

# DESCHUTES COUNTY



## BID DOCUMENTS FOR THE CONSTRUCTION OF THE POWELL BUTTE HIGHWAY ROUNDBOUT

**MANDATORY**

**PRE-BID MEETING: JANUARY 12, 2016 1:00 P.M.**

**BID OPENING: JANUARY 19, 2016 2:00 P.M.**

**COMPLETION DATE: AUGUST 1, 2016; ROAD CONSTRUCTION  
DECEMBER 31, 2016; LANDSCAPING**

# **MANDATORY PRE-BID MEETING**

## **FOR THE CONSTRUCTION OF THE POWELL BUTTE HIGHWAY ROUNDBOUT**

There will be a **Mandatory Pre-Bid meeting** at the Deschutes County Road Department, 61150 SE 27<sup>th</sup> Street, Bend, Oregon on **Tuesday, January 12, 2016 at 1:00 p.m.**

Questions concerning the Construction of the Powell Butte Highway Roundabout project will be discussed at this time to clarify the proposed work to be done.

All prime contractors who want to bid on the project are required to attend the Mandatory Pre-Bid Meeting in order for their bid to be accepted by Deschutes County.

DESCHUTES COUNTY, OREGON

**CONTRACT DOCUMENTS FOR**

**THE CONSTRUCTION OF THE  
POWELL BUTTE HIGHWAY  
ROUNDBOUT**

Consisting of:

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**DESCHUTES COUNTY, OREGON  
ROAD DEPARTMENT  
INVITATION TO BID  
FOR THE CONSTRUCTION OF THE POWELL BUTTE HIGHWAY  
ROUNDAABOUT**

**Sealed bids will be received at the Deschutes County Road Department, 61150 SE 27th Street, Bend, Oregon 97702, until but not after, 2:00 p.m. on January 19, 2016 at which time and place all bids for the above-entitled public works project will be publicly opened and read aloud. Bidders must submit a Subcontractor Disclosure Statement. The subcontractor disclosure statement may be submitted in the sealed bid prior to 2:00 p.m. on January 19, 2016 or in a separate sealed envelope marked "SUBCONTRACTOR DISCLOSURE STATEMENT" "CONSTRUCTION OF THE POWELL BUTTE HIGHWAY ROUNDAABOUT" prior to 4:00 p.m. on January 19, 2016 at the above location.**

The proposed work consists of the following:

- 1) Construction of a roundabout at the intersection of Powell Butte Highway and Neff Rd./Alfalfa Market Rd. including modifications to all the approach legs
- 2) Construction and removal of a temporary detour road
- 3) Landscape improvements and restoration
- 4) Driveway connections as noted on the plans
- 5) Performance of such additional and incidental work as specified in the plans and specifications.

Specifications and other bid documents may be inspected and obtained at the Deschutes County Road Department, 61150 S.E. 27th Street, Bend, Oregon 97702 or the Deschutes County website, [www.deschutes.org](http://www.deschutes.org). Inquiries pertaining to these specifications shall be directed to Barry Johnson, Parametrix, Inc, telephone (541) 508-7819.

Bids shall be made on the forms furnished by the County, incorporating all contract documents, including a Bid Bond or Cashiers Check for the minimum amount of 10% of the Bid Price, addressed and mailed or delivered to Chris Doty, Department Director, 61150 SE 27th Street, Bend, Oregon 97702 in a sealed envelope plainly marked "**BID FOR THE CONSTRUCTION OF THE POWELL BUTTE HIGHWAY ROUNDAABOUT**" and the name and address of the bidder.

Because the work called for under this contract is for a public works project subject to state prevailing rates of wage under ORS 279C.800 to 279C.870, the County will not receive or consider a bid unless the bid contains a statement by the bidder\* that the bidder will comply with ORS 279C. Each bid must contain a statement as to whether the bidder is a resident bidder, as defined in ORS 279A.120. Vendors shall use recyclable products to the maximum extent economically feasible in the performance of the contract work set forth in this document.

Bidders shall be prequalified with the State of Oregon in accordance with ORS 279C.430 – 279C.450 and Deschutes County Code 12.52.020. The prequalification classifications required for this project are "(ACP) Asphalt Concrete Paving and Oiling", "(EART) Earthwork and Drainage" and "(AB) Aggregate Bases". The successful bidders and subcontractors providing labor shall maintain a qualified drug testing program for the duration of the contract. Bidders shall be licensed with the Construction Contractor's Board. Contractors and subcontractors need not be licensed under ORS 468A.720.

Deschutes County may reject any bid not in compliance with all prescribed bidding procedures and requirements, and may reject for good cause any or all bids upon a finding of Deschutes County it is in the public interest to do so. The protest period for this procurement is seven (7) calendar days.

CHRIS DOTY  
Department Director

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## INFORMATION FOR BIDDERS

1. **General Description of Project.** A general description of the work to be performed is contained in the Invitation to Bid. The scope is indicated in the applicable parts of these Contract documents.
2. **Contract Documents.** The Contract documents under which it is proposed to execute the work consist of the material bound herewith. These Contract documents are intended to be mutually complementary and to provide all details reasonably required for the execution of the proposed work.

Any person contemplating the submission of a proposal and being in doubt as to the meaning or intent of said contract document shall at once notify, in writing, the Road Department Director of Deschutes County, Oregon. Any interpretation of change will be mailed or delivered to each person receiving a set of documents.

3. **Form of Proposals.** All proposals must be submitted on the forms furnished. Subcontractor disclosure form may be submitted with the bid or in a separate envelope.
4. **Substitutions.** Materials and/or products called for in the specifications are named in order to establish a standard of quality design. Manufacturers or suppliers of products similar to those specified may submit bids on the work providing requests for approval of substitution materials are made at least seven (7) calendar days prior to the bid opening. Adequate information on which to base approval or disapproval must be furnished to the Road Department Director or his representative and the Road Department Director shall be the sole judge of any request. When the Road Department Director approves a substitution, it is with the understanding that the Contractor guarantees the substituted article or materials to be equal or better than the specified.
5. **Preparation of Proposals.** All blank spaces in the proposal form must be filled in, in ink, or typed, in both words and figures where required. No changes shall be made in phraseology of the forms. Written amount shall govern in cases of discrepancy between the amount stated in writing and amount stated in figures.

Any proposal shall be deemed informal which contains omissions, erasures, alterations, or additions of any kind, or prices uncalled for, or which, in any manner shall fail to conform to the conditions of the published invitation to bidders.

The bidder shall sign his proposal in the blank space provided therefore. Proposals made by corporations or partnerships shall contain names and addresses of the principal officers or partners therein. If a corporation makes a proposal, it must be signed by one of the principal officers thereof, and the corporate seal affixed.

If made by a partnership, it must be signed by one of the partners, clearly indicating that he is signing as a partner of the firm. In the case of a proposal made by a joint venture, each of the joint venturers must sign the proposal in his personal capacity.

The wording of the proposal shall not be changed. Any additions, conditions, limitations or provisions inserted by the bidder will render the proposal irregular and may cause its rejection.

