKS

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REGISTERED PROFESSIONAL
ENGINEER
75,800
OREGON
JUNE 2, 2010
N. HANIEL N. SCHROEDER

Expires: JUN. 30, 2024

INTERCONNECT PLAN LEGEND		CLACKAMAS COUNTY DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045		PROJECT NO.: 23303	
82ND DRIVE & JENNIFER ST SIGNAL REPLACEMENT		DIRECTOR		DATE: JUNE 2024	
DESIGNED BY: C. GALIZA		<div><div><div><div>CLACKAMAS COUNTY</div></div><div>DAN JOHNSON DIRECTOR</div></div></div>		DRAFTED BY:	
R. SNELLINGS					
CHECKED BY:					
N. SCHROEDER					
Sheet No. IC-01					

INTERCONNECT PLAN
SE 82ND DR/SE JENNIFER ST
(CLACKAMAS COUNTY, OREGON)

CONSTRUCTION NOTES

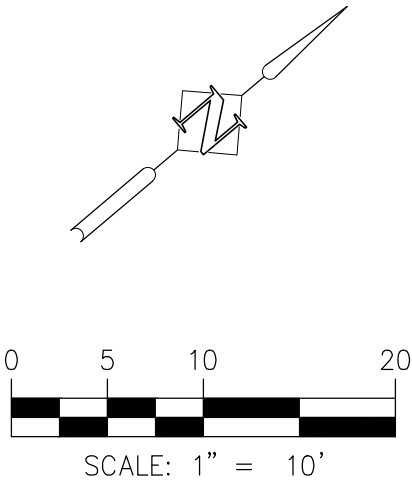
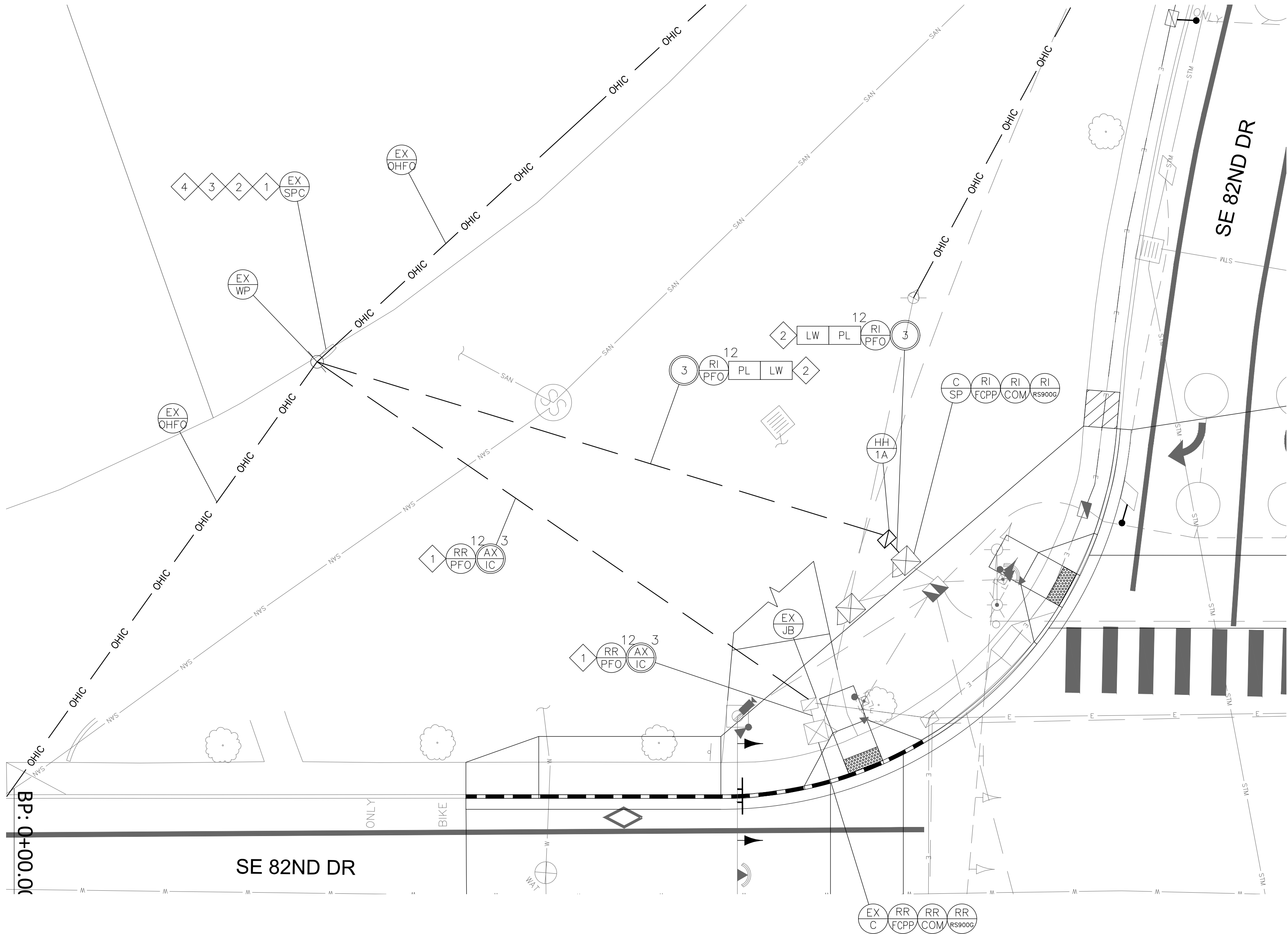
- 1

DISCONNECT EXISTING 12 STRAND FIBER OPTIC PIGTAIL AT AERIAL FIBER OPTIC SPLICE CLOSURE. PULL EXISTING 12 STRAND FIBER OPTIC PIGTAIL BACK TO EXISTING CONTROLLER CABINET. RETAIN AND PROTECT 12 STRAND FIBER OPTIC CABLE.
- 2

REINSTALL EXISTING 12 STRAND FIBER OPTIC PIGTAIL FROM FIBER OPTIC COMMUNICATION PATCH PANEL TO EXISTING AERIAL SPLICE CLOSURE.
- 3

CONTRACTOR TO RESPLICE 12 STRAND FIBER PIGTAIL CABLE AT EXISTING AERIAL FIBER OPTIC SPLICE CLOSURE. SEE DETAILS ON SHEET IC-03.
- 4

COORDINATE ALL FIBER OPTIC SPLICE WORK WITH CLACKAMAS COUNTY, CONTACT CARL OLSON (503) 742-4684 COLSON@CLACKAMAS.US.



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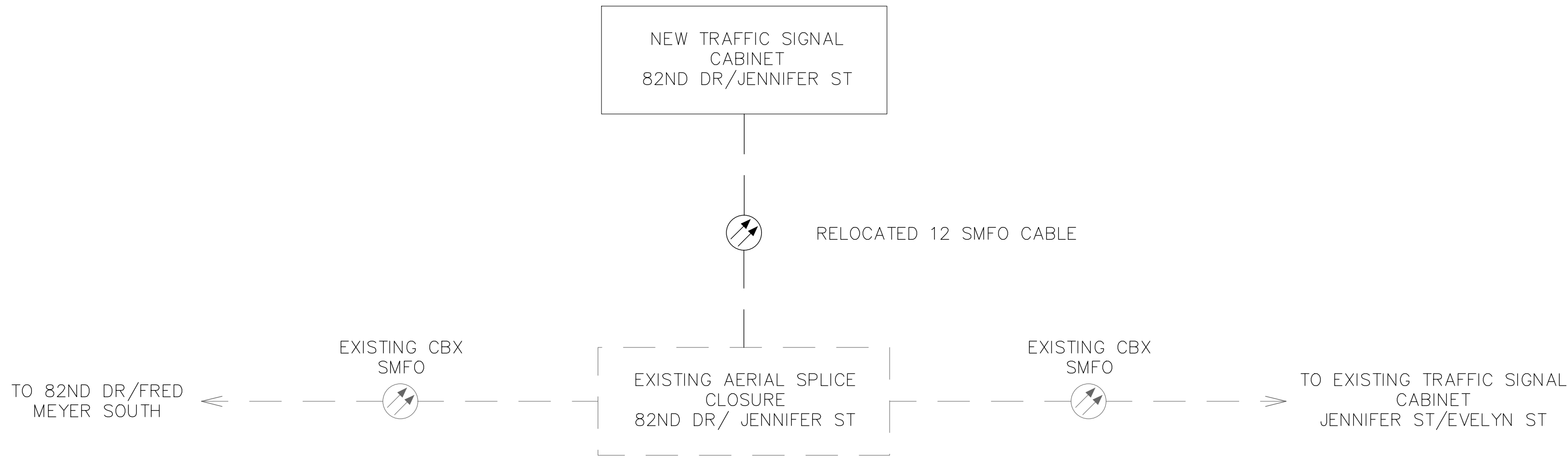
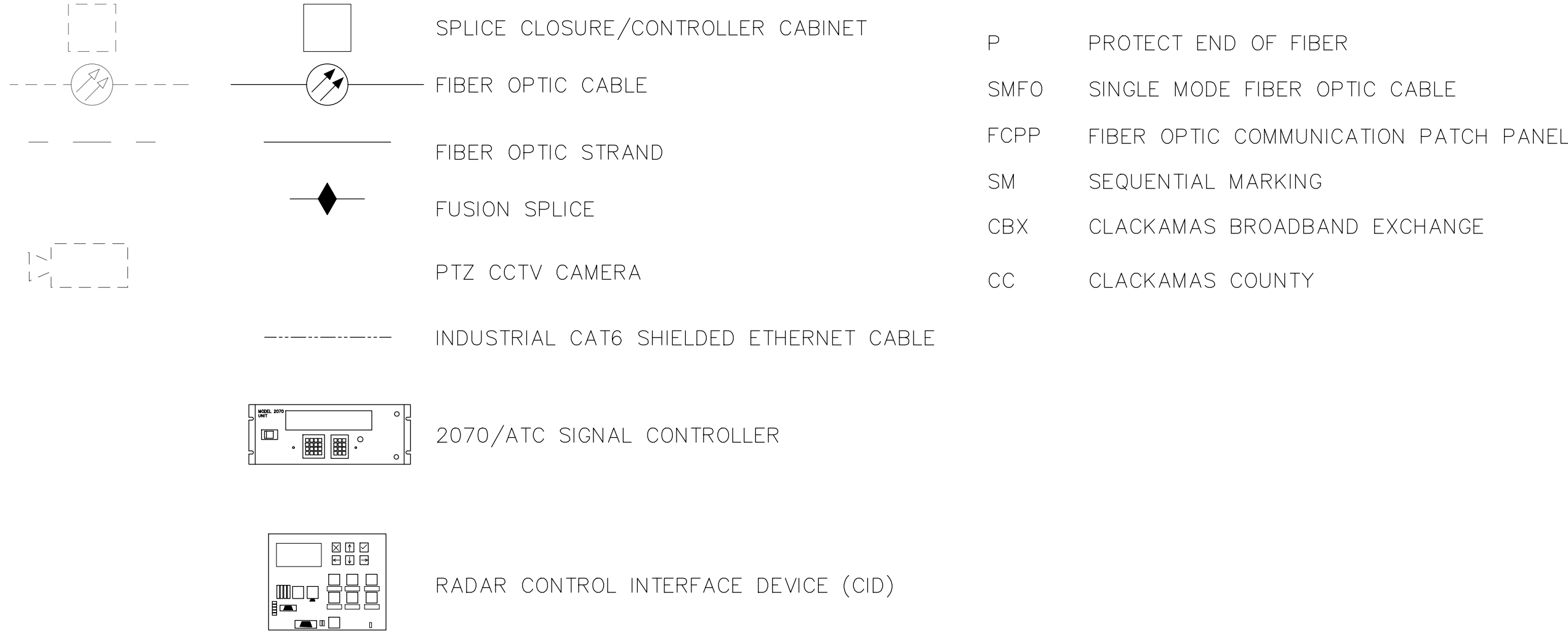


INTERCONNECT PLAN		CLACKAMAS COUNTY DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045		DIRECTOR DAN JOHNSON	
82ND DRIVE & JENNIFER ST SIGNAL REPLACEMENT		DESIGNED BY: C. GALIZA		NO. DATE:	
		DRAFTED BY: R. SNELLINGS			
		CHECKED BY: N. SCHROEDER			
				Sheet No.	
				IC-02	
				PROJECT NO.: 23303	
				DATE: JUNE 2024	

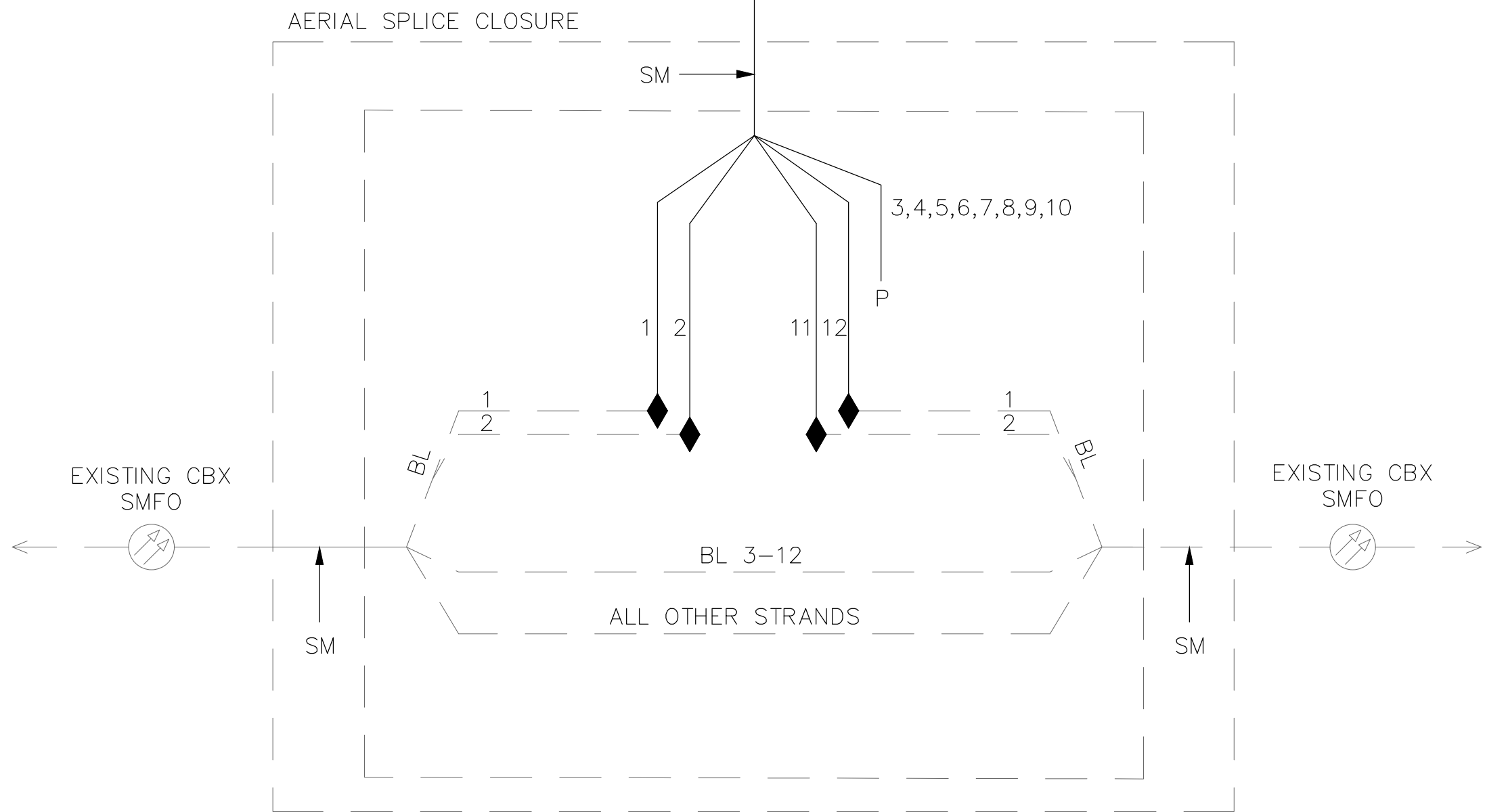
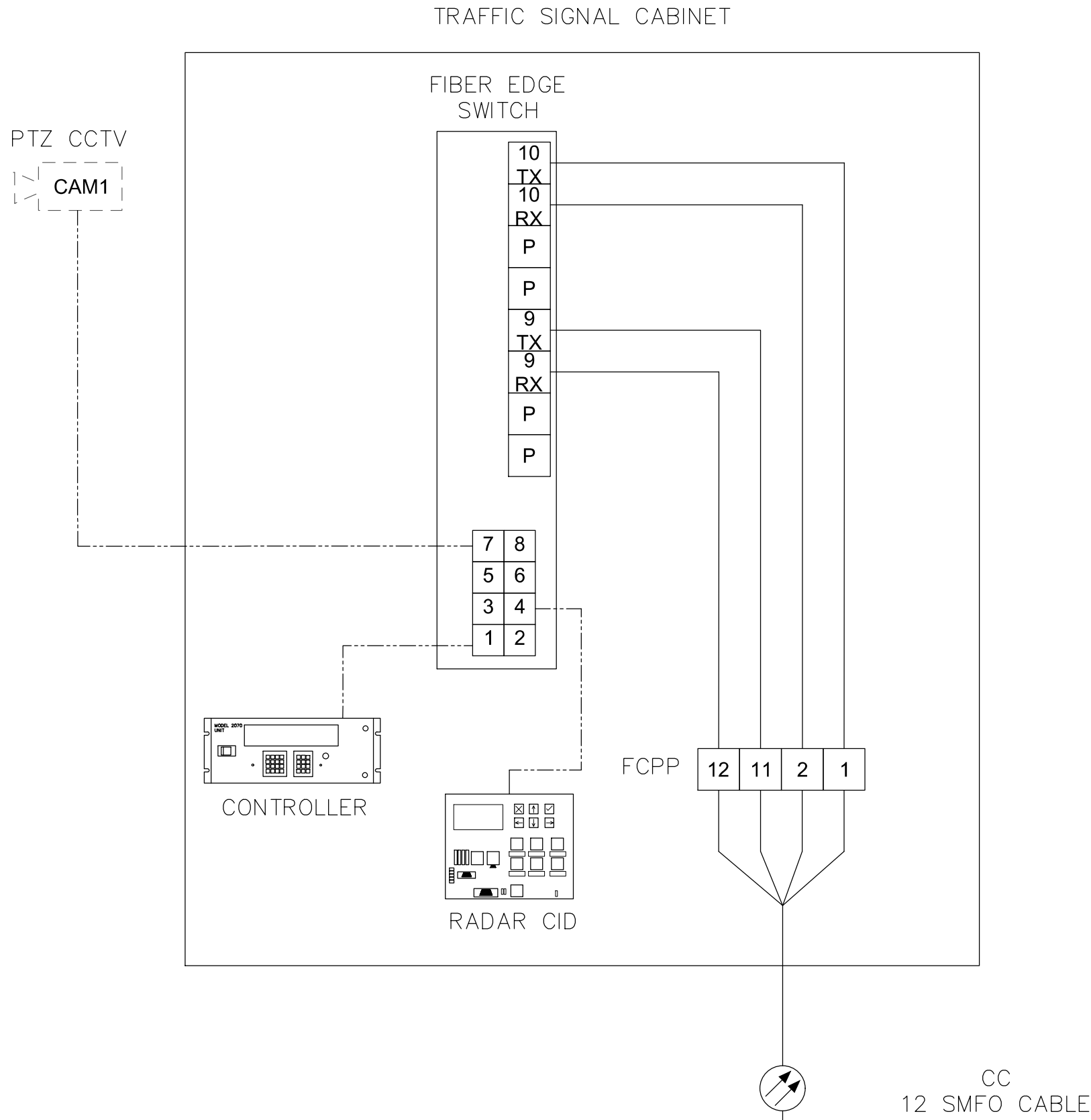
LEGEND