6. **Submission of Proposals.** All proposals must be submitted in the time and place and in the manner prescribed in the invitation to bid. Proposals must be made on the

prescribed proposal forms furnished. Each proposal must be submitted in a sealed envelope, so marked as to indicate its contents without being opened. If the proposal is submitted by mail, the sealed envelope containing the bid must be enclosed in a separate envelope plainly addressed for mailing to conformance with instructions in the Invitation to Bid. NOTE: A proposal must include a complete set of Contract documents, including specifications, etc.

7. **Modification or Withdrawal of Proposal.** Any bidder may modify his bid by written or telegraphic communication at any time prior to the scheduled closing time for receipt of bids, provided such communication is received by the County prior to the closing time, and provided further that a written confirmation of a telegraphic modification over the signature of the bidder was mailed prior to the closing time. If written confirmation of a telegraphic communication is not received within at least two calendar days of the closing time, no consideration will be given to the modification. The written or telegraphic communication should not reveal the bid price, but should state the addition or subtraction or other modification so that the County will not know the final prices or terms until the sealed bid is opened.

Proposals may be withdrawn prior to the scheduled time for the opening of the proposals either by telegraphic or written request, or in person. No proposal may be withdrawn after the time scheduled for opening of proposals, unless the County has failed to comply with the time limits applicable to award of the Contract.

8. **Disclosure of First Tier Subcontractors.** Bidders must submit a subcontractor disclosure statement where the value, estimated by the contracting Agency exceeds \$100,000. The subcontractor disclosure statement may be submitted in the sealed bid prior to the bid closing OR it may be submitted in a separate sealed envelope marked "**SUBCONTRACTOR DISCLOSURE STATEMENT**" and the name of the project, within two (2) working hours after the bid closing. Bidder must submit a statement on the form provided in these contract documents identifying all first-tier subcontractors that will furnish labor or labor and materials and whose contract value is equal to or greater than:

5% of the total project bid, but at least \$15,000, or

\$350,000 regardless of the percentage of the total project bid.

For each subcontractor listed, Include:

The name, address and telephone number of the subcontractor:

The category of work that the subcontractor would be performing.

If no subcontracts subject to the above disclosure requirements are anticipated, a bidder is required to indicate "**NONE**" on the accompanying form.

To determine disclosure requirements, it is required that bidders disclose subcontract information for any subcontractor as follows:

- 1) Use the forms bound herewith for the required disclosure.

Notice – Bidder's Requirements: Bidders are required to disclose information about certain first-tier subcontractors when the contract value estimated by the contracting Agency for a Public Improvement is greater than \$100,000 (see ORS 279C.370). Specifically, when the contract amount of a first-tier subcontractor

furnishing labor or labor and materials would be greater than or equal to: (i) 5% of the project bid, but at least \$15,000, or  
(ii) \$350,000 regardless of the percentage, the bidder must disclose the following information about that subcontract either in its Bid submission or within two working hours after bid closing:

- (a) The subcontractor's name, and
  - (b) The category of work that the subcontractor would be performing.
- 2) If the bidder will not be using any subcontractors that are subject to the above disclosure requirements, the bidder is required to indicate "NONE" on the accompanying form.
  - 3) Bidder shall submit the disclosure form required by OAR 137-049-0360 either in its bid submission or separately within two working hours after Bid Closing in the manner specified by the invitation to bid.
  - 4) Compliance with the disclosure and submittal requirements of ORS 279C.370 and OAR 137-049-0360 is a matter of Responsiveness. Bids which are submitted by Bid Closing, but for which the disclosure submittal has not been made by the specified deadline, are not responsive and shall not be considered for Contract award.
  - 5) County shall obtain, and make available for public inspection, the disclosure forms required by ORS 279C.370 and OAR 137-049-0360. County shall also provide copies of disclosure forms to the Bureau of Labor and Industries as required by ORS 279C.835. County is not required to determine the accuracy or completeness of the information provided on disclosure forms.
  - 6) Substitution of affected first-tier subcontractors shall be made only in accordance with ORS 279C.585. County shall accept written submissions filed under the statute as public records. Aside from issues involving inadvertent clerical error under ORS 279.585(5), County does not have a statutory role or duty to review, approve, or resolve disputes concerning such substitutions. See ORS 279C.590 regarding complaints to the Construction Contractors Board on improper substitution.

**THE COUNTY MUST REJECT A BID IF THE BIDDER FAILS TO SUBMIT THE DISCLOSURE FORM WITH THIS INFORMATION BY THE STATED DEADLINE (see OAR 137-049-0360).**

9. **Bid Security.** The Bid Bond or Cashier's Check will be for a minimum of ten per cent (10%) of the amount of the bid price. If a bidder bids more than one bid proposal, each proposal must be accompanied by separate bid security. The County reserves the right to retain the bid security of the three (3) lowest bidders until the successful bidder has signed and delivered the contract and furnished one hundred percent (100%) Performance and Payment Bonds.
10. **Conditions of Work.** Each bidder must inform himself of the conditions relating to the execution of the work, and make himself thoroughly familiar with all the Contract documents. Failure to do so will not relieve the successful bidder of his obligations to enter into a Contract and complete the contemplated work in strict accordance with the Contract documents.

Each bidder must inform himself on all laws and statutes, both Federal and State, relative to the regular execution of the work, the employment of labor, protection of public health, access to the work and similar requirements.

11. **Award of Contract.** The award of the contract will be made by the County on the basis of the proposal which in its sole and absolute judgment will best serve the interest of the County.

County will issue a notice of intent to award contract. Any bidder may protest the notice of intent to award contract within seven (7) calendar days of the notice of intent to award contract.

The County reserves the right to accept or reject any or all proposals, and to waive any informalities and irregularities in said proposals.

12. **Payment and Retainage.** Payment for work performed will be made by the County as specified in the Special Provisions based upon the contract unit prices on the Bid Schedule.

Upon substantial completion of the contract, Contractor may request a partial release of retainage held by the County. The maximum amount of a request for a partial release retainage shall be the Contract amount less 150 percent of the estimated cost of the Contract yet to be performed through final completion. Upon final completion, Contractor may request release of the remaining retainage. Each request for the release of retainage shall be accompanied by the Consent of the contractor's surety.

13. **Performance Bond and Payment Bond.** The successful bidder shall file with the County, at the time of execution of the contract, a Performance Bond and a Payment Bond each of not less than the contract price on the forms furnished by the County. The Surety Company furnishing the required bonds shall have a sound financial standing and a record of service satisfactory to the County, and shall be authorized to do business in the State of Oregon. In lieu of a Performance Bond, the contractor may file cash, a Certified or Cashier's Check made payable to Deschutes County, Oregon. This money, check or certificate will be held by the County conditioned on and subject to the same provisions as set forth in the attached Performance Bond. ORS 279C.380 allows no flexibility for a cash deposit in lieu of a Payment Bond.

County may request a copy of Contractor's surety bond(s). Contractor must supply County with copy of surety bond(s) within ten (10) calendar days from the date of the request.