EXISTING

PROPOSED



FIBER COLOR CODE								
Fiber Color	Blue Tube	Orange Tube	Green Tube	Brown Tube	Slate Tube	White Tube	Red Tube	Black Tube
Blue (BL)	1	13	25	37	49	61	73	85
Orange (OR)	2	14	26	38	50	62	74	86
Green (GR)	3	15	27	39	51	63	75	87
Brown (BR)	4	16	28	40	52	64	76	88
Slate (SL)	5	17	29	41	53	65	77	89
White (WT)	6	18	30	42	54	66	78	90
Red (RD)	7	19	31	43	55	67	79	91
Black (BK)	8	20	32	44	56	68	80	92
Yellow (YL)	9	21	33	45	57	69	81	93
Violet (VL)	10	22	34	46	58	70	82	94
Rose (RS)	11	23	35	47	59	71	83	95
Aqua (AQ)	12	24	36	48	60	72	84	96



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COMMUNICATIONS LINE DIAGRAM

82ND DRIVE & JENNIFER ST
SIGNAL REPLACEMENT

PROJECT NO.: 23303

DATE: JUNE 2024

CLACKAMAS COUNTY

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



DIRECTOR

DAN JOHNSON

DESIGNED BY:

C. GALIZA

DRAFTED BY:

R. SNELLINGS

CHECKED BY:

N. SCHROEDER

REVISIONS

NO. DATE:

Sheet No.

IC-03

PROPOSED CONSTRUCTION STAGING PLAN

CONSTRUCTION STAGING PLAN
SE 82ND DR/SE JENNIFER ST
(CLACKAMAS)

Stage	Phase	Description of Work	Traffic Control Strategy	TPAR Strategy
1	1	- Construct drilled shafts and new signal foundations (Poles 1, 3, 4, 5, 8).	Close northeast bound thru travel lane during work hours. Reduce other approaches to single travel lane. Intersection controlled by flaggers (signal turned off).	Close northeast bound bike lane. Install temporary curb ramp and temporary pedestrian barrier around work zone during work hours. Pedestrians remain on existing sidewalk during non-work hours and east side curb ramp to remain open.
	2	- Erect and complete installation of traffic and pedestrian signals (Poles 3, 4, 5). - Install new service cabinet. - Install new controller cabinet. - Install junction boxes, conduit, and wiring on west corner. - Complete directional drilling and conduit installation across SE 82nd Drive (both legs). - Connect new cabinet and signals to new power service. - Install and configure new vehicle detection. - Run temporary power feed from new signal controller to existing pedestrian signals and pushbuttons (Existing Pole 2 and Existing Pole 4) via new permanent underground conuit and temporary sweeps. - Power on new signals, turn off existing vehicle signals, and convert to new vehicle signals operation.	Complete work from outside of roadway without significant traffic impacts.	Complete work from outside of roadway without impacts to pedestrian facilities.
	3	- Trench and install all conduit on east side. - Erect and complete installation of traffic and pedestrian signals (Poles 1, 2, 8, 9).	Close northeast bound thru travel lane during work hours. Reduce other approaches to single travel lane. Intersection controlled by flaggers (signal turned off).	Close northeast bound bike lane. Install temporary curb ramp and temporary pedestrian barrier around work zone during work hours. Pedestrians remain on existing sidewalk during non-work hours and east side curb ramp to remain open.
	4	- Remove existing vehicle signal strain poles on east side (Existing Pole 1 and Existing Pole 5). - Construct foundations, erect, and complete installation of pedestrian signals (Pole 2 and Pole 9). - Construct curb ramps and sidewalk on east side of intersection.	Close northeast bound thru travel lane during work hours. Reduce other approaches to single travel lane. Intersection controlled by flaggers (signal turned off).	Close northeast bound bike lane. Install temporary curb ramp and temporary pedestrian barrier around work zone during work hours. Route pedestrians along bike lane during non-work hours.
2	1	- Install temporary pedestrian signal and push button and provide temporary power feed overhead from new traffic signal pole (Pole 3). - Remove existing wooden vehicle signal strain pole and wooden pedestrian signal pole on west corner (Existing Pole 2 and Existing Pole 3). - Construct curb ramps and sidewalk on west corner. - Remove tempory pedestrian signal.	Complete work from outside of roadway without significant traffic impacts.	Close bike lane around west corner. Install temporary curb ramp and temporary pedestrian barrier in bike lane. Install temporary pedestrian signal and pushbutton for SE-NE crossing of Jennifer St.
3	1	- Install temporary pedestrian signal and push button, temporary wood pole, conduit, and wiring for temporary power feed. - Remove existing vehicle signal strain pole on north corner (Existing Pole 4). - Construct foundations, erect and complete installation of pedestrian signals (Pole 6 and Pole 7). - Construct retaining wall in north quadrant. - Construct curb ramps and sidewalk on north corner.	Close southwest bound right turn lane during work hours.	Close southwest bound bike lane and crosswalk crossing SE Jennifer St. Install temporary pedestrian detour around work zone. Install temporary pedestrian signal and pushbutton for NE-SW crossing of 82nd Dr.

CONSTRUCTION STAGING PLAN

82ND DRIVE & JENNIFER ST
SIGNAL REPLACEMENT

PROJECT NO.: 23303

DATE: JUNE 2024

CLACKAMAS COUNTY

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



DIRECTOR

DAN JOHNSON

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C. GALIZA

DRAFTED BY:

R. SNELLINGS

CHECKED BY:

N. SCHROEDER

REVISIONS

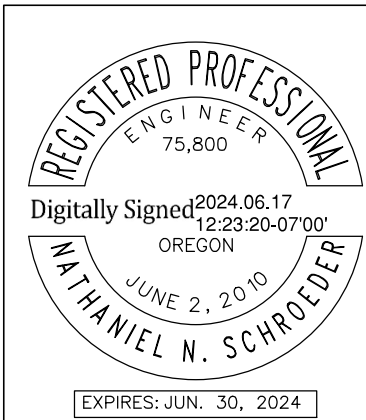
NO. DATE:

Sheet No.

TC-01



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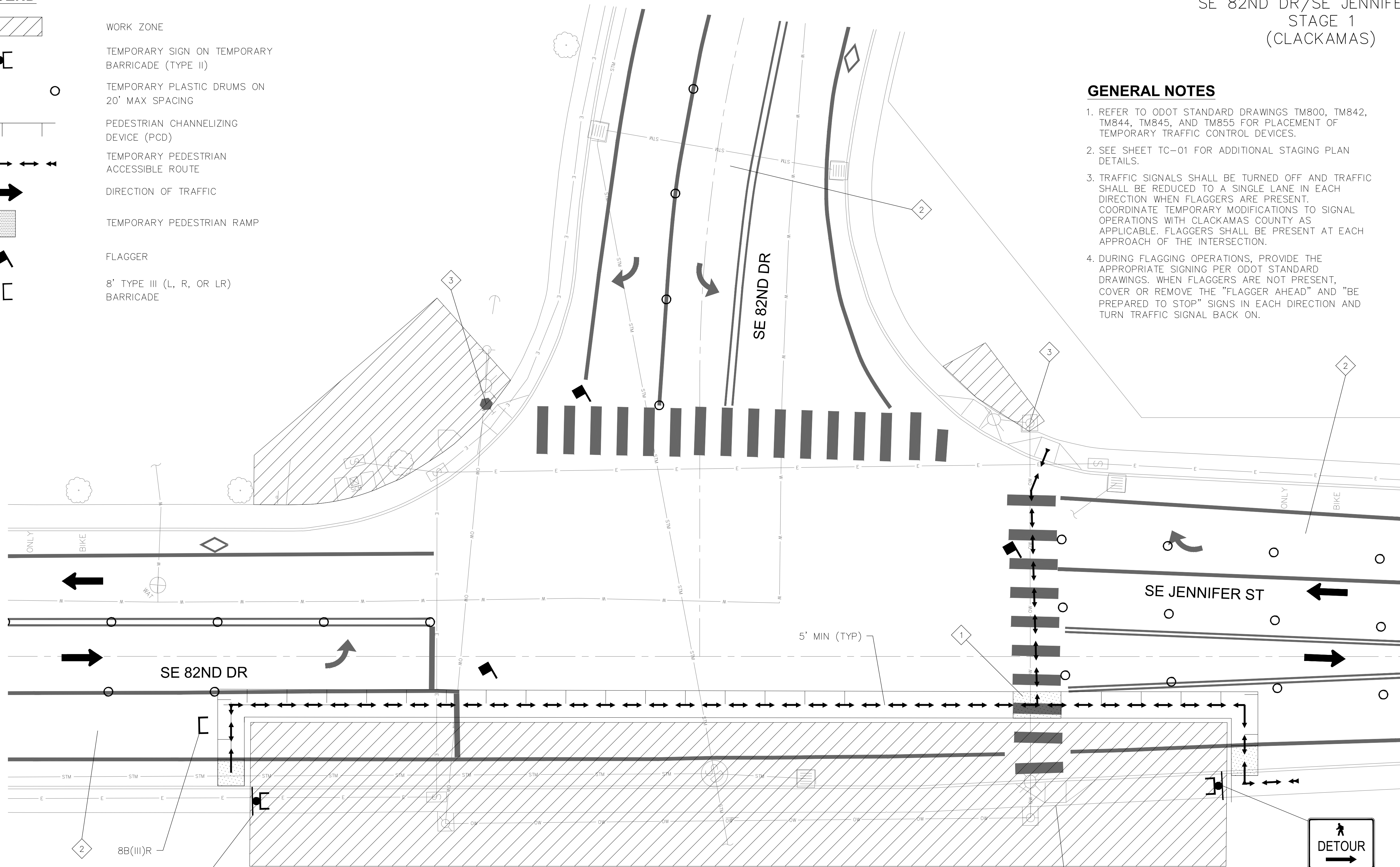
LEGEND

- WORK ZONE
- TEMPORARY SIGN ON TEMPORARY BARRICADE (TYPE II)
- TEMPORARY PLASTIC DRUMS ON 20' MAX SPACING
- PEDESTRIAN CHANNELIZING DEVICE (PCD)
- TEMPORARY PEDESTRIAN ACCESSIBLE ROUTE
- DIRECTION OF TRAFFIC
- TEMPORARY PEDESTRIAN RAMP
- FLAGGER
- 8' TYPE III (L, R, OR LR) BARRICADE

CONSTRUCTION STAGING PLAN
SE 82ND DR/SE JENNIFER ST
STAGE 1
(CLACKAMAS)

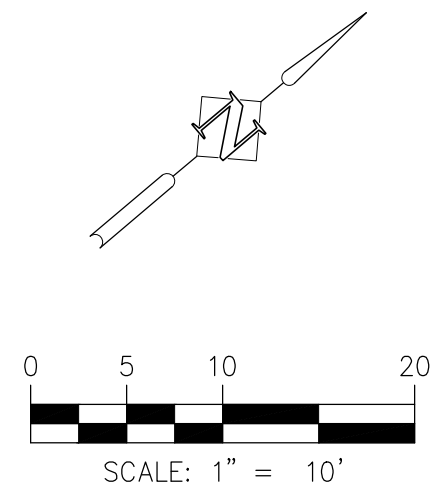
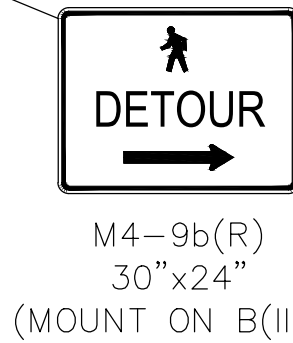
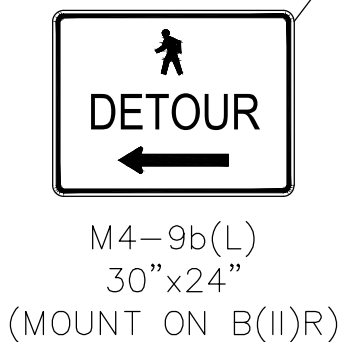
GENERAL NOTES

- REFER TO ODOT STANDARD DRAWINGS TM800, TM842, TM844, TM845, AND TM855 FOR PLACEMENT OF TEMPORARY TRAFFIC CONTROL DEVICES.
- SEE SHEET TC-01 FOR ADDITIONAL STAGING PLAN DETAILS.
- TRAFFIC SIGNALS SHALL BE TURNED OFF AND TRAFFIC SHALL BE REDUCED TO A SINGLE LANE IN EACH DIRECTION WHEN FLAGGERS ARE PRESENT. COORDINATE TEMPORARY MODIFICATIONS TO SIGNAL OPERATIONS WITH CLACKAMAS COUNTY AS APPLICABLE. FLAGGERS SHALL BE PRESENT AT EACH APPROACH OF THE INTERSECTION.
- DURING FLAGGING OPERATIONS, PROVIDE THE APPROPRIATE SIGNING PER ODOT STANDARD DRAWINGS. WHEN FLAGGERS ARE NOT PRESENT, COVER OR REMOVE THE "FLAGGER AHEAD" AND "BE PREPARED TO STOP" SIGNS IN EACH DIRECTION AND TURN TRAFFIC SIGNAL BACK ON.

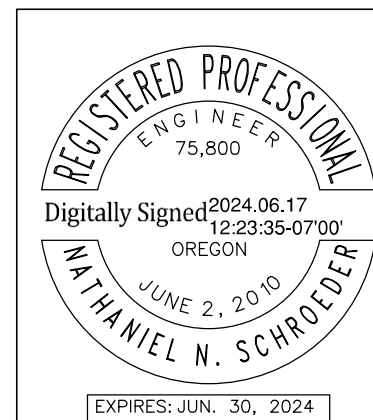


CONSTRUCTION NOTES

- TEMPORARY PEDESTRIAN LANDING ZONE
- PROVIDE SINGLE LANE CLOSURES ACCORDING TO TM842, TM843, AND TM855 DURING FLAGGING OPERATIONS.
- PROVIDE CONDUIT SWEEP FOR TEMPORARY POWER FEED TO EXISTING PEDESTRIAN SIGNALS.
- PROVIDE SHORING TO SUPPORT NEW SIGNAL FOUNDATIONS DURING REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT AND FOUNDATIONS.



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REVISIONS

NO. DATE:

Sheet No.

TC-02

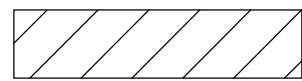
CONSTRUCTION STAGING PLAN

82ND DRIVE & JENNIFER ST
SIGNAL REPLACEMENT

PROJECT NO.: 23303

DATE: JUNE 2024

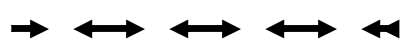
LEGEND



WORK ZONE



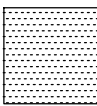
PEDESTRIAN CHANNELIZING
DEVICE (PCD)



TEMPORARY PEDESTRIAN
ACCESSIBLE ROUTE



DIRECTION OF TRAFFIC



TEMPORARY PEDESTRIAN RAMP

39 INSTALL 3/8" GALV. STEEL MESSENGER CABLE.

X-N
G INSTALL (X=NUMBER OF CABLES) CONTROL CABLES WITH
(N=NUMBER) (G=AWG WIRE SIZE) AWG CONDUCTORS.

N-12C INSTALL (N=NUMBER) NO. 12 AWG THWN WIRE(S) FOR PEDESTAL
COMMON.

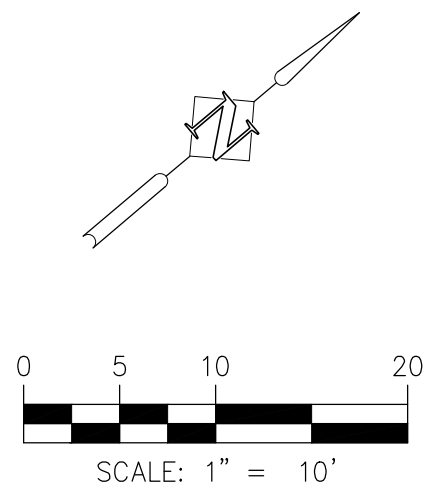
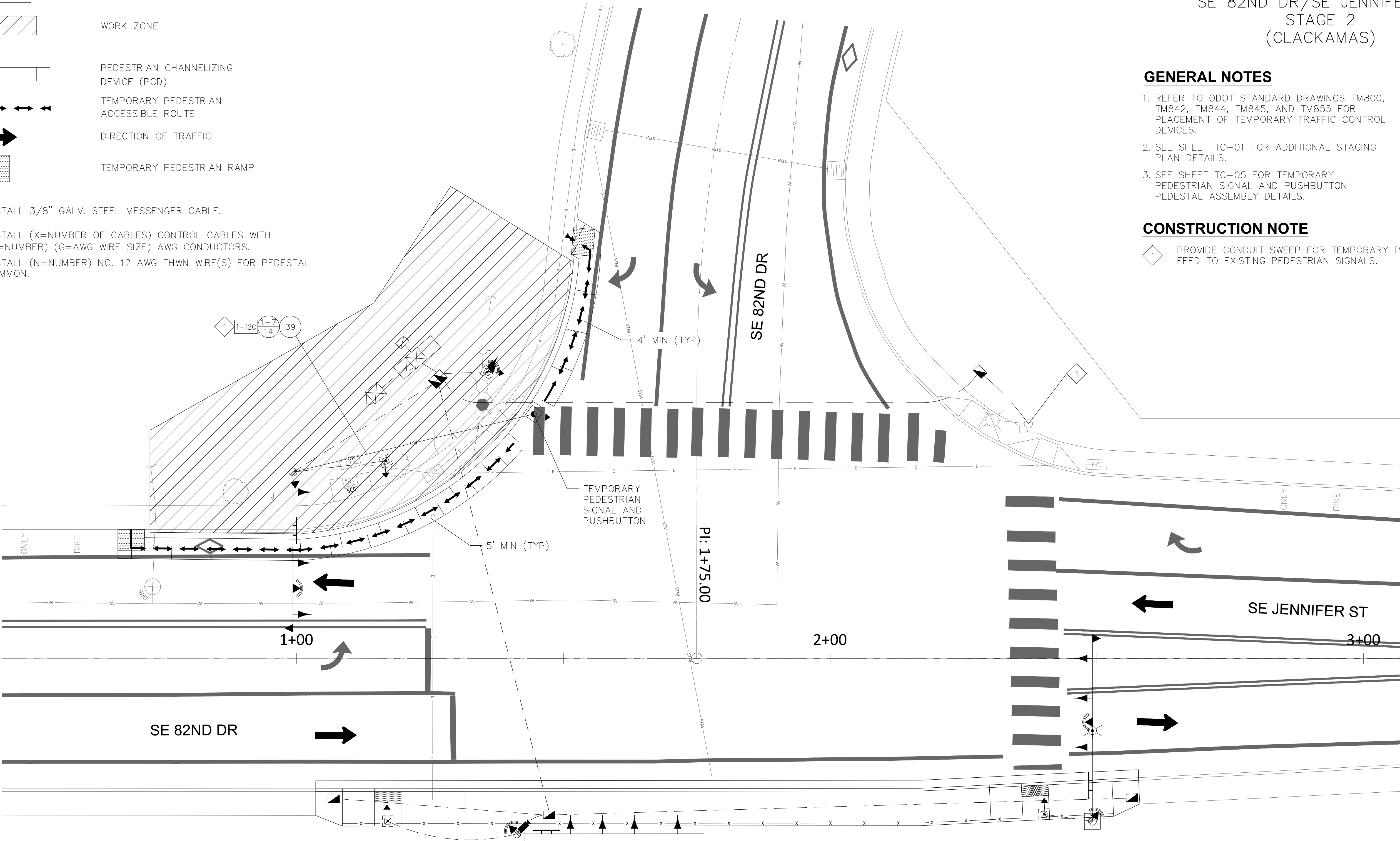
CONSTRUCTION STAGING PLAN
SE 82ND DR/SE JENNIFER ST
STAGE 2
(CLACKAMAS)

GENERAL NOTES

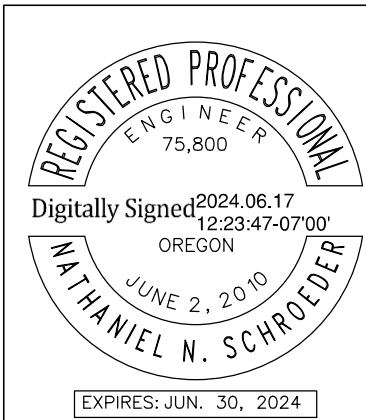
1. REFER TO ODOT STANDARD DRAWINGS TM800, TM842, TM844, TM845, AND TM855 FOR PLACEMENT OF TEMPORARY TRAFFIC CONTROL DEVICES.
2. SEE SHEET TC-01 FOR ADDITIONAL STAGING PLAN DETAILS.
3. SEE SHEET TC-05 FOR TEMPORARY PEDESTRIAN SIGNAL AND PUSHBUTTON PEDESTAL ASSEMBLY DETAILS.

CONSTRUCTION NOTE

- 1 PROVIDE CONDUIT SWEEP FOR TEMPORARY POWER FEED TO EXISTING PEDESTRIAN SIGNALS.



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CONSTRUCTION STAGING PLAN

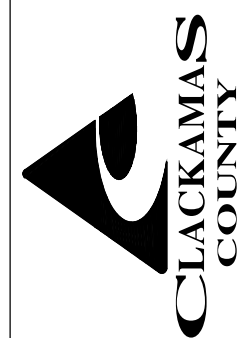
82ND DRIVE & JENNIFER ST
SIGNAL REPLACEMENT

PROJECT NO.: 23303

DATE: JUNE 2024

CLACKAMAS COUNTY

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



DAN JOHNSON

DIRECTOR

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REVISIONS

NO. DATE:

Sheet No.

TC-03

LEGEND

- WORK ZONE
- TEMPORARY SIGN ON TEMPORARY BARRICADE (TYPE II)
- TEMPORARY PLASTIC DRUMS ON 20' MAX SPACING
- PEDESTRIAN CHANNELIZING DEVICE (PCD)
- TEMPORARY PEDESTRIAN ACCESSIBLE ROUTE
- DIRECTION OF TRAFFIC
- TEMPORARY PEDESTRIAN RAMP
- WPX INSTALL SPECIAL (X=NON-STANDARD) TREATED WOOD POLE (SEE "POLE ENTRANCE CHART").
- AN INSTALL BACK GUY AND ANCHOR(S).
- TC INSTALL TERMINAL CABINET.
- S INSTALL (S=SIZE) INCH CONDUIT.
- 39 INSTALL 3/8" GALV. STEEL MESSENGER CABLE.
- X-N G INSTALL (X=NUMBER OF CABLES) CONTROL CABLES WITH (N=NUMBER) (G=AWG WIRE SIZE) AWG CONDUCTORS.
- N-12C INSTALL (N=NUMBER) NO. 12 AWG THWN WIRE(S) FOR PEDESTAL COMMON.
- CW INSTALL STANDARD CROSSWALK.

CONSTRUCTION STAGING PLAN
SE 82ND DR/SE JENNIFER ST
STAGE 3
(CLACKAMAS)

GENERAL NOTES

- REFER TO ODOT STANDARD DRAWINGS TM800, TM842, TM844, TM845, AND TM855 FOR PLACEMENT OF TEMPORARY TRAFFIC CONTROL DEVICES.
- SEE SHEET TC-01 FOR ADDITIONAL STAGING PLAN DETAILS.
- REFER TO ODOT STANDARD DRAWINGS TM452, TM453, AND TM454 FOR TEMPORARY WOOD STRAIN POLE DETAILS.
- SEE SHEET TC-05 FOR TEMPORARY PEDESTRIAN SIGNAL AND PUSHBUTTON PEDESTAL ASSEMBLY DETAILS.

CONSTRUCTION NOTES

- PROVIDE CONDUIT SWEEP FOR TEMPORARY POWER FEED TO EXISTING PEDESTRIAN SIGNALS.
- REMOVE CONFLICTING EXISTING STRIPING FOR TEMPORARY CROSSWALK.

CONSTRUCTION STAGING PLAN

82ND DRIVE & JENNIFER ST
SIGNAL REPLACEMENT

DATE: JUNE 2024 PROJECT NO.: 23303

CLACKAMAS COUNTY

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



DIRECTOR

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DESIGNED BY:
C. GALIZA

DRAFTED BY:
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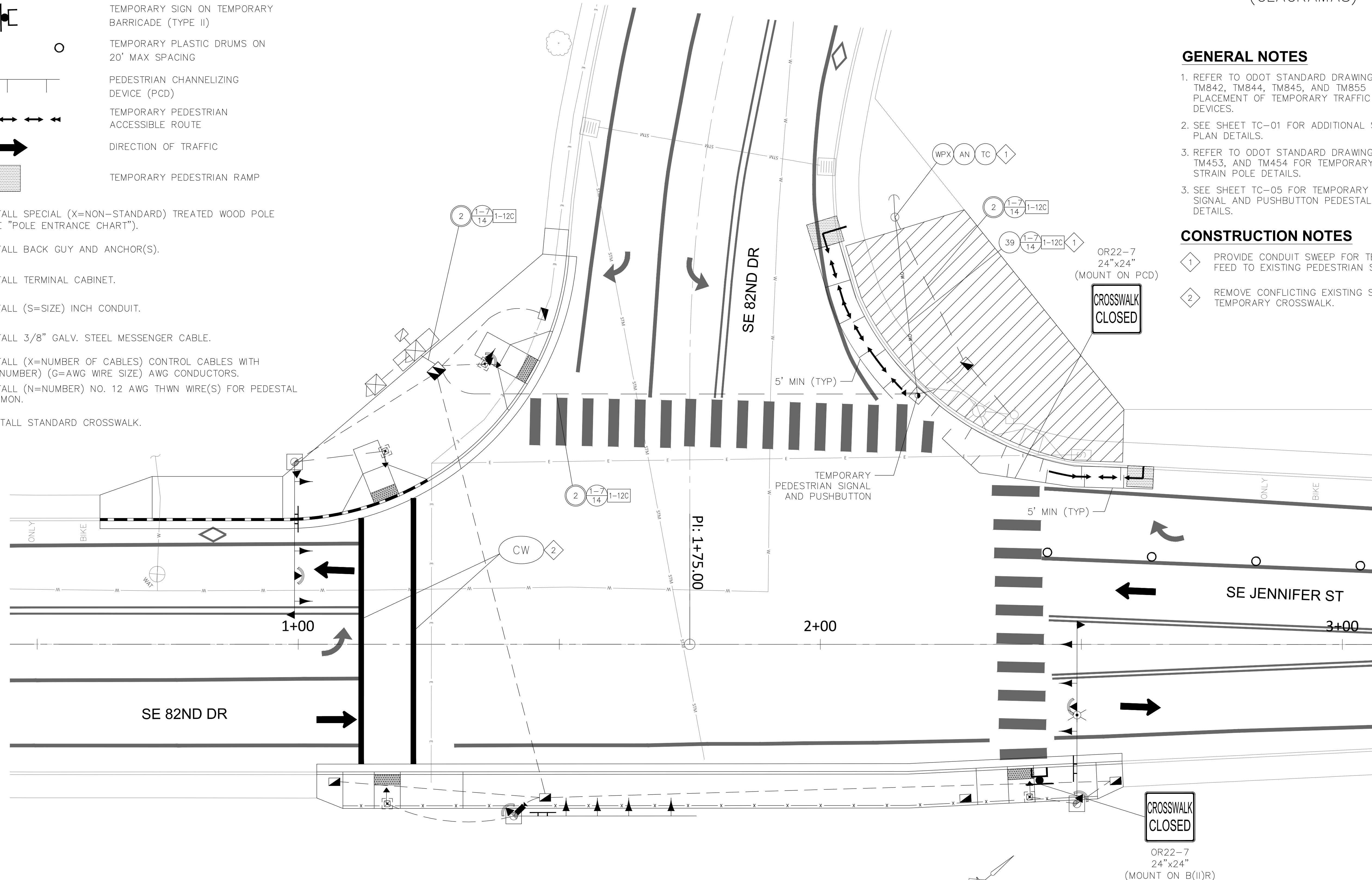
CHECKED BY:
N. SCHROEDER

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NO. DATE:

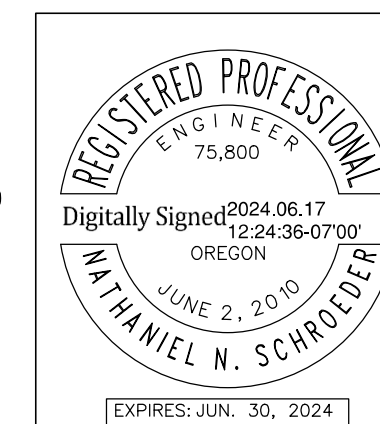
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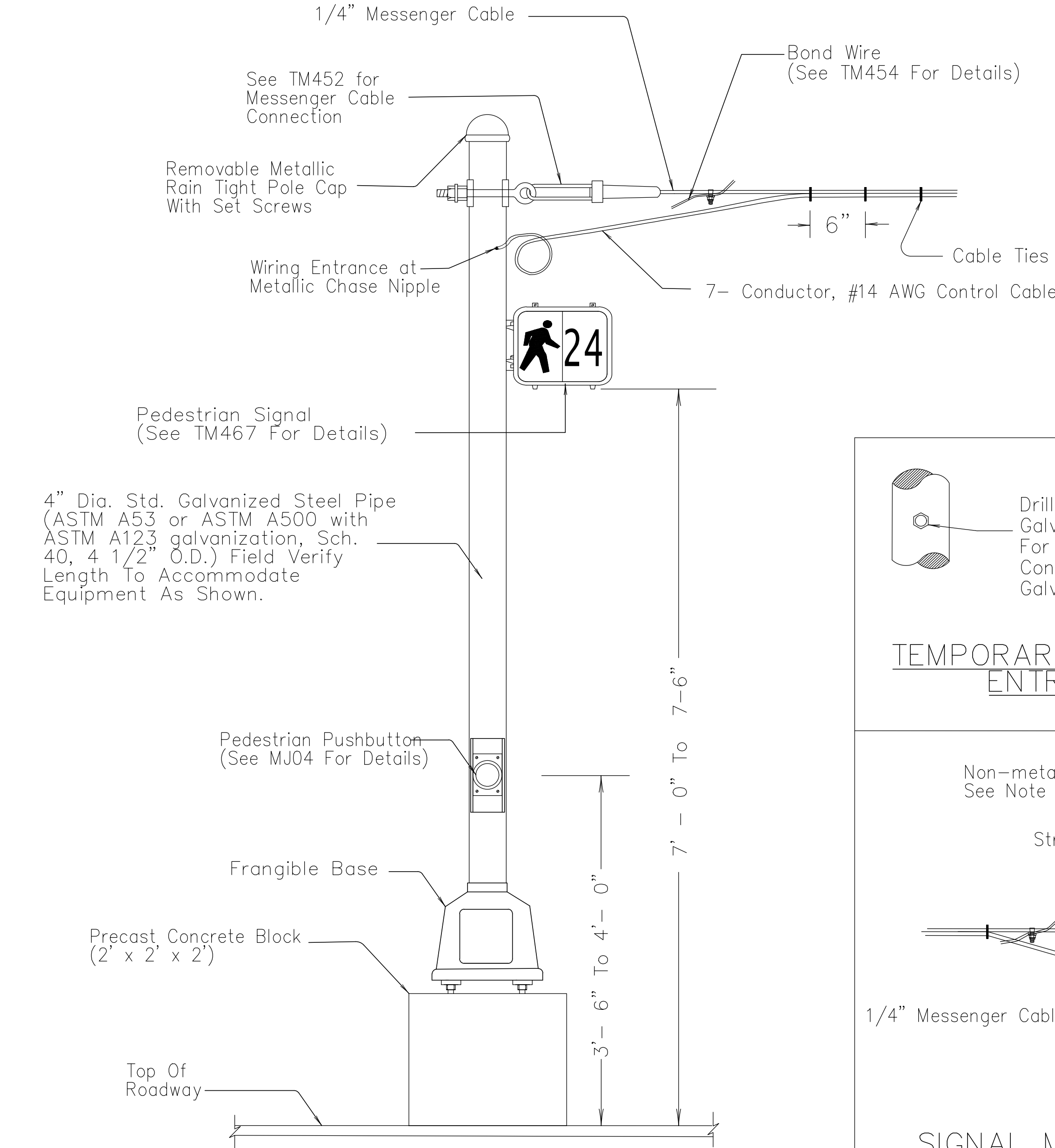
TC-04



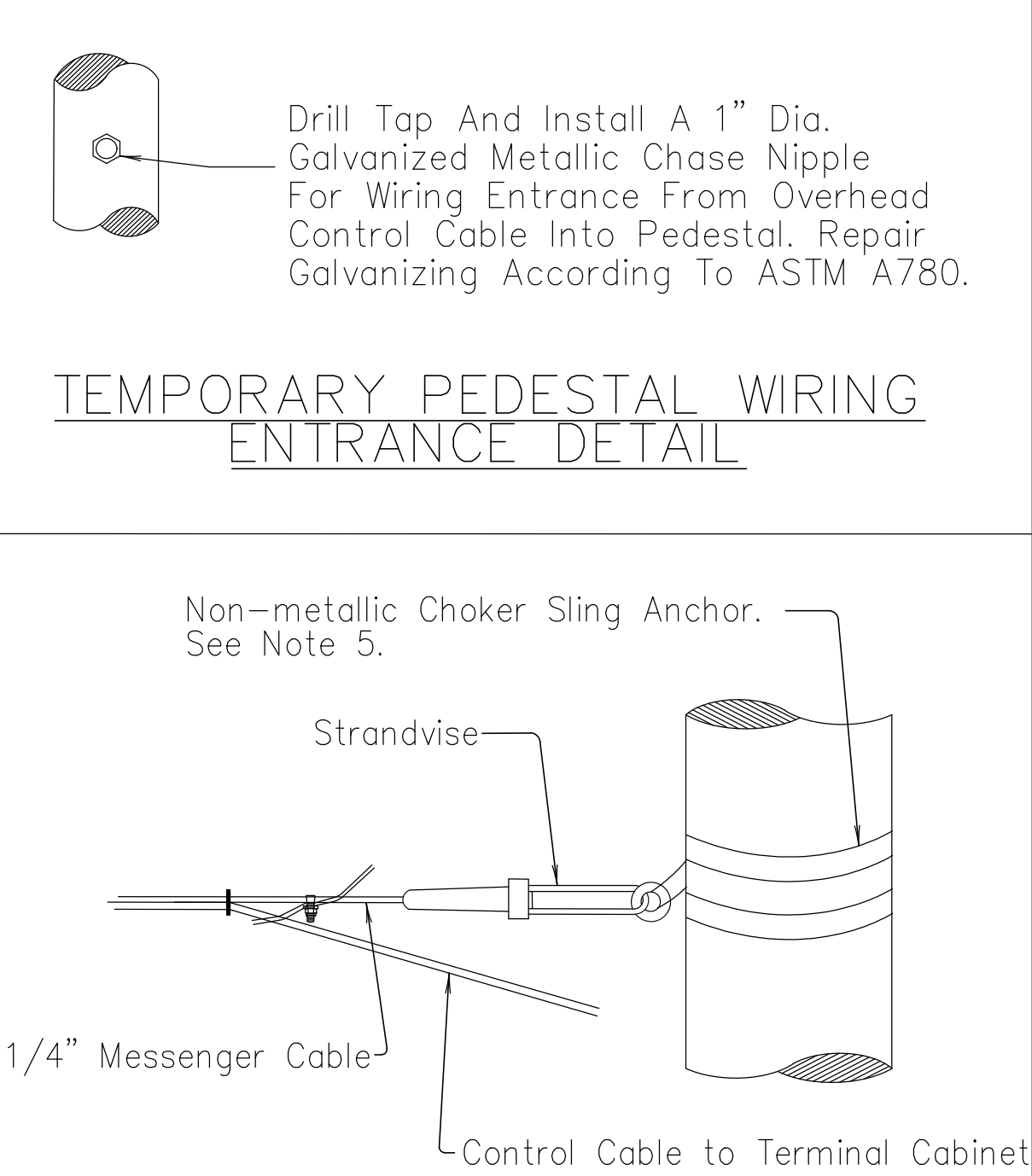
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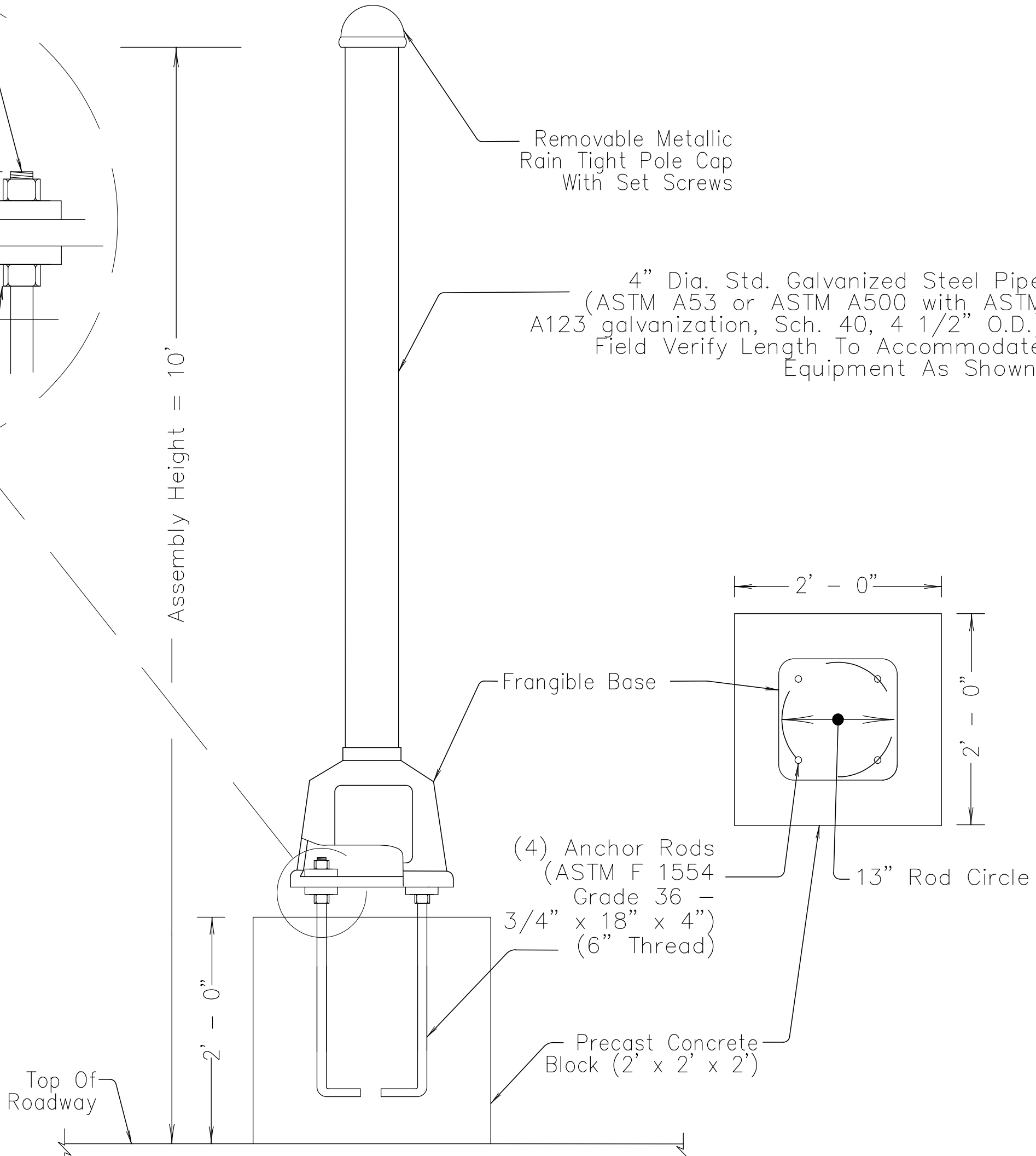
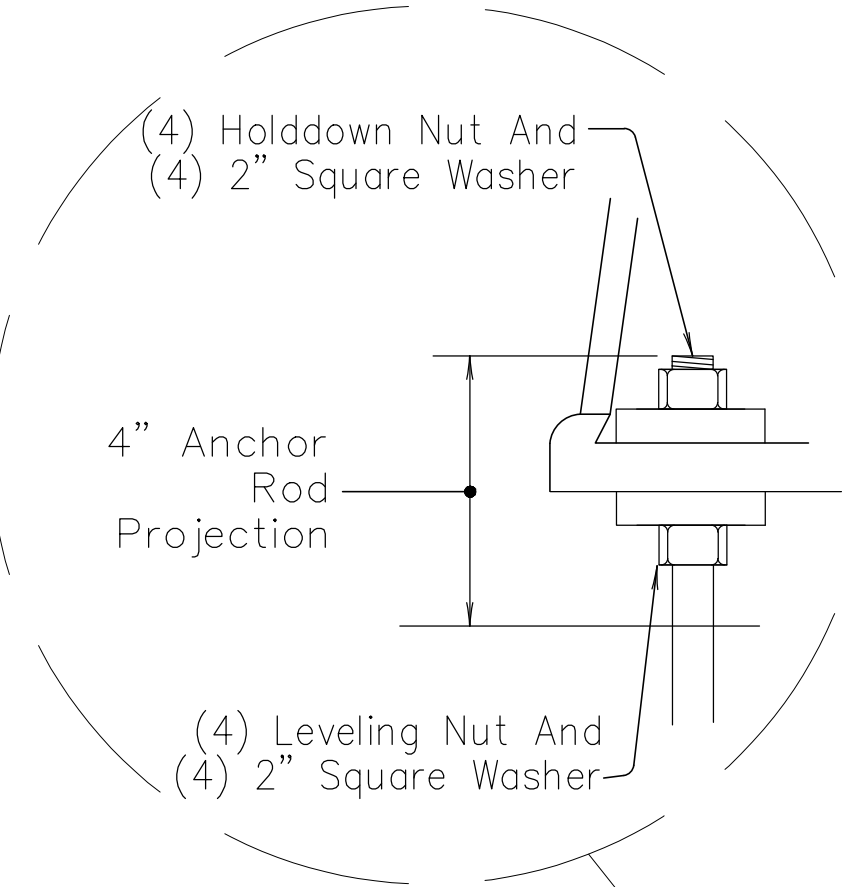




TEMPORARY TRAFFIC SIGNAL PEDESTAL ASSEMBLY



SIGNAL MAST ARM POLE OR STRAIN POLE ATTACHMENT DETAIL



TEMPORARY PEDESTAL DETAILS

- Notes:
1. All Bolts, Nuts And Washers To Conform To 02560.20 And Be Galvanized Steel According To 02560.40 Unless Noted Otherwise.
 2. All Anchor Rods To Be Galvanized Steel Conforming To 02560.30.
 3. Equipment Shown In the Assembly Detail Is An Example Of The Equipment That May Be Mounted. Install Equipment As Shown.
 4. Use Spare Conductor in Control Cable As Ground Wire. Connect to Mast Arm Pole Grounding.
 5. Non-metallic Choker Sling Anchor to be Global Industrial 3' Choker Sling Anchor model number T9F761308 or approved equal.

CONSTRUCTION STAGING DETAILS

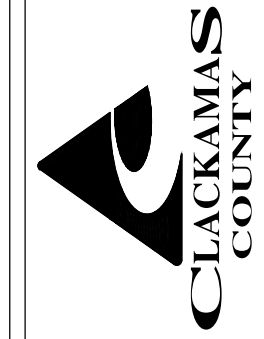
CONSTRUCTION STAGING DETAILS

82ND DRIVE & JENNIFER ST
SIGNAL REPLACEMENT

PROJECT NO.: 23303

CLACKAMAS COUNTY

DEPT. OF TRANSPORTATION
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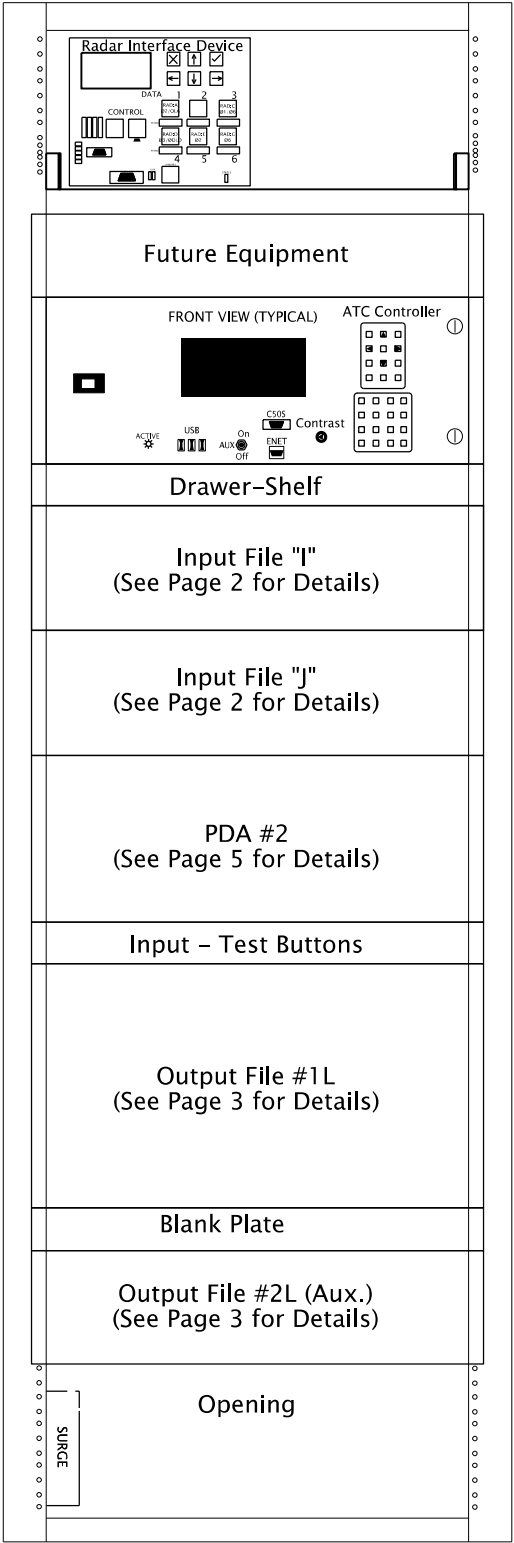
REVISIONS