14. **Required Public Works Bond.** Before starting work on this project the Contractor and every subcontractor to which Contractor is a party for the performance of work under this contract must have a public works bond filed with the Construction Contractors Board, 700 Summer St. NE, Suite 300, Salem, Oregon 97309-5052, before starting work on the project, unless exempt under section 2 (7) or (8) of 2005 Oregon Laws Chapter 360 ORS 279C.836(7) or (8). Every subcontract to which Contractor is a party for the performance of work under this contract shall contain a provision requiring the subcontractor to have a public works bond filed with the Construction Contractors Board before starting work on this project, unless exempt under ORS 279C.836 (7) or (8) section 2 (7) or (8) of 2005 Oregon Laws Chapter 360.
15. **Failure to Execute Contract.** Upon failure by the successful bidder to enter into the Contract and furnish the necessary bond within ten (10) calendar days from the date Notice of Award is made, the bid bond accompanying the bid shall be forfeited, the

proceeds paid to the County, and the award withdrawn. The award may then be made to the next lowest responsible bidder, or all bids rejected and the work is re-advertised.

16. **Disclaimer of Responsibility.** Neither the County nor the Road Department Director will be responsible for oral interpretations. Should a bidder find discrepancies in, or omissions from the drawings, specifications, or other pre-bid documents, or be in doubt as to their meaning, he shall notify the County at least seven (7) calendar working days prior to the bid opening date. Any and all such interpretations, any supplemental instructions or approval of manufacturer's materials to be substituted will be made only in the form of written addenda to the specifications, which, if issued, will be hand delivered or sent by regular mail, email and fax to all prospective bidders receiving a set of such documents, not later than two (2) calendar days prior to the date fixed for the opening of bids. Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any obligation under his bid as submitted. All addenda so issued are to be covered in the bid for such addenda to become part of the Agreement.
17. **Permits and Licenses.** The successful bidder shall be required to have or obtain, at his expense, any and all permits and licenses required by Deschutes County, any City within the County, and the State of Oregon, pertaining to the service he proposes to furnish. Licensing shall include without limitation registration with Construction Contractors Board and in the case of professional engineers and architects proof of current licensing with the appropriate State licensing board.
18. **Minimum Requirements of Bid.** The following minimum requirements as to the form and manner of submitting bids must be strictly observed; variance from these requirements will result in rejection of the bid as unresponsive.
  - a. Each Bid must be submitted on forms furnished by the County, and include a complete set of contract documents.
  - b. Each Bid must be signed by the bidder.
  - c. Bid security, in the required form and amount, must accompany each bid.
  - d. Each blank in the proposal must be filled in unless an alternative is provided. Each separate bid item must be bid on, unless the proposal form clearly indicates otherwise.
  - e. Each Bid must be submitted in a separate sealed envelope, marked to identify without opening, and in the hands of the Road Department Director at the time and place specified for bid opening.
  - f. A proposal containing modifications, deletions, exceptions or reservations which in any way conflict with or purport to alter any substantive provision contained in the bid documents, will not be considered.
  - g. A conditional bid will not be considered.
  - h. Any bid submitted without all of the pages of the bid documents, but with a sufficient number of the pages of the bid documents to allow the evaluation of the bid, shall be deemed to have been submitted with the missing pages for purposes of bid evaluation. The missing pages of the bid documents shall be deemed to be incorporated into bid by reference.

19. **Plans.** Plans are not to be taken or construed as being reproduced at precisely the indicated scale. Where the plans are photographic reductions of the original tracings, the approximate amount of reduction is indicated by a note on the plans.
20. **Specifications.** The specifications are the minimum acceptable specifications for the project for which proposals are sought. Any deviation from the specifications contained herein, shall render the bid non-responsive.
21. **Examination of Site and Conditions.** Bidders are required, prior to submission of bids, to carefully examine the site and the Plans and Specifications of the contemplated work. Errors and omissions in the Plans or Specifications shall be called to the attention of the Road Department Director prior to submission of bid so that addenda may be issued. Failure to do so on the part of the Contractor does not relieve him of responsibility for a correct and completely finished job. Only a written interpretation or correction by addendum shall be binding.
22. **Pre-Bid Inquiries.** Bidders with pre-bid inquiries shall contact Barry Johnson, Parametrix, Inc. at (541) 508-7819
23. **Prequalification of Bidders.**  
Bidders shall be pre-qualified with the State of Oregon in accordance with ORS 279C.430 and Deschutes County Code 12.52.020. The prequalification class is as shown in the Invitation to Bid. This contract is subject to ORS 279C.800 to 279C.870. The prequalification classification required for this project is "(ACP) Asphalt Concrete Paving and Oiling, (EART) Earthwork and Drainage" and "(AB) Aggregate Bases. The successful bidders and subcontractors providing labor shall maintain a qualified drug-testing program for the duration of the contract. Bidders shall be licensed with the Construction Contractor's Board. Contractors and subcontractors need not be licensed under ORS 468.710.
24. **Contract Award.** Deschutes County reserves the right to postpone award of the contract for fourteen (14) calendar days from the date of the bid opening, or until a final decision is made on a protest, whichever is later.
25. **Bidder Statement.** Submission of a bid for the project shall constitute a statement by the bidder that the provisions of ORS 279C.840 are to be complied with.

## GENERAL CONDITIONS

1. **Prevailing Rates of Wage.** This Contract is subject to State Prevailing Wage Rates published by the Oregon Bureau of Labor and Industries, and, if applicable the Federal Prevailing Rate of Wage required under the Davis-Bacon Act (40 U.S.C. 3141 et seq.) that may be paid to workers in each trade or occupation required for the public works employed in the performance of the contract either by the contractor or subcontractor or other person doing or contracting to do the whole or any part of the work contemplated by the contract. The following internet link maybe used to obtain the access to State and Federal prevailing Wage Rates:  
[http://www.oregon.gov/BOLI/WHD/PWR/pwr\\_book.shtml](http://www.oregon.gov/BOLI/WHD/PWR/pwr_book.shtml)
2. **Required Conditions in Public Works Contract and Contract Specifications ORS 279C.800 to 279C.870.** County shall pay to the Bureau of Labor and Industries a fee equal to one tenth of one percent (.001) of the contract price but no less than \$250 nor more than \$7,500 regardless of the contract price; that the fee shall be paid no later than the date on the contract is signed and that the fee shall be delivered to the Bureau at the following address: Prevailing Wage Rate Unit, Wage and Hour Division, Bureau of Labor and Industries, 800 NE Oregon Street #32, Portland, OR 97232.

**Posting Requirements.** Contractors shall post the prevailing wage rates applicable to the project in a conspicuous place at the site of work. The posting shall be easily accessible to employees working on the project.

When a contractor or subcontractor provides for or contributes to a health and welfare plan or pension plan for employees who are working on a public works project, the contractor or subcontractor shall post a notice containing the following information:

- (1) A description of the plan or plans;
- (2) Information on how and where claims can be made; and
- (3) Where to obtain more information .

All required postings shall be posted in the same place and shall be in a conspicuous place at the site of work and shall be easily accessible to employees working on the project.

3. **Required Payroll Submissions.** Contractors and subcontractors on public works projects are required to prepare **weekly**-certified payroll reports and statements and submit them to the public contracting agency by the fifth business day of each month. Contractors and subcontractors who fail to submit certified payroll reports as described above, will be subject to a twenty five percent (25%) withholding of the amounts owed by the County.