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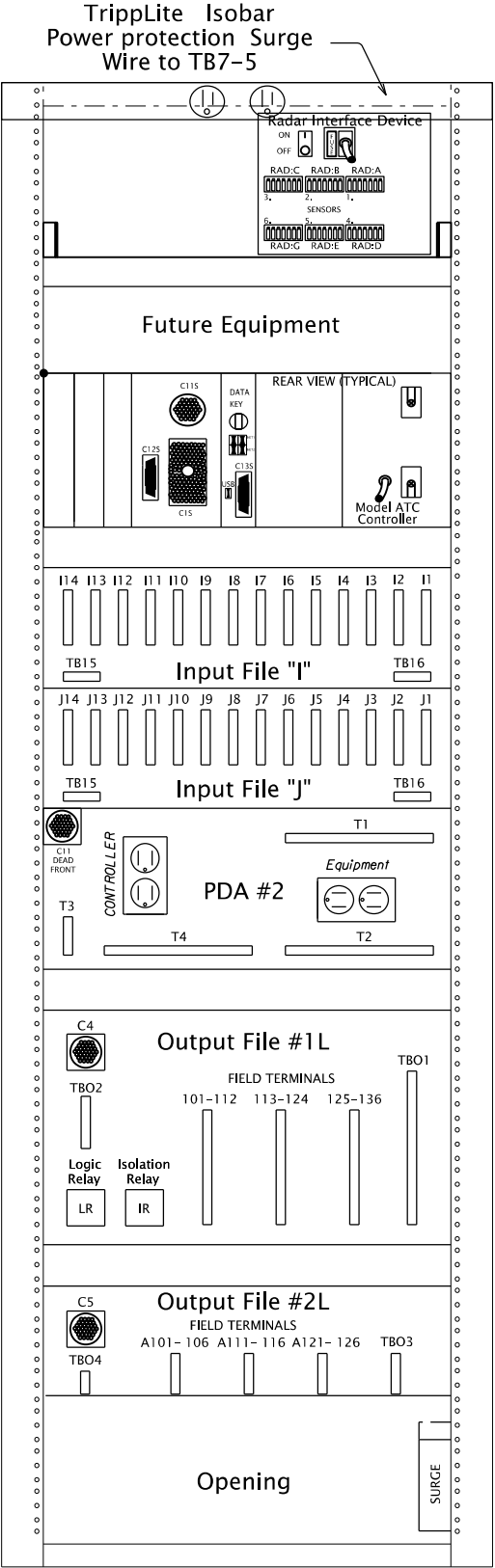
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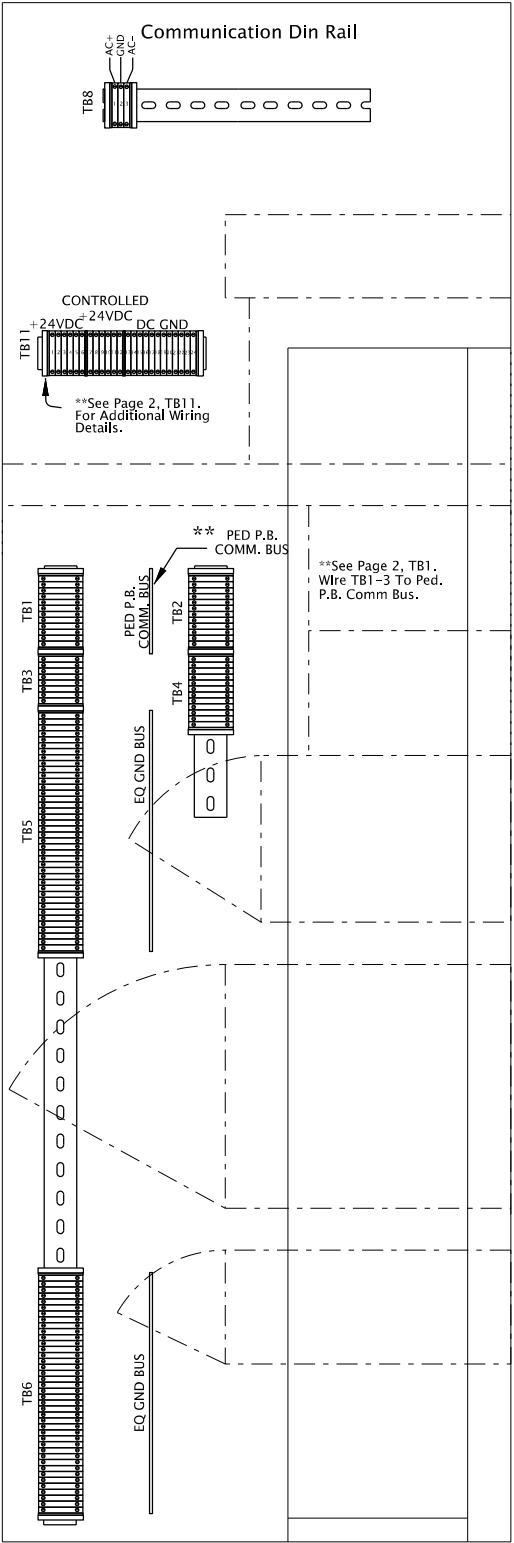




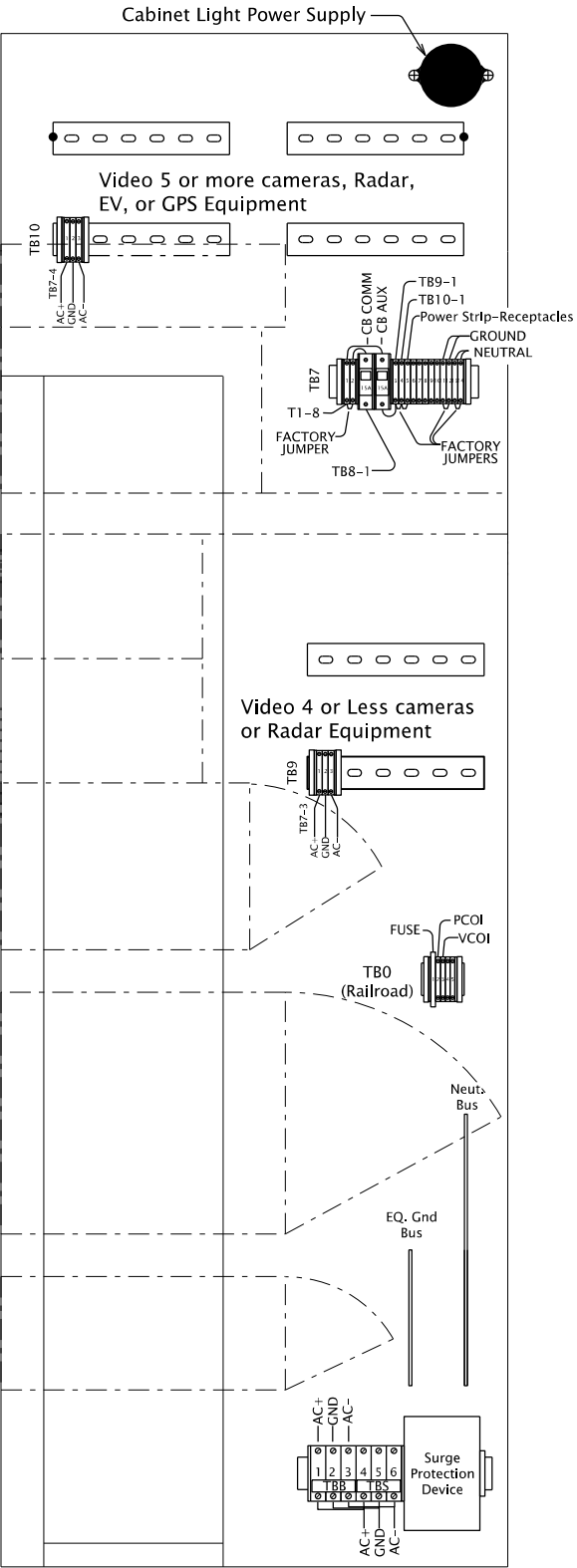
FRONT VIEW



REAR VIEW

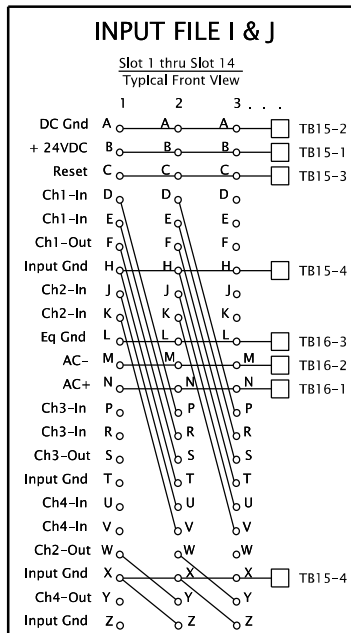


SIDE VIEW (REAR LEFT)



SIDE VIEW (REAR RIGHT)

PAGE 1 of 7	332S ODOT STRETCH CABINET HOUSING	REV. NO.	DATE	INITIAL	REMARKS	INTERSECTION: ● SE 82nd Drive @ SE Jennifer Street Clackamas County, OR HWY#: XXX M.P.#: XXX.XX TSSU ID#: XXXXX	OREGON DEPARTMENT OF TRANSPORTATION TRAFFIC - ROADWAY SECTION 332S ODOT CABINET PRINT 08/17/22
		1	08/17/22	JS	UPDATED LEVELS AND REFERENCES SEE WORD DOC		



INPUT FILE - WIRING
TYPICAL WIRING DETAILS

TYPICAL TERMINALS

Spare
Ch1-Output
Ch2-Output
Ch1-Input
Ch1-Input
Ch2-Input
Ch2-Input
Equip Gnd

TYPICAL TERMINALS

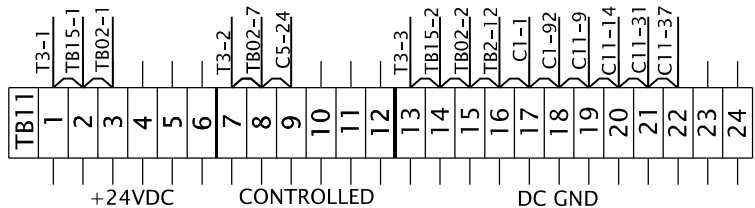
Spare
Ch1-Output
Ch2-Output
Ch1-Input
Ch1-Input
Ch2-Input
Ch2-Input
Equip Gnd

I1	I2	I3	I4	I5	I6	I7	I8	I9	I10	I11	I12	I13	I14
222				222	222							242	242
Ø 1 C1-56 MT1 MT13 C1-60 Ø 1	Ø 1 C11-16 MT29 MT30 C11-20 Ø 1	Ø 2 C1-39 MT2 MT3 C1-43 Ø 2	Ø 2 C1-63 MT4 MT5 C1-76 Ø 2	Ø 2 C1-47 MT6 MT31 C11-10 Ø 2	Ø 3 C1-58 MT7 MT14 C1-62 Ø 3	Ø 3 C11-18 MT32 MT33 C11-22 Ø 3	Ø 4 C1-41 MT8 MT9 C1-45 Ø 4	Ø 4 C1-65 MT10 MT11 C1-78 Ø 4	Ø 4 C1-49 MT12 MT34 C11-12 Ø 4	SPARE C11-23 SPARE C11-25 SPARE	SPARE C11-24 SPARE C11-26 SPARE	2 PED C1-67 4 PED C1-69	6 PED C1-68 8 PED C1-70
J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J11	J12	J13	J14
Ø 5 C1-55 MT15 MT27 C1-59 Ø 5	Ø 5 C11-15 MT35 MT36 C11-19 Ø 5	Ø 6 C1-40 MT16 MT17 C1-44 Ø 6	Ø 6 C1-64 MT18 MT19 C1-77 Ø 6	Ø 6 C1-48 MT20 MT37 C11-11 Ø 6	Ø 7 C1-57 MT21 MT28 C1-61 Ø 7	Ø 7 C11-17 MT38 MT39 C11-21 Ø 7	Ø 8 C1-42 MT22 MT23 C1-46 Ø 8	Ø 8 C1-66 MT24 MT25 C1-79 Ø 8	Ø 8 C1-50 MT26 MT40 C11-13 Ø 8	SPARE C1-54 GPS	PCOI C1-51 VCOI	EVA C1-71 EVC	EVB C1-72 EVD

INPUT FILE I & J (FRONT VIEW)
(NOT TO SCALE)

I14	I13	I12	I11	I10	I9	I8	I7	I6	I5	I4	I3	I2	I1
Sp 68 Fp 70 Dp 1-4 Ep 1-5 Kp 1-6 L	Sp 67 Fp 69 Dp 1-1 Ep 1-2 Kp 1-3 L	Sp 24 Fp 26 Dp 2-5 Ep 2-6 Kp 2-8 L	Sp 23 Fp 25 Dp 2-1 Ep 2-2 Kp 2-4 L	Sp 49 Fp 12 Dp 5-37 Ep 5-38 Kp 5-40 L	Sp 65 Fp 78 Dp 5-33 Ep 5-34 Kp 5-36 L	Sp 41 Fp 45 Dp 5-29 Ep 5-30 Kp 5-32 L	Sp 18 Fp 22 Dp 5-25 Ep 5-26 Kp 5-28 L	Sp 58 Fp 62 Dp 5-21 Ep 5-22 Kp 5-24 L	Sp 47 Fp 10 Dp 5-17 Ep 5-18 Kp 5-20 L	Sp 63 Fp 76 Dp 5-13 Ep 5-14 Kp 5-16 L	Sp 39 Fp 43 Dp 5-9 Ep 5-10 Kp 5-12 L	Sp 16 Fp 20 Dp 5-5 Ep 5-6 Kp 5-8 L	Sp 56 Fp 60 Dp 5-1 Ep 5-2 Kp 5-4 L
+24 VDC Bus DC Gnd C1-102 TB15-3 C1-14	+24 VDC Bus DC Gnd C1-102 TB15-3 C1-14	+24 VDC Bus DC Gnd C1-102 TB15-3 C1-14	+24 VDC Bus DC Gnd C1-102 TB15-3 C1-14	+24 VDC Bus DC Gnd C1-102 TB15-3 C1-14	+24 VDC Bus DC Gnd C1-102 TB15-3 C1-14	+24 VDC Bus DC Gnd C1-102 TB15-3 C1-14	+24 VDC Bus DC Gnd C1-102 TB15-3 C1-14	+24 VDC Bus DC Gnd C1-102 TB15-3 C1-14	+24 VDC Bus DC Gnd C1-102 TB15-3 C1-14	+24 VDC Bus DC Gnd C1-102 TB15-3 C1-14	+24 VDC Bus DC Gnd C1-102 TB15-3 C1-14	+24 VDC Bus DC Gnd C1-102 TB15-3 C1-14	+24 VDC Bus DC Gnd C1-102 TB15-3 C1-14
1 2 3 4 TB15	1 2 3 4 TB15	1 2 3 4 TB15	1 2 3 4 TB15	1 2 3 4 TB15	1 2 3 4 TB15	1 2 3 4 TB15	1 2 3 4 TB15	1 2 3 4 TB15	1 2 3 4 TB15	1 2 3 4 TB15	1 2 3 4 TB15	1 2 3 4 TB15	1 2 3 4 TB15
+24 DC VDC Gnd Reset Input Gnd	+24 DC VDC Gnd Reset Input Gnd	+24 DC VDC Gnd Reset Input Gnd	+24 DC VDC Gnd Reset Input Gnd	+24 DC VDC Gnd Reset Input Gnd	+24 DC VDC Gnd Reset Input Gnd	+24 DC VDC Gnd Reset Input Gnd	+24 DC VDC Gnd Reset Input Gnd	+24 DC VDC Gnd Reset Input Gnd	+24 DC VDC Gnd Reset Input Gnd	+24 DC VDC Gnd Reset Input Gnd	+24 DC VDC Gnd Reset Input Gnd	+24 DC VDC Gnd Reset Input Gnd	+24 DC VDC Gnd Reset Input Gnd
C1=Ø C11=Δ TB=○	C1=Ø C11=Δ TB=○	C1=Ø C11=Δ TB=○	C1=Ø C11=Δ TB=○	C1=Ø C11=Δ TB=○	C1=Ø C11=Δ TB=○	C1=Ø C11=Δ TB=○	C1=Ø C11=Δ TB=○	C1=Ø C11=Δ TB=○	C1=Ø C11=Δ TB=○	C1=Ø C11=Δ TB=○	C1=Ø C11=Δ TB=○	C1=Ø C11=Δ TB=○	C1=Ø C11=Δ TB=○

INPUT FILE I & J (REAR VIEW)
(NOT TO SCALE)



Ph 2	Ped PB	1	I13-D
Ph 4	Ped PB	2	I13-J
PB Common		3	I13-K
Ph 8	Ped PB	4	I14-D
Ph 8	Ped PB	5	I14-J
PB Common		6	I14-K
Flash Sense		7	C1-81, TB02-4
Stop Time		8	C1-82, TB02-3
Monitor Reset		9	TB02-5
Advance		10	C1-80
Adv. Enable		11	C1-53
NC		12	NC

Spare	1	I11-D
Spare	2	I11-E
Spare	3	I11-J
Spare	4	I11-K
Spare	5	I12-D
Spare	6	I12-E
Spare	7	I12-J
Spare	8	I12-K
Spare	9	J11-D
Spare	10	J11-E
GPS Clock	11	J11-J
GPS Clock DC Gnd	12	TB11-16

Det DC GND	1	J14-K
Det DC GND	2	J13-K
Ø EVA	3	J13-D
Ø EVC	4	J13-J
Det +24VDC	5	J13-E
Ø EVB	6	J14-D
Ø EVD	7	J14-J
Det +24VDC	8	J14-E

Spare	1	Spare
Spare	2	Spare
Spare	3	Spare
Spare	4	Spare
Spare	5	Spare
Spare	6	Spare
Spare	7	Spare
Spare	8	Spare
Spare	9	Spare
Spare	10	Spare
Spare	11	Spare
Spare	12	Spare

RR AC+	1	T1-5
PCOI	2	J12-D
VCOI	3	J12-J
	4	
	5	

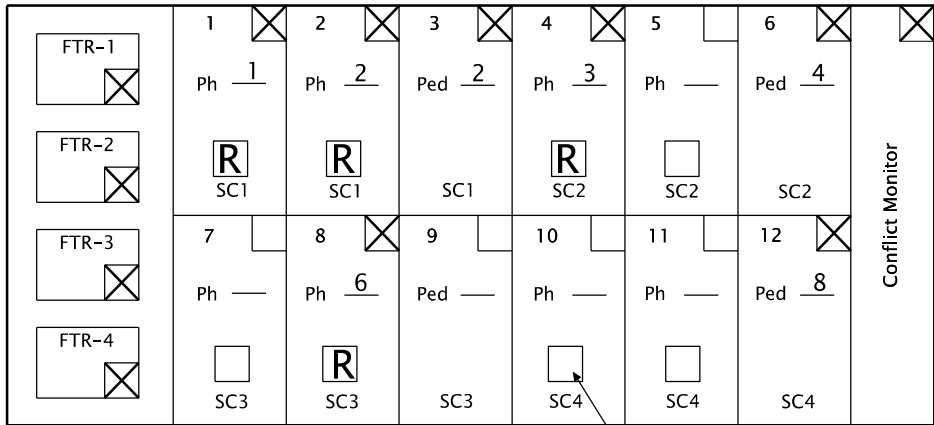
* NOTE
See Pages 1 & 5 For
Railroad Interconnect
Wiring Details

1	3	1	I1-D
		2	I1-E
1	4, 5	3	I1-J
		4	I1-K
		5	I2-D
		6	I2-E
		7	I2-J
		8	I2-K
		9	I3-D
		10	I3-E
		11	I3-J
		12	I3-K
		13	I4-D
		14	I4-E
		15	I4-J
		16	I4-K
2	1 BIKE	17	I5-D
		18	I5-E
		19	I5-J
		20	I5-K
3	11	21	I6-D
		22	I6-E
3	12, 13	23	I6-J
		24	I6-K
		25	I7-D
		26	I7-E
		27	I7-J
		28	I7-K
		29	I8-D
		30	I8-E
		31	I8-J
		32	I8-K
		33	I9-D
		34	I9-E
		35	I9-J
		36	I9-K
		37	I10-D
		38	I10-E
		39	I10-J
		40	I10-K

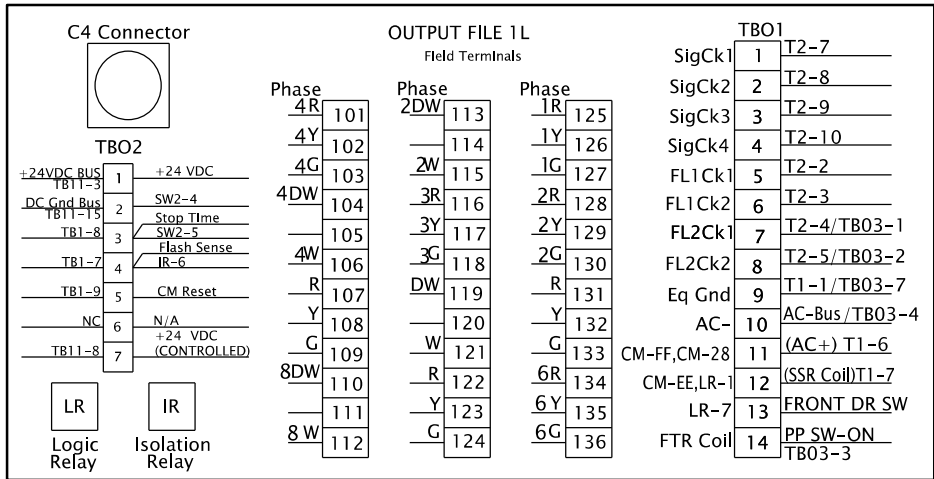
TERMINAL BLOCK DEFINITIONS

TB0 - Railroad
TB1 - PEDS & Controller
TB2 - Spares - GPS Clock
TB3 - EV Preemption
TB4 - AUX EV Preemption
TB5 - I File Loop Feeders
TB6 - J File Loop Feeders
TB7 - COMM. and AUX. Breakers
TB8 - COMM. Equipment
TB9 - Video or Radar Din Rail
TB10 - Video or Radar Din Rail
TB11 - 24VDC Bus Bar

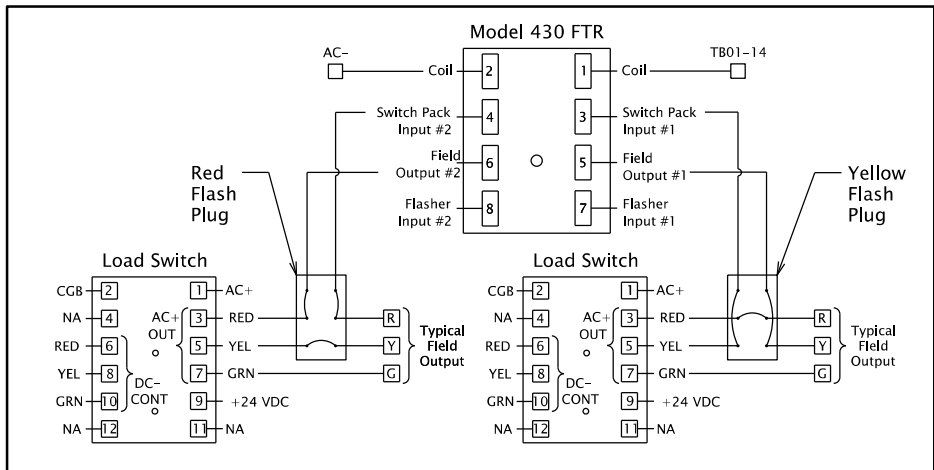
1	J1-D
2	J1-E
3	J1-J
4	J1-K
5	J2-D
6	J2-E
7	J2-J
8	J2-K
9	J3-D
10	J3-E
11	J3-J
12	J3-K
13	J4-D
14	J4-E
15	J4-J
16	J4-K
17	J5-D
18	J5-E
19	J5-J
20	J5-K
21	J6-D
22	J6-E
23	J6-J
24	J6-K
25	J7-D
26	J7-E
27	J7-J
28	J7-K
29	J8-D
30	J8-E
31	J8-J
32	J8-K
33	J9-D
34	J9-E
35	J9-J
36	J9-K
37	J10-D
38	J10-E
39	J10-J
40	J10-K



OUTPUT FILE 1L (FRONT VIEW)
(NOT TO SCALE)



OUTPUT FILE 1L (REAR VIEW)
(NOT TO SCALE)



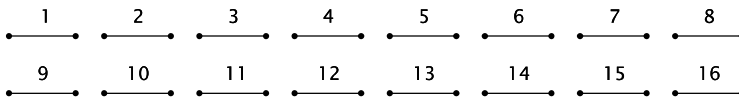
FIELD OUTPUTS - TYPICAL WIRING

CONFLICT MONITOR DIODE CARD

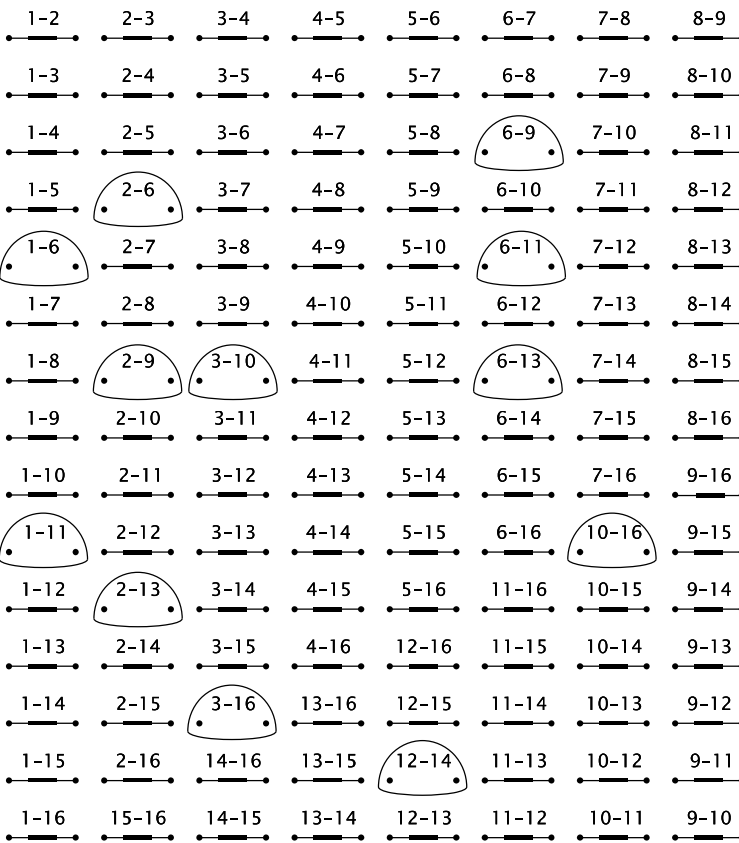
CHANNEL ASSIGNMENT

Ch.1	Ph 1	Ch.5	NU	Ch.9	OLA FY	Ch.13	Ped 2
Ch.2	Ph 2	Ch.6	Ph 6	Ch.10	OLA	Ch.14	Ped 4
Ch.3	Ph 3	Ch.7	NU	Ch.11	OLD	Ch.15	NU
Ch.4	NU	Ch.8	NU	Ch.12	OLD FY	Ch.16	Ped8

YELLOW INHIBIT JUMPERS



DIODES - Diode Removed Makes Movement Allowable (Diode IN4148)



CONFLICT MONITOR DIODE CARD CUTOUT

(NOT TO SCALE)

CONFLICT MONITOR - TYPICAL CONNECTOR PIN ASSIGNMENTS

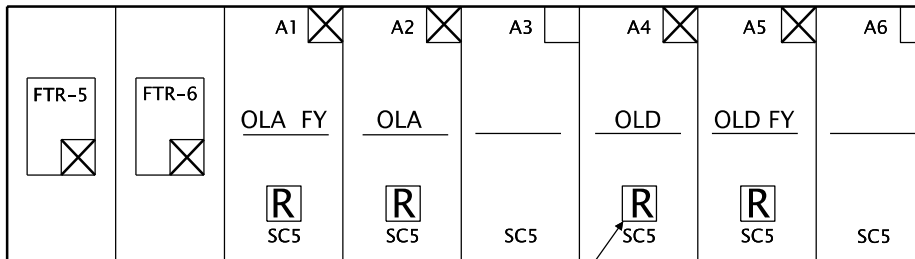
Term	Function	Pin	CHANNEL ASSIGNMENTS (TYPICAL)		Pin	Function	Term
130	SP2-G	1			A	SP2-Y	129
115	SP3-W	2	B	SP8-G	136		
135	SP8-Y	3	C	SP9-W	121		
103	SP5-G	4	D	SP5-Y	102		
106	SP6-W	5	E	SP11-G	109		
108	SP-11Y	6	F	SP12-W	112		
133	SP7-G	7	H	SP7-Y	132		
114	SP3-Y	8	J	SP1-G	127		
126	SP1-Y	9	K	SP9-Y	120		
124	SP10-G	10	L	SP10-Y	123		
105	SP6-Y	11	M	SP4-G	118		
117	SP4-Y	12	N	SP12-Y	111		
A123	ASP1-G	13	P	NC	-		
-	NC	14	R	ASP2-G	A126		
-	T&B	15	S	ASP4-G	A116		
-	T&B	16	T	NC	-		
-	NC	17	U	T&B	-		
-	T&B	18	V	ASP5-G	A103		
-	NC	19	W	NC	-		
TB01-9	EQ Gnd	20	X	NC	-		
TB01-10	AC-	21	Y	DC Gnd	TB02-2		
C4-37	Watch Dog	22	Z	Ext. Reset	TB02-5		
TB02-1	+24VDC	23	AA	T&B	-		
LRColl	Interlock	24	BB	Stop Time	TB02-3		
TB02-2	Interlock	25	CC	NC	-		
-	NC	26	DD	NC	-		
-	NC	27	EE	Clapper	TB01-12		
TB01-11	Norm. Closed	28	FF	AC+	TB01-11		

Ch	PH
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	OLA, Ø1FYA/YA
10	OLB, Ø3FYA/YA
11	OLC, Ø5FYA/YA
12	OLD, Ø7FYA/YA
13	2PED
14	4PED
15	6PED
16	8PED

T&B= Tied & Bundled

CONFLICT MONITOR

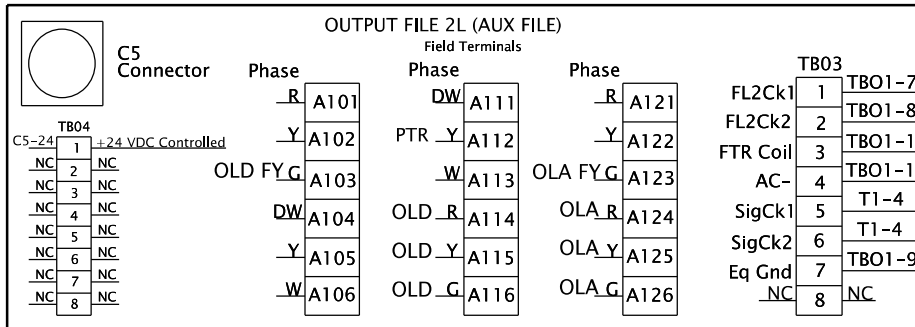
(NOT TO SCALE)



OUTPUT FILE 2L (AUX FILE)

FRONT VIEW - (NOT TO SCALE)

INDICATE COLOR OF FLASH PLUG
BEING USED BY ADDING R=RED,
Y=YELLOW, OR W=WHITE IN BOX ON
LOAD SWITCH. DEFAULT IS R=RED.