Information submitted on certified statements may be used only to ensure compliance with the provisions of ORS 279C.800 to 279C.870. These are public records and must be made available on request. Contractors may submit their own

report as long as it contains all the same information as the WH-38 form. Contractors must complete the statement of certification and attach it to the payroll submissions.

4. **Contracting Agency Payments.** If the Contractor fails, neglects, or refuses to make prompt payment of any claim for labor or services furnished to the Contractor or Subcontractor by any person, or the assignee of the person, in connection with the public improvement contract as such claim becomes due, the proper officer or officers of the public contracting agency may pay such claim and charge the amount of the payment against funds due or to become due the Contractor by reason of the Contract.
5. **Interest Rate For Failure to Make Payment.** If Contractor or a first-tier subcontractor fails, neglects or refuses to make payment to a person furnishing labor or materials in connection with this contract for a public improvement within 30 days after receipt of payment from the County or a Contractor, the Contractor or first-tier subcontractor shall owe the person the amount due plus interest charges commencing at the end of the 10-day period that payment is due under ORS 279C.580 and ending upon final payment, unless payment is subject to a good faith dispute as defined in ORS 279C.580. The rate of interest charged to the Contractor or first-tier subcontractor on the amount due shall equal three times the discount rate on 90-day commercial paper in effect at the Federal Reserve Bank in the Federal Reserve district that includes Oregon on the date that is 30 days after the date when payment was received from the County or from the Contractor, but the rate of interest shall not exceed 30 percent. The amount of interest may not be waived.
6. **Construction Contractors Board Complaint.** If Contractor or a subcontractor fails, neglects or refuses to make payment to a person furnishing labor or materials in connection with this contract, the person may file a complaint with the Construction Contractors Board, unless payment is subject to a good faith dispute as defined in ORS 279C.580.
7. **Independent Contractor. Contractor is engaged hereby as an independent contractor, and will be so deemed for purposes of the following.**
  - A. Contractor will be solely responsible for payment of any Federal or State taxes required as a result of this Agreement.
  - B. This Contract is not intended to entitle Contractor to any benefits generally granted to County employees. Without limitation, but by way of illustration, the benefits which are not intended to be extended by this Contract to the Contractor are vacation, holiday and sick leave, other leaves with pay, tenure, medical and dental coverage, life and disability insurance, overtime, Social Security, Workers' Compensation, unemployment compensation, or retirement benefits (except insofar as benefits are otherwise required by law if the Contractor is presently a member of the Public Employees Retirement System).
  - C. Contractor is an independent contractor for purposes of the Oregon Workers' Compensation law (ORS Chapter 656) and is solely liable for any Workers' Compensation coverage under this Contract. If Contractor has the assistance of other persons in the performance of this Contract, the Contractor shall qualify and remain qualified for the term of this Contract as a direct responsibility employer under ORS 656.407, and furnish County with evidence of said insurance. If Contractor performs this contract without the assistance of any other person, Contractor shall execute a Joint Declaration with County's Workers' Compensation

carrier absolving County of any and all liability from Workers' Compensation provided in ORS 656.029 (2).

8. **Delegation and Reports.** Contractor shall not delegate the responsibility for providing services hereunder to any other individual or agency, and shall provide County with periodic reports to County at the frequency and with the information prescribed to be reported by County.
9. **Constraints.** Pursuant to the requirements of ORS 279C.500 through 279C.545 and Article XI, Section 10, of the Oregon Constitution, the following terms and conditions are made a part of this Agreement:
  - A. Contractor shall:
    - (1) Make payments promptly, as due, to all persons supplying to Contractor labor or materials for the prosecution of the work provided for in this Agreement.
    - (2) Pay all contributions or amounts due the Industrial Accident Fund from such contractor or subcontractor incurred in the performance of this Agreement.
    - (3) Not permit any lien or claim to be filed or prosecuted against County on account of any labor or material furnished.
    - (4) Pay to the Department of Revenue all sums withheld from employees pursuant to ORS 316.167.
    - (5) Demonstrate that an employee drug testing program is in place prior to execution of this Contract.
  - B. If Contractor fails, neglects or refuses to make prompt payment of any claim for labor or services furnished to Contractor or a subcontractor by any person in connection with this agreement as such claim becomes due, the proper officers representing County may pay such claim to the person furnishing the labor or services and charge the amount of the payment against funds due or to become due Contractor by reason of this agreement.
  - C. Employees of Contractor shall be paid at least time and a half for all overtime worked in excess of eight hours a day or forty (40) hours in any one week when the work week is five consecutive days, Monday through Friday; or for all overtime in excess of 10 hours a day or 40 hours in any one week when the work week is four consecutive days, Monday through Friday, except individuals under this contract who are excluded under ORS 653.010 to 653.261 or under 29 U.S.C. Sections 201 to 209 from receiving overtime.
  - D. Employees of Contractor providing labor shall be paid at least time and a half for all work performed on Saturday and Sunday and the following legal holidays:
    - a) New Year's Day on January 1.
    - b) Memorial Day on the last Monday in May.
    - c) Independence Day on July 4.
    - d) Labor Day on the first Monday in September.
    - e) Thanksgiving Day on the fourth Thursday in November.
    - f) Christmas Day on December 25.

- E. An employer must give notice to employees who perform work under this agreement in writing, either at the time of hire or before commencement of work on the contract, or by posting a notice in a location frequented by employees, of the number of hours per day and days per week that employees may be required to work.
- F. Contractor shall promptly, as due, make payment to any person or partnership, association or corporation furnishing medical, surgical and hospital care or other needed care and attention incident to sickness and/or injury to the employees of Contractor, of all sums which Contractor agrees to pay for such services, and all monies and sums which Contractor collected or deducted from the wages of Contractor's employees pursuant to any law, contract or agreement for the purpose of providing or paying for such services.
- G. This Agreement is expressly subject to the debt limitation of Oregon counties set forth in Article XI, Section 10, of the Oregon Constitution, and is contingent upon funds being appropriated therefore. Any provision herein which would conflict with law are deemed inoperative to that extent.
- H. All subject employers working under this contract are either employers that will comply with ORS 656.017 or are employers that are exempt under ORS 656.126 (2)

**10. Early Termination.** This Contract may be terminated as follows:

- a. Mutual Consent. County and Contractor, by mutual written agreement, may terminate this Contract at any time.
- b. Party's Convenience. County or Contractor may terminate this Contract for any reason upon 30 calendar days written notice to the other party.
- c. For Cause. County may also terminate this Contract effective upon delivery of written notice to the Contractor, or at such later date as may be established by the County, under any of the following conditions:
  - 1. If funding from state or other sources is not obtained and continued at levels sufficient to allow for the purchase of the indicated quantity of services as required in this contract. This Contract may be modified to accommodate the change in available funds.
  - 2. If state laws, regulations or guidelines are modified, changed or interpreted in such a way that the services are no longer allowable or appropriate for purchase under this Contract or are no longer eligible for the funding proposed for payments authorized by this contract.
  - 3. In the event sufficient funds shall not be appropriated for the payment of consideration required to be paid under this contract, and if County has no funds legally available for consideration from other sources.
  - 4. If any license or certificate required by law or regulation to be held by the Contractor to provide the services required by this Contract is for any reason

denied, revoked, suspended, not renewed or changed in such a way that the Contractor no longer meets requirements for such license or certificate.

- d. Contractor Default or Breach. The County, by written notice to the Contractor, may immediately terminate the whole or any part of this Contract under any of the following conditions:
1. If the Contractor fails to provide services called for by this Contract within the time specified or any extension thereof.
  2. If the Contractor fails to perform any of the other requirements of this Contract or so fails to pursue the work so as to endanger performance of this Contract in accordance with its terms, and after receipt of written notice from the County specifying such failure, the Contractor fails to correct such failure within 10 calendar days or such other period as the County may authorize.
  3. Contractor institutes or has instituted against it insolvency, receivership or bankruptcy proceedings, makes an assignment for the benefit of creditors, or ceases doing business on a regular basis.
- e. County Default or Breach. Contractor may terminate this Contract in the event of a breach of this Contract by the County. Prior to such termination, the Contractor shall give to the County written notice of the breach and intent to terminate. If the County has not entirely cured the breach within 10 calendar days of the date of the notice, then the Contractor may terminate this Contract at any time thereafter by giving notice of termination.

**11. Payment on Early Termination.** Upon termination pursuant to paragraph 10, payment shall be made as follows:

- a. If terminated under subparagraphs 10 a. through c. of this Contract, the County shall pay Contractor for work performed prior to the termination date if such work was performed in accordance with the Contract. County shall not, however, pay Contractor for any obligations or liabilities incurred by Contractor after Contractor receives written notice of termination.
- b. If this Contract is terminated under subparagraph 10 d. of this Contract, County obligations shall be limited to payment for services provided in accordance with this Contract prior to the date of termination, less any damages suffered by the County.
- c. If terminated under subparagraph 10 e. of this Contract by the Contractor due to a breach by the County, then the County shall pay the Contractor for work performed prior to the termination date if such work was performed in accordance with the Contract (a) with respect to services compensable on an hourly basis, for unpaid invoices, hours worked within any limits set forth in this Contract but not yet billed, authorized expenses incurred and interest within the limits set forth under ORS 293.462, and (b) with respect to deliverable-based Work, the sum designated for

completing the deliverable multiplied by the percentage of Work completed and accepted by County, less previous amounts paid and any claim(s) that County has against Contractor. In no event shall County be liable to Contractor for any expenses related to termination of this Contract or for anticipated profits.

- 12. Remedies.** In the event of breach of this Contract the parties shall have the following remedies:
- a. Termination under subparagraphs 10 a. through c. of this Contract shall be without prejudice to any obligations or liabilities of either party already reasonably incurred prior to such termination. Contractor may not incur obligations or liabilities after Contractor receives written notice of termination. Additionally, neither party shall be liable for any indirect, incidental, consequential or special damages under this Contract or for any damages of any sort arising solely from the termination of this Contract in accordance with its terms.
  - b. If terminated under subparagraph 10 d. of this Contract by the County due to a breach by the Contractor, County may pursue any remedies available at law or in equity. Such remedies may include, but are not limited to, termination of this contract, return of all or a portion of this Contract amount, payment of interest earned on this Contract amount, and declaration of ineligibility for the receipt of future contract awards. Additionally, County may complete the work either itself, by agreement with another Contractor, or by a combination thereof. If the cost of completing the work exceeds the remaining unpaid balance of the total compensation provided under this Contract, then the Contractor shall pay to the County the amount of the reasonable excess.
  - c. In addition to the remedies in paragraphs 10 through 12 of this Contract for a breach by the Contractor, the County also shall be entitled to any other equitable and legal remedies that are provided by law.
  - d. If previous amounts paid to Contractor exceed the amount due to Contractor under this Contract, Contractor shall repay any excess to County upon demand.
  - e. If the County breaches this Contract, Contractor's sole monetary remedy shall be (a) with respect to services compensable on an hourly basis, a claim for unpaid invoices, hours worked within any limits set forth in this Contract but not yet billed, authorized expenses incurred and interest within the limits set forth under ORS 293.462, and (b) with respect to deliverable-based Work, a claim for the sum designated for completing the deliverable multiplied by the percentage of Work completed and accepted by County, less previous amounts paid and any claims(s) that County has against Contractor. In no event shall County be liable to Contractor for any expenses related to termination of this Contract or for anticipated profits.
  - f. Neither County nor Contractor shall be held responsible for delay or default caused by fire, civil unrest, labor unrest, riot, acts of God, or war where such cause was beyond reasonable control of County or Contractor, respectively. Contractor shall,

however, make all reasonable efforts to remove or eliminate such a cause of delay or default and shall, upon the cessation of the cause, diligently pursue performance of its obligations under this Contract. For any delay in performance as a result of the events described in this subparagraph, Contractor shall be entitled to additional reasonable time for performance that shall be set forth in an amendment to this Contract.

- g. The passage of this Contract expiration date shall not extinguish or prejudice the County's or Contractor's right to enforce this Contract with respect to any default or defect in performance that has not been cured.
- h. **LIQUIDATED DAMAGES.** It is impractical to determine the actual damages that the County would sustain in the event the road construction is completed and open to traffic by **August 1, 2016** and installation of landscaping completed by **December 31, 2016**. Therefore, the Contractor shall pay to the County, not as a penalty, but as liquidated damages, **\$500.00** per day, or any portion thereof, for each day in which the project is not completed by such date.
- i. County's remedies are cumulative to the extent the remedies are not inconsistent, and County may pursue any remedy or remedies singly, collectively, successively or in any order whatsoever.

**13. Contractor's Tender upon Termination.** Upon receiving a notice of termination of this Contract, Contractor shall immediately cease all activities under this Contract unless County expressly directs otherwise in such notice of termination. Upon termination of this Contract, Contractor shall deliver to County all documents, information, works-in-progress and other property that are or would be deliverables had this Contract been completed. Upon County's request, Contractor shall surrender to anyone County designates, all documents, research, objects or other tangible things needed to complete the work.

**14. Work Standard.** Contractor shall be solely responsible for and shall have control over the means, methods, techniques, sequences and procedures of performing the work, subject to the plans and specifications under this Contract and shall be solely responsible for the errors and omissions of its employees, subcontractors and agents. For goods and services to be provided under this contract, Contractor agrees to:

- a. Perform the work in a good, workmanlike, and timely manner using the schedule, materials, plans and specifications approved by County;
- b. Complies with all applicable legal requirements;
- c. Complies with all programs, directives, and instructions of County relating to safety, storage of equipment or materials;
- d. Take all precautions necessary to protect the safety of all persons at or near County or Contractor's facilities, including employees of Contractor, County and any other contractors or subcontractors and to protect the work and all other property against damage.

15. **Hold Harmless.** To the fullest extent allowed by law Contractor shall indemnify, save harmless and defend the County from and against all claims, suits or actions for damages, costs, losses and expenses arising from Contractor's torts, as the term "tort" is defined in ORS 30.260(8).
16. **Contractor Not An Agent of County.** It is agreed by and between the parties that Contractor is not carrying out a function on behalf of County, and County does not have the right of direction or control of the manner in which Contractor delivers services under this agreement or exercise any control over the activities of Contractor.
17. **Partnership.** County is not, by virtue of this Contract, a partner or joint venturer with Contractor in connection with activities carried out under this Contract, and shall have no obligation with respect to Contractor's debts or any other liabilities of each and every nature.
18. **Insurance.** In conjunction with all services performed under this agreement: Contractor shall furnish proof of the types and amounts of insurance indicated in Exhibit 1, attached hereto and by this reference incorporated herein. County reserves the right to require completed, certified copies of all required insurance policies, at any time.
19. **Non-Discrimination.** Contractor agrees that no person shall, on the grounds of race, color, creed, national origin, sex, marital status, or age, suffer discrimination in the performance of this Agreement when employed by Contractor. Contractor agrees to comply with Title VI of the Civil Rights Act of 1964, with Section V of the Rehabilitation Act of 1973, and with all applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations. Additionally, each party shall comply with the Americans with Disabilities Act of 1990 (Pub. L. No. 101-336), ORS 659A.112, and all regulations and administrative rules established pursuant to those laws.
20. **Non-Appropriation.** In the event sufficient funds shall not be appropriated for the payment of consideration required to be paid under the Contract, and if County has no funds legally available for consideration from other sources, then County may terminate this agreement in accordance with Paragraph 10 of this Contract.
21. **Attorney Fees.** In the event an action, lawsuit or proceeding, including appeal there from, is brought for failure to observe any of the terms of this Agreement, each party shall be responsible for their own attorney's fees, expenses, costs and disbursements for said action, suit, proceeding or appeal.
22. **Claim, Action, Suit or Proceeding.** This Contract shall be governed by and construed in accordance with the laws of the State of Oregon without regard to principles of conflicts of law. Any claim, action, suit or proceeding (collectively, "Claim") between County and Contractor that arises from or relates to this Contract shall be brought and conducted solely and exclusively within the Circuit Court of Deschutes County for the State of Oregon; provided, however, if a Claim must be brought in a federal forum, then it shall be brought and conducted solely and exclusively within the United States District Court for the District of Oregon. THE RECIPIENT, BY EXECUTION OF THIS CONTRACT, HEREBY CONSENTS TO THE IN PERSONAM JURISDICTION OF SAID COURTS.
23. **Land Use Permit.** This contract does not constitute a land use permit, nor does acceptance of this Contract by Contractor constitute approval of any legislative or

quasi-judicial action required as a condition precedent to use of the land for the intended purpose.

24. **Drug Testing Program.** The drug testing program in place at execution of this Contract shall remain in place for the duration of the Contract.
25. **Records Maintenance; Right to Audit Records.**
- A. **Records Maintenance; Access.** Contractors and subcontractors shall maintain all fiscal records relating to Contracts in accordance with generally accepted accounting principles (“GAAP”). In addition, Contractors and subcontractors shall maintain all other records necessary to clearly document.
- 1) Their performance; and
  - 2) Any claims arising from or relating to their performance under this Contract. Contractors and subcontractors shall make all records pertaining to their performance and any claims under a Contract (the books, fiscal records and all other records, hereafter referred to as “Records”) accessible to the County at reasonable times and places, whether or not litigation has been filed as to such claims.
- B. **Inspection and Audit.** County may, at reasonable times and places, have access to and an opportunity to inspect, examine, copy, and audit the Records of any Entity that has submitted cost or pricing data according to the terms of a Contract to the extent that the Records relate to such cost or pricing data. If the Entity must provide cost or pricing data under a Contract, the Entity shall maintain such records that relate to the cost or pricing data for 3 years from the date of final payment under the Contract, unless a shorter period is otherwise authorized in writing.
- C. **Records Inspection; Control Audit.** County, and its authorized representatives, shall be entitled to inspect, examine, copy, and audit any Contractor’s or subcontractor’s Records, as provided in Section A of this rule. The Contractor and subcontractor shall maintain the Records and keep the Records accessible and available at reasonable times and places for a minimum period of 3 years from the date of final payment under the Contract or subcontract, as applicable, or until the conclusion of any audit, controversy or litigation arising out of or related to the Contract, whichever date is later, unless a shorter period is otherwise authorized in writing.
26. **Contract Rules.** The rules applicable to this contract are the Attorney General’s Model Public Contract Rules, Chapter 137-046 and Chapter 137-049, as presently constituted and Deschutes County Code (DCC) Chapter 2.37. The provisions of DCC Chapter 2.37.150 are incorporated herein by reference. These provisions may be viewed at the following web address:  
<http://www.co.deschutes.or.us/dccode/Title2/docs/Chapter%202.37doc>
27. **Contractor Certifies.** By execution of this contract, Contractor certifies, under penalty of perjury, that:
- A. To the best of Contractor’s knowledge, Contractor is not in violation of any tax laws described in ORS 305.380(4), and
  - B. Contractor has not discriminated against minority, women or small business enterprises in obtaining any required subcontracts.

28. **Contract Provisions.** Contractor shall make all provisions of this contract with the County applicable to any subcontractor performing work under the contract.
29. **Contract Content.** This Contract and attached exhibits and attachments constitute the entire agreement between the parties on the subject matter hereof. There are no understandings, agreements, or representations, oral or written, not specified herein regarding this Contract. No waiver, consent, modification or change of terms of this Contract shall bind either party unless in writing and signed by both parties and all necessary County approvals have been obtained. Such waiver, consent, modification or change, if made, shall be effective only in the specific instance and for the specific purpose given. The failure of the County to enforce any provision of this Contract shall not constitute a waiver by County of that or any other provision.

DESCHUTES COUNTY  
ROAD DEPARTMENT  
61150 SE 27<sup>TH</sup> STREET  
BEND, OREGON 97702

SPECIAL PROVISIONS  
THE CONSTRUCTION OF THE  
POWELL BUTTE HIGHWAY  
ROUNDAABOUT



For Sections

00210, 00230, 00280, 00305, 00310  
00320, 00360, 00390, 00445, 00470,  
00596, 00620, 00640, 00744, 00759  
00810, 01050, 01070

For Sections

00225, 00855, 00865, 00905, 00920,  
00930, 00940, 00970, 00990

## SPECIAL PROVISIONS

### FOR

### WORK TO BE DONE

This contract consists of the following work in Deschutes County, Oregon:

- 1) Construction of a roundabout at the intersection of Powell Butte Hwy and Neff Rd/Alfalfa Market Rd including modifications to all the approach legs.
- 2) Construction and removal of a temporary detour road.
- 3) Landscape improvements and restoration.
- 4) Driveway connections as noted on the plans
- 5) Performance of such additional and incidental work as specified in the plans and specifications

Said work to be performed in Deschutes County in the vicinity of Bend, Oregon.

### APPLICABLE STANDARD SPECIFICATIONS

Except as otherwise provided in these special provisions, the standard specifications which are applicable to work on this project are **Oregon Standard Specifications for Construction, 2015**, hereinafter referred to as the Standard Specifications are incorporated herein.

All number references in these special provisions shall be understood to refer to the Section or Subsection of the Standard Specifications bearing like numbers.

### SECTION 00110 – ORGANIZATION, CONVENTIONS, ABBREVIATIONS AND DEFINITIONS

This work shall be performed in accordance with Section 00110 of the Standard Specifications, supplemented and/or modified as follows:

#### **00110.20 Definitions:**

Agency – County of Deschutes.

Engineer - Parametrix Inc., acting either directly or through their authorized representatives.

### SECTION 00150 - CONTROL OF WORK

This work shall be performed in accordance with Section 00150 of the Standard Specifications, supplemented and/or modified as follows:

**00150.10 (a) Order of Precedence** – The Engineer will resolve any discrepancies between these documents in the following order of precedence:

1. Information to Bidders
2. General Conditions
3. Special Provisions
4. Plans specifically applicable to the project
5. Standard or General Plans
6. Supplemental Specifications
7. Standard Specifications

**00150.15(b) Agency Responsibilities** - Delete this subsection

**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 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.

**00150.50 Cooperation with Utilities** - The Contractor shall contact all known utility owners prior to the preparation of his bid to determine the nature, extent and location of all existing, adjusted or new utility facilities and shall reflect any additional cost resulting therefrom in his bid.

**00150.50(c) Contractor Responsibilities** - Replace this subsection, except for the subsection number and title, with the following:

The Contractor shall:

- Follow applicable rules adopted by the Oregon Utility Notification Center;
- Contact Utility owners during Bid preparation and after the Contract is awarded to verify all Utilities' involvement on the Project Site;
- Hold a Utility scheduling meeting and monthly Utility coordination meetings (see also 00180.42)
- Coordinate Project construction with the Utilities' planned adjustments, take all precautions necessary to prevent disruption of Utility service, and perform its Work in the manner that results in the least inconvenience to the Utility owners;
- Include all Utility adjustment work, whether to be performed by the Contractor or the Utilities, on the Contractor's Project Work schedule submitted under 00180.41;
- Protect from damage or disturbance any Utility that remains within the area in which Work is being performed. Maintain and re-establish location marks according to OAR 952-001-0090(2)(a). Coordinate re-establishment of the location marks with the associated Utility;
- Not disturb an existing Utility if it requires an unanticipated adjustment, but shall protect the Utility from damage or disturbance and promptly notify the Engineer;

- Determine the exact location before excavating within the reasonable accuracy zone according to OAR 952-001-0090(2)(c);
- Backfill any exposed Utilities as recommended and approved by the Utility representative. Obtain Utility locate warning tape from the Utility and replace damaged or removed warning tape. Utility locate warning tape may not be present at all existing Utilities;
- Stake, place warning tape, and maintain no work limits around critical Utility facilities as shown or directed by the Engineer and the Utility;
- In addition to the notification required in OAR 952-001-0090(5), notify the Engineer and the Utility as soon as the Contractor discovers any previously unknown Utility conflicts or issues. Contrary to the OAR, stop excavating until directed by the Engineer and allow the Utility a minimum of two weeks to relocate or resolve the previously unknown Utility issues; and
- Report to the Engineer any Utility owner who fails to cooperate or fails to follow the planned Utility adjustment.

Subject to the Engineer's approval, the Contractor may adjust the Utilities by asking the Utility owners to move, remove, or alter their facilities in ways other than as shown on the Plans or in the Special Provisions. The Contractor shall conduct all negotiations, make all arrangements, and assume all costs that arise from such changes.

**00150.50 (c) Contractor's Responsibilities** – Add the following to this subsection:

The Agency will not be responsible for any claims by the utility companies for damage to their facilities lying within the project limits. Any existing, adjusted, or new utility facilities which are to remain within the right-of-way shall be properly protected by the Contractor to prevent disturbance or damage resulting from construction operations.

**00150.50 (d) Delays** – Revise this subsection to read as follows:

The Agency will not be responsible for any claims for additional compensation from the Contractor resulting from delays, inconvenience or damage sustained by him due to interference from utility appurtenances, or the operation of moving same, other than as provided in subsection 00180.80.

**00150.50 (e) Notification** – Revise this subsection to read as follows:

The Contractor shall, at least 24 hours in advance of performing any work in the immediate vicinity of utility lines, contact the utility facilities. This project is located within the area covered by the Deschutes Utility Coordinating Council, which has been set up on a "one call" system for notifying all owners of utilities of work being performed in the vicinity of their facilities. The "One Call" system telephone number is 1-800-332-2344 or 811.

Add the following subsection:

**00150.50(f) Utility Information:**

There are no anticipated conflicts with the Utilities listed below. The Contractor shall contact those Utilities having buried facilities and request that they locate and mark them for their protection prior to construction.

Utility	Contact Person's Name and Phone Number	
1. Central Oregon Irrigation District	Jeremiah Fender	541-504-7581
2. Central Electric Cooperative	Parneli Perkins	541-312-7747
3. Century Link	Joe Dairy	541-385-0221
4. Bend Broadband	Jack Bowles	541-693-5983

Arrangements for removing, relocating, or adjusting Utilities on the Project are the responsibility of the County. Contact the County for information regarding these arrangements.

The following organizations may be adjusting Utilities within the limits of the Project during the period of the Contract with relocation Work estimated to be completed by the following dates (times):

Utility	Estimated Completion Date (Time)
1. Avion Water Company Mike Heffernan 541-382-5342 <a href="mailto:mike@aviowater.com">mike@aviowater.com</a>	18 Day Work Window (after closure of Hwy)

- The Contractor shall notify, in writing, Avion Water Company at least 28 Calendar Days (4 week(s)) before beginning Work on the Project.
- The Contractor shall allow Avion Water Company 18 Calendar Days (2½ weeks) for construction of a new waterline crossing of the north leg of Powell Butte Highway after traffic has been rerouted onto the temporary construction road. Notification of an acceptable work window must be provided by the Contractor to Avion Water Company a minimum of 4 weeks prior to the window.

**00150.70 Detrimental Operations** - Replace the paragraph that begins "The Contractor shall avoid..." with the following paragraph:

The Contractor shall avoid operations whose methods, conditions, or timing may injure people or damage property or the Work. Damage may include without limitation, staining surfaces with mud or asphalt or damaging Utilities and foundations. (also see 00150.60, 00150.75, and Section 00170)

**00150.80 Removal of Unacceptable and Unauthorized Work** - Replace the paragraphs that begin "The Agency will not pay..." and "If, when ordered by..." with the following two paragraphs:

The Agency will not pay the Contractor for unacceptable Work, except as provided in 00150.25, or for unauthorized work. The Engineer may issue a written order for the correction or removal of such work at the Contractor's sole expense.

If, when ordered by the Engineer, the Contractor fails to correct or remove unacceptable Work or remove unauthorized work, the Engineer may have the correction, removal, or removal and replacement, done by others and deduct the entire cost from monies due or to become due the Contractor under the Contract.

### **SECTION 00165 - QUALITY OF MATERIALS**

This work shall be performed in accordance with Section 00165 of the Standard Specifications, supplemented and/or modified as follows:

**00165.04 Costs of Testing** – Delete this subsection and substitute the following:

Tests of materials will be made by and at the expense of the Agency in accordance with methods described or designated in the applicable specifications and at any time during the production, fabrication, preparation and use of the materials as directed by the Engineer. The Contractor shall withhold from using the materials represented by the samples until tests have been made and the materials found equal to the requirements of the specifications or to approved samples.

**00165.30 (a) Contractor's Duties** – Delete the second bulleted item of this subsection

**00165.30 (b) Types of Tests** – Delete this subsection and substitute the following:

The following materials sampling and testing schedule is the minimum frequency for sampling and testing on the project. More frequent testing will be required at the contractor's expense if materials are borderline or fail to meet the quality standards.

TYPE OF CONSTRUCTION	MATERIAL	TESTS	MINIMUM FREQUENCY OF SAMPLING AND TESTING	PROCEDURE SAMP   TEST	
Embankment		Moisture Density Curve	1-test per each Soil Type		AASHTO T99
		Nuclear Method Density in Place % Compaction	1-Test per 1000 ft. of roadway. Minimum Testing frequency to be increased as necessary for adequate control. Testing frequency of structures to be determined by Engineer		AASHTO T130
Aggregate Base	Aggregate at time of Placement on Grade	Gradation SE-LL-PL Fracture (Gravels) Dry unit Weight	1 random test each 1000' of roadway. Note: An increase in the above frequency to a minimum of 1 test for each 500' is to be made when test results indicate a borderline or failing material	AASHTO T2	OSHD T27  T90
	Aggregate base in place	Density in Place % Compaction	1 test per 1,000' per lane placed. Additional tests to be taken after recompaction of any failing areas. (Top Lift Only)		
Asphalt	A.C. Mix	Aggregate Gradation  % Asphalt	1 test per 1,000 tons Note: Increase above frequency to Minimum of 1 - test per each 500 tons when test results indicate borderline or failing material Minimum of test 1 shift	AASHTO T168	AASHTO T30
	A.C. in Place	Core Method Density in Place % Compaction	1 test each 1/2 mile per lift per longitudinal joint *		AASHTO T166
		Nuclear Method Density in Place % Compaction	1 test each 1/2 mile/lift/lane. (If a failing test is encountered, a check test at immediate area is to be taken. If both tests fail, then determine failure area by additional testing).		*ODOT TM 306  **See Below

\* Minimum compaction requirement for the Control Strip is 92% of the Maximum Specific Gravity (gmm) of the JMF multiplied by 62.4, unless approved by the Engineer.

\*\* Contractor must achieve no less than 98% of the Control Strip for the duration of job.

**00165.30 (c) Acceptance of Field Tested Materials – Delete this subsection**

## **SECTION 00170 - LEGAL RELATIONS AND RESPONSIBILITIES**

This work shall be performed in accordance with Section 00170 of the Standard Specifications, supplemented and/or modified as follows:

**00170.03 Furnishing Right-of-way and Permits:** Delete the last bullet of this subsection

**00170.10 (a) Prompt Payment by Contractor for Labor and Materials:** Revise third bulleted item to read as follows:

- Not permit any lien or claim to be filed against the Agency or any political subdivision thereof, on account of any labor or material furnished in performance of the Contract; and

**00170.80 (d) Vandalism:** Revise this subsection to read as follows:

The Contractor is responsible for damage resulting from vandalism and the Contractor's operations or negligence, and shall make good any defective work or materials according to Section 00150.

**00170.85(b)(2) Warranties for Local Agency Projects:** Revise the second paragraph to read as follows:

The Contractor shall warrant all work and workmanship: including Changed Work, Additional Work, Incidental Work, On-Site Work and Extra Work and Materials and Equipment incorporated in the Work, for two years from the date of final acceptance, except that manufacturers' warranties and extended warranties according to 00170.85(C) shall not be abridged.

## **SECTION 00180 - PROSECUTION AND PROGRESS**

This work shall be performed in accordance with Section 00180 of the Standard Specifications supplemented and/or modified as follows:

**00180.33 Metric Submittals** – Delete this subsection

**00180.40 (a) In General** – Add the following to the second bulleted item:

The Engineer may require the Contractor to finish a portion or unit of the project on which work is in progress or to finish a construction operation before work is started on an additional portion or unit of the project.

**00180.40 (b) On-Site Work** – Delete the fourth and fifth bulleted items in this subsection.

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

For the purpose of these provisions, "on-site" work shall be understood to mean any physical construction work at the project site except for installation of temporary signs as required under Section 00225 of the Supplemental Standard Specifications.

**00180.40 Limitation of Operations** – Add the following at the end of this subsection:

(a) Limitation of Operations – Limitations of operations specified in these special provisions include, but are not limited to:

<u>Limitation</u>	<u>Subsection</u>
Utilities Work	00150.50
Final Completion Time	00180.50
Public Safety	00220.02
Traffic Restrictions	00220.40

**00180.41 (c) Substitution of Type “B” or “C” Schedule** – Delete this subsection

**00180.50 Contract time to complete work** - Revise this subsection to read as follows:

- a) Complete all road construction and have project open to traffic by **August 1, 2016**
- b) Complete the installation of all landscaping by **December 31, 2016**.

Contractor shall do no work before receiving the "Notice to Proceed". Work is anticipated to begin no earlier than March 1, 2016 and no later than April 1, 2016

**00180.85 (b) Liquidated Damages** - Add the following to the end of this subsection:

Per diem amount of liquidated damages for this contract will be **\$500.00 per calendar day**.

### **SECTION 00195 - PAYMENT**

This work shall be performed in accordance with Section 00195 of the Standard Specifications supplemented and/or modified as follows:

**00195.50(a) (1) Progress Estimates** - Delete the first sentence and substitute:

Once each month, on the 25th of the month, the Engineer will make an estimate of the amount of work completed and of the value of such completed work.

**00195.90 (b) Final Payment** – Add the following to this subsection:

The final payment will not be made until the final clean-up has been completed and approved by the Engineer.

### **SECTION 00199 – DISAGREEMENTS, PROTESTS AND CLAIMS**

This work shall be performed in accordance with Section 00199 of the Standard Specifications supplemented and/or modified as follows:

**00199.40 Claim Decision; Review; Exhaustion of Administrative Remedies** – Revise the third sentence to read as follows:

The disputed claim may then be resolved, in full or in part, at any of the three progressive steps of claim review procedure as set forth in (b) through (d) of this Subsection.

**00199.40 Claim Decision; Review; Exhaustion of Administrative Remedies (b) through (e)** – Delete these subsections and substitute the following:

(b) Step 1: Community Dispute Resolution Program – The Contractor shall request that the Engineer arrange a meeting with the Community Dispute Resolution Program in order to present the denied or partially denied claim for review and discussion. This meeting will take place within 21 Calendar Days of the Agency’s receipt of the request, or as otherwise agreed by the parties. The review will proceed as follows:

1. A third party mediator will be chosen by the Agency.
2. The Mediator will be a representative of the construction community familiar