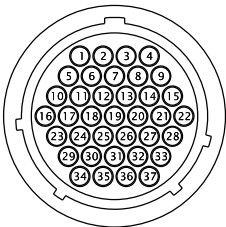
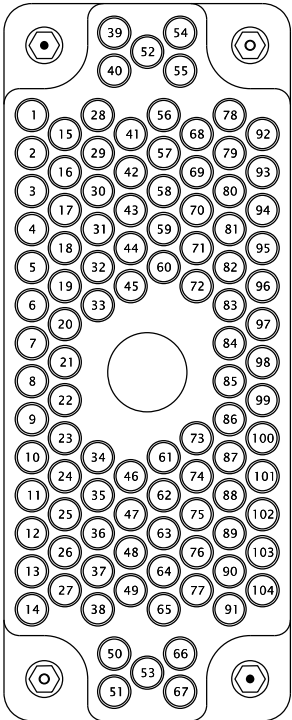
OUTPUT FILE 2L (AUX FILE)

REAR VIEW - (NOT TO SCALE)

Program Assigned Functions	C1 Connector		C4 Connector				Field Term.
	Pin	Termination	Pin	Switch Pack			
				In	Position	Out	
DC Gnd	1	DC Gnd Bus	-	-	-	-	-
Ø 4 D.WALK	2	C4-1	1	6	6-DW	3	104
Ø 4 WALK	3	C4-2	2	10	6-W	7	106
Ø 4 RED	4	C4-3	3	6	5-R	3	101
Ø 4 YELLOW	5	C4-4	4	8	5-Y	5	102
Ø 4 GREEN	6	C4-5	5	10	5-G	7	103
Ø 3 RED	7	C4-6	6	6	4-R	3	116
Ø 3 YELLOW	8	C4-7	7	8	4-Y	5	117
Ø 3 GREEN	9	C4-8	8	10	4-G	7	118
Ø 2 D.WALK	10	C4-9	9	6	3-DW	3	113
Ø 2 WALK	11	C4-10	10	10	3-W	7	115
Ø 2 RED	12	C4-11	11	6	2-R	3	128
Ø 2 YELLOW	13	C4-12	12	8	2-Y	5	129
Input Gnd	14	TB15-4"1"	-	-	-	-	-
Ø 2 GREEN	15	C4-13	13	10	2-G	7	130
Ø 1 RED	16	C4-14	14	6	1-R	3	125
Ø 1 YELLOW	17	C4-15	15	8	1-Y	5	126
Ø 1 GREEN	18	C4-16	16	10	1-G	7	127
Ø 8 D.WALK	19	C4-17	17	6	12-DW	3	110
Ø 8 WALK	20	C4-18	18	10	12-W	7	112
Ø 8 RED	21	C4-19	19	6	11-R	3	107
Ø 8 YELLOW	22	C4-20	20	8	11-Y	5	108
Ø 8 GREEN	23	C4-21	21	10	11-G	7	109
Ø 7 RED	24	C4-22	22	6	10-R	3	122
Ø 7 YELLOW	25	C4-23	23	8	10-Y	5	123
Ø 7 GREEN	26	C4-24	24	10	10-G	7	124
Ø 6 D.WALK	27	C4-25	25	6	9-DW	3	119
Ø 6 WALK	28	C4-26	26	10	9-W	7	121
Ø 6 RED	29	C4-27	27	6	8-R	3	134
Ø 6 YELLOW	30	C4-28	28	8	8-Y	5	135
Ø 6 GREEN	31	C4-29	29	10	8-G	7	136
Ø 5 RED	32	C4-30	30	6	7-R	3	131
Ø 5 YELLOW	33	C4-31	31	8	7-Y	5	132
Ø 5 GREEN	34	C4-32	32	10	7-G	7	133
Ø 1 FLTYA	35	C4-33	33	8	3-Y	5	114
Ø 5 FLTYA	36	C4-34	34	8	9-Y	5	120
Ø 3 FLTYA	37	C4-35	35	8	6-Y	5	105
Ø 7 FLTYA	38	C4-36	36	8	12-Y	5	111

Program Assigned Functions	C1 Connector		Input Files		
	Pin	Termination	Terminals		Field Terminals
			Out	In	
Ø2 DET	39	I3-1	F	D&E	TB5-9&10
Ø6 DET	40	J3-1	F	D&E	TB6-9&10
Ø4 DET	41	I8-1	F	D&E	TB5-29&30
Ø8 DET	42	J8-1	F	D&E	TB6-29&30
Ø2 DET	43	I3-2	W	J&K	TB5-11&12
Ø6 DET	44	J3-2	W	J&K	TB6-11&12
Ø4 DET	45	I8-2	W	J&K	TB5-31&32
Ø8 DET	46	J8-2	W	J&K	TB6-31&32
Ø2 DET	47	I5-1	F	D&E	TB5-17&18
Ø6 DET	48	J5-1	F	D&E	TB6-17&18
Ø4 DET	49	I10-1	F	D&E	TB5-37&38
Ø8 DET	50	J10-1	F	D&E	TB6-37&38
PCOI	51	J12-1	F	D	TB0-2
VCOI	52	J12-2	W	J	TB0-3
ADV ENABLE	53	-	-	-	TB1-11
SPARE	54	J11-1	F	D&E	TB2-9&10
Ø5 DET	55	J1-1	F	D&E	TB6-1&2
Ø1 DET	56	I1-1	F	D&E	TB5-1&2
Ø7 DET	57	J6-1	F	D&E	TB6-21&22
Ø3 DET	58	I6-1	F	D&E	TB5-21&22
Ø5 DET	59	J1-2	W	J&K	TB6-3&4
Ø1 DET	60	I1-2	W	J&K	TB5-3&4
Ø7 DET	61	J6-2	W	J&K	TB6-23&24
Ø3 DET	62	I6-2	W	J&K	TB5-23&24
Ø2 DET	63	I4-1	F	D&E	TB5-13&14
Ø6 DET	64	J4-1	F	D&E	TB6-13&14
Ø4 DET	65	I9-1	F	D&E	TB5-33&34
Ø8 DET	66	J9-1	F	D&E	TB6-33&34
Ph2 Ped	67	I13-1	F	D	TB1-1
Ph6 Ped	68	I14-1	F	D	TB1-4
Ph4 Ped	69	I13-2	W	J	TB1-2
Ph8 Ped	70	I14-2	W	J	TB1-5
EVA	71	J13-1	F	D	TB3-3
EVB	72	J14-1	F	D	TB3-6
EVC	73	J13-2	W	J	TB3-4
EVD	74	J14-2	W	J	TB3-7
GPS CLOCK	75	J11-2	W	J&K	TB2-11&12
Ø2 DET	76	I4-2	W	J&K	TB5-15&16
Ø6 DET	77	J4-2	W	J&K	TB6-15&16
Ø4 DET	78	I9-2	W	J&K	TB5-35&36
Ø8 DET	79	J9-2	W	J&K	TB6-35&36
Advance	80	-	-	-	TB1-10
Flash Sense	81	-	-	-	TB1-7
Stop Time	82	-	-	-	TB1-8

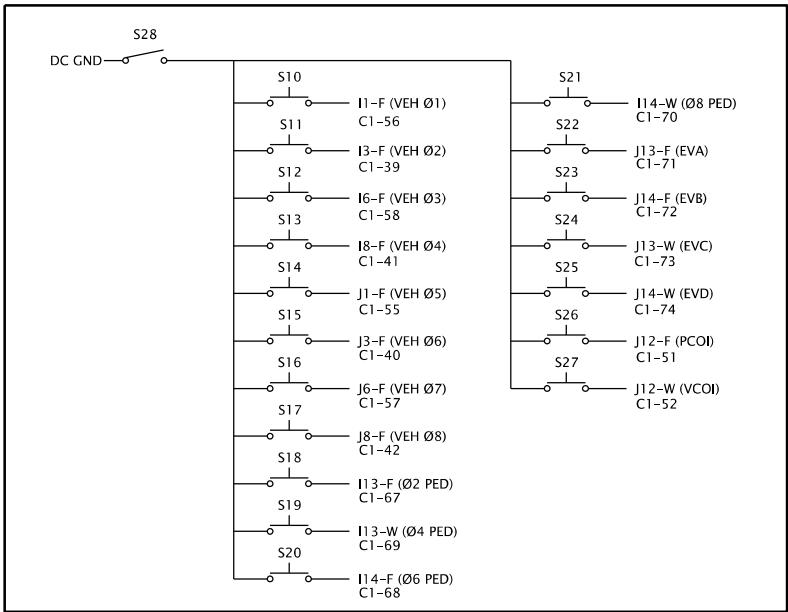
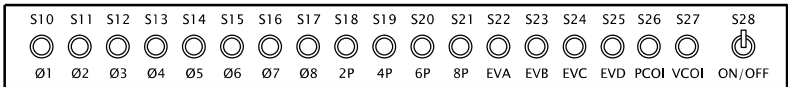
Program Assigned Functions	C1 Connector		C5 Connector				Field Term.
	Pin	Termination	Pin	Switch Pack			
				In	Position	Out	
Ø 3 D.WALK	83	C5-1	1	6	A6-DW	3	A104
Ø 3 WALK	84	C5-2	2	10	A6-W	7	A106
OLD RED	85	C5-3	3	6	A5-R	3	A101
OLD YELLOW	86	C5-4	4	8	A5-Y	5	A102
OLD GREEN	87	C5-5	5	10	A5-G	7	A103
OLC RED	88	C5-6	6	6	A4-R	3	A114
OLC YELLOW	89	C5-7	7	8	A4-Y	5	A115
OLC GREEN	90	C5-8	8	10	A4-G	7	A116
Ø1 D.WALK	91	C5-9	9	6	A3-DW	3	A111
DC Gnd	92	DC Gnd Bus	-	-	-	-	-
Ø 1 WALK	93	C5-10	10	10	A3-W	7	A113
OLB RED	94	C5-11	11	6	A2-R	3	A124
OLB YELLOW	95	C5-12	12	8	A2-Y	5	A125
OLB GREEN	96	C5-13	13	10	A2-G	7	A126
OLA RED	97	C5-14	14	6	A1-R	3	A121
OLA YELLOW	98	C5-15	15	8	A1-Y	5	A122
OLA GREEN	99	C5-16	16	10	A1-G	7	A123
PTR SIGN	100	C5-17	17	8	A6-Y	5	A105
PTR SIGN	101	C5-18	18	8	A3-Y	5	A112
FLASH OUT	102	TB15-3"I"					
Watchdog	103	C4-37	Monitor-Pin 22				
Input Gnd	104	TB15-4"J"					
			19...23	-	NC	-	-
			24	TB11-7	All	9	+24VDC CONTROL



C11 PLUG
PINOUT

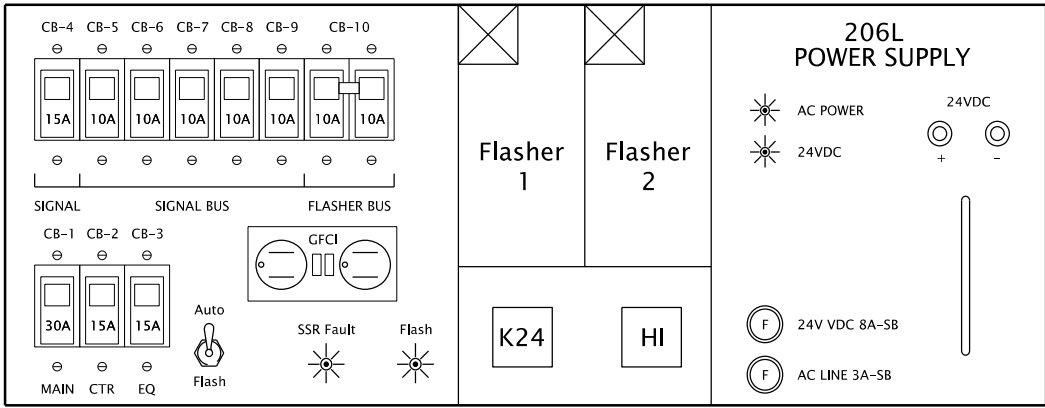
C1 PLUG PINOUT

Program Assigned Functions	C11 Connector		Input Files		
	Pin	Termination	Terminals		Field Terminals
			Out	In	
NOT ASSIGN	1...8	T&B	-	-	- -
DC Gnd	9	DC Gnd Bus	-	-	- -
Ø2 DET	10	I5-2	W	J&K	TB5-19&20
Ø6 DET	11	J5-2	W	J&K	TB6-19&20
Ø4 DET	12	I10-2	W	J&K	TB5-39&40
Ø8 DET	13	J10-2	W	J&K	TB6-39&40
DC Gnd	14	DC Gnd Bus	-	-	- -
Ø5 DET	15	J2-1	F	D&E	TB6-5&6
Ø1 DET	16	I2-1	F	D&E	TB5-5&6
Ø7 DET	17	J7-1	F	D&E	TB6-25&26
Ø3 DET	18	I7-1	F	D&E	TB5-25&26
Ø5 DET	19	J2-2	W	J&K	TB6-7&8
Ø1 DET	20	I2-2	W	J&K	TB5-7&8
Ø7 DET	21	J7-2	W	J&K	TB6-27&28
Ø3 DET	22	I7-2	W	J&K	TB5-27&28
SPARE	23	I11-1	F	D&E	TB2-1&2
SPARE	24	I12-1	F	D&E	TB2-5&6
SPARE	25	I11-2	W	J&K	TB2-3&4
SPARE	26	I12-2	W	J&K	TB2-7&8
NOT ASSIGN	27...30	T&B	-	-	- -
DC Gnd	31	DC Gnd Bus	-	-	- -
NOT ASSIGN	32...36	T&B	-	-	- -
DC Gnd	37	DC Gnd Bus	-	-	- -

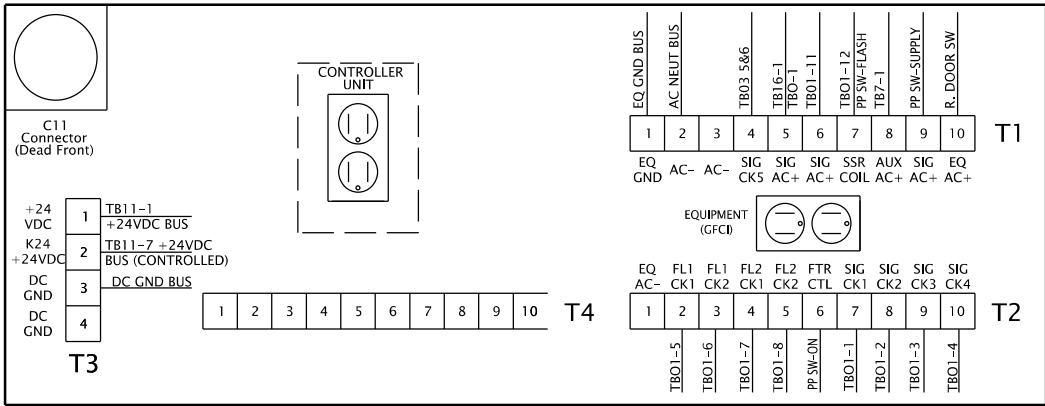


Detector Test Panel Wiring
Typical Wiring Diagram

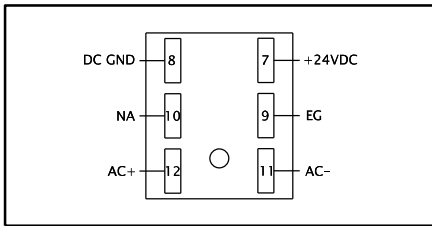
PAGE 4 of 7	CONTROLLER (C1),(C11) WIRING DETAILS	REV. NO.	DATE	INITIAL	REMARKS	INTERSECTION: ● SE 82nd Drive @ SE Jennifer Street Clackamas County, OR HWY#: XXX M.P.#: XXX.XX TSSU ID#: XXXXX	OREGON DEPARTMENT OF TRANSPORTATION TRAFFIC - ROADWAY SECTION 332S ODOT CABINET PRINT 08/17/22
		1	08/17/22	JS	UPDATED LEVELS AND REFERENCES SEE WORD DOC		



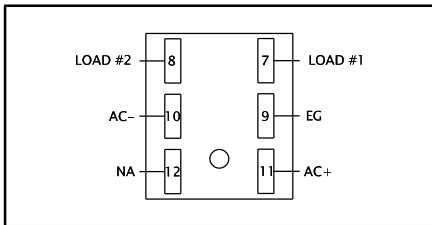
ODOT PDA 2 LAYOUT (FRONT VIEW)
(NOT TO SCALE)



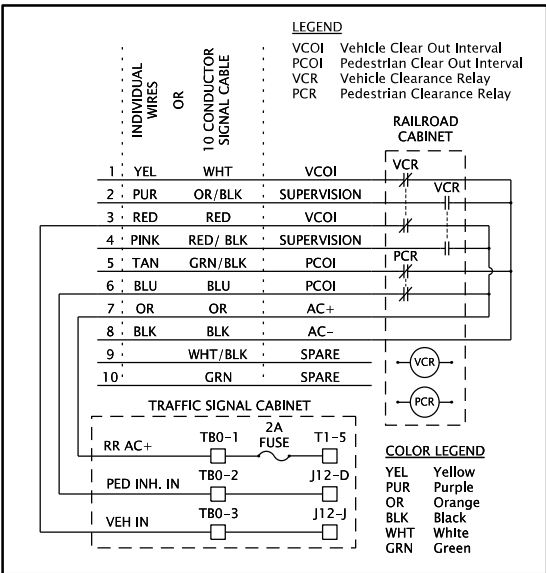
ODOT PDA 2 LAYOUT (REAR VIEW)
(NOT TO SCALE)



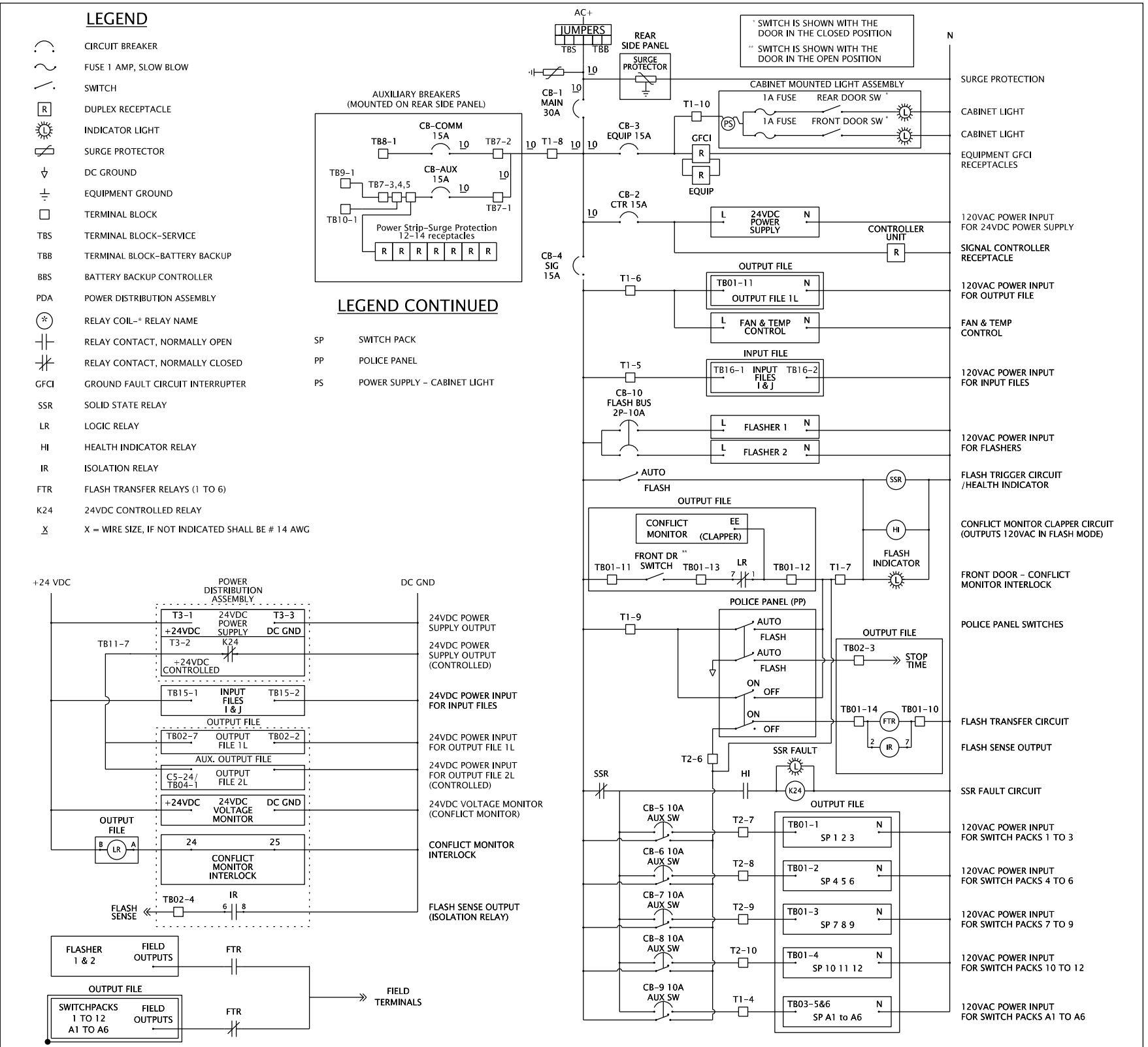
MODEL 206L POWER SUPPLY
TYPICAL CONNECTOR DETAIL



MODEL 204 FLASHER
TYPICAL CONNECTOR DETAIL

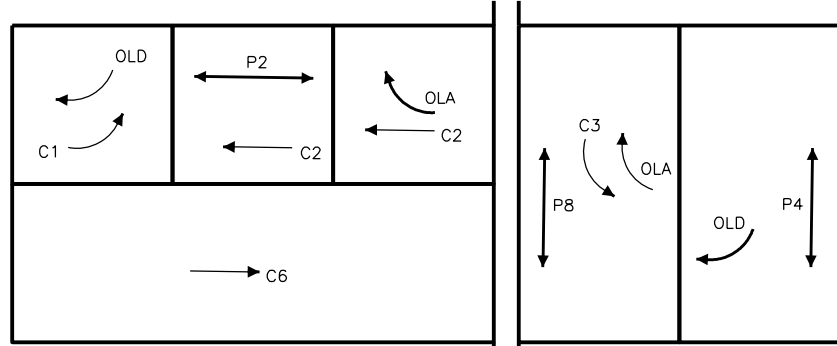


RAILROAD INTERCONNECT
TYPICAL WIRING DETAILS

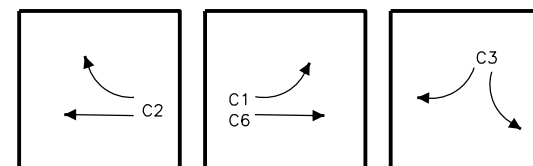


PDA #2 ELEMENTARY DIAGRAM
TYPICAL WIRING DETAILS

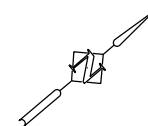
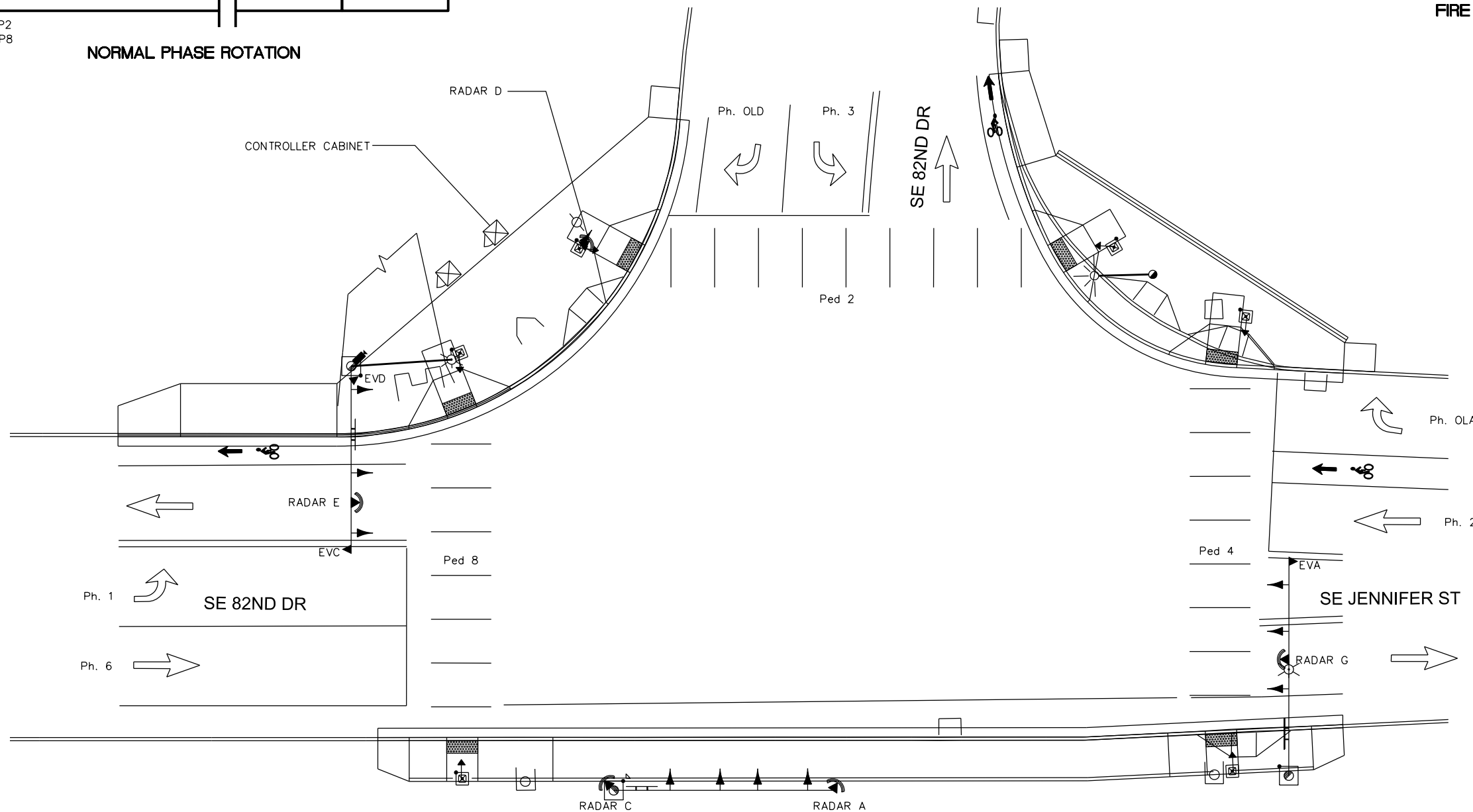
PAGE 5 of 7	PDA 2: Layout & Elementary Diagram	REV. NO.	DATE	INITIAL	REMARKS	INTERSECTION: ● SE 82nd Drive @ SE Jennifer Street Clackamas County, OR	HWY#: <u>XXX</u> M.P.#: <u>XXX.XX</u> TSSU ID#: <u>XXXXX</u>	OREGON DEPARTMENT OF TRANSPORTATION TRAFFIC – ROADWAY SECTION
		1	08/17/22	JS	UPDATED LEVELS AND REFERENCES SEE WORD DOC			332S ODOT CABINET PRINT
								08/17/22



NORMAL PHASE ROTATION



FIRE PREEMPTION OPERATION



PAGE 6 of 7	Additional Intersection Information	REV. NO. 1	DATE 08/17/22	INITIAL IS	REMARKS UPDATED LEVELS AND REFERENCES SEE WORD DOC	INTERSECTION: ● SE 82nd Drive @ SE Jennifer Street Clackamas County, OR HWY#: XXX M.P.#: XXX.XX TSSU ID#: XXXXX	OREGON DEPARTMENT OF TRANSPORTATION TRAFFIC - ROADWAY SECTION 332S ODOT CABINET PRINT 08/17/22
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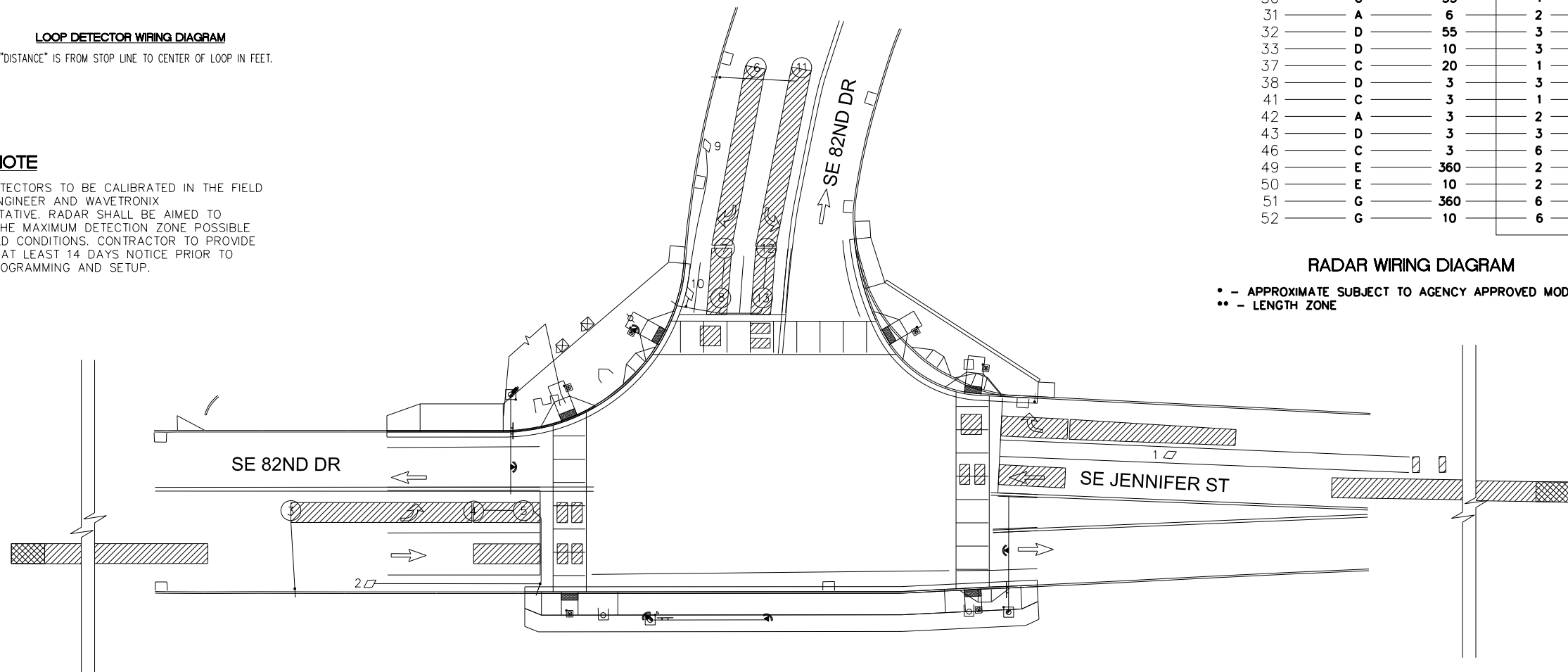
LOOP NUMBER	DISTANCE	BIKE	PHASE	SLOT	MAXTIME NUMBER
1	50	BIKE	2	I5U	6
2	50	BIKE	6	J5U	20
3	75		1	I1U	1
4	15		1	I1L	13
5	5		OLD	J10U	26
6	75		OLD	J9L	25
7	15		OLD	J10L	40
8	5		OLD	J10L	40
9	50	BIKE	OLD	J10L	40
10	5	BIKE	OLD	J10L	40
11	75		3	I6U	7
12	15		3	I6L	14
13	5		3	I6L	14

LOOP DETECTOR WIRING DIAGRAM

"DISTANCE" IS FROM STOP LINE TO CENTER OF LOOP IN FEET.

GENERAL NOTE

- RADAR DETECTORS TO BE CALIBRATED IN THE FIELD BY THE ENGINEER AND WAVETRONIX REPRESENTATIVE. RADAR SHALL BE AIMED TO ACHIEVE THE MAXIMUM DETECTION ZONE POSSIBLE GIVEN FIELD CONDITIONS. CONTRACTOR TO PROVIDE ENGINEER AT LEAST 14 DAYS NOTICE PRIOR TO RADAR PROGRAMMING AND SETUP.



MAXTIME NUMBER	RADAR UNIT	DISTANCE (FEET)**	PHASE	BIU#
2	A	20	2	9
3	A	3	2	9
4	A	20	2	9
5	A	55	2	9
16	C	20	6	9
17	C	3	6	9
22	D	55	OLD	9
23	D	20	OLD	9
24	D	6	OLD	9
29	C	3	1	9
30	C	55	1	10
31	A	6	2	10
32	D	55	3	10
33	D	10	3	10
37	C	20	1	10
38	D	3	3	10
41	C	3	1	10
42	A	3	2	10
43	D	3	3	11
46	C	3	6	11
49	E	360	2	11
50	E	10	2	11
51	G	360	6	11
52	G	10	6	12

RADAR WIRING DIAGRAM

- APPROXIMATE SUBJECT TO AGENCY APPROVED MODIFICATION
- LENGTH ZONE

CONSTRUCTION NOTE

- LOOP 6 AND LOOP 11 SHALL BE CUT WITH A ONE-FOOT OFFSET FROM THE OLD ABANDONED LOOPS.

PAGE 7 of 7	Additional Intersection Information	REV. NO.	DATE	INITIAL	REMARKS	INTERSECTION: ● SE 82nd Drive @ SE Jennifer Street Clackamas County, OR	OREGON DEPARTMENT OF TRANSPORTATION TRAFFIC - ROADWAY SECTION
		1	08/17/22	JS	UPDATED LEVELS AND REFERENCES SEE WORD DOC		
HWY#: XXX M.P.#: XXX.XX TSSU ID#: XXXXX						332S ODOT CABINET PRINT	08/17/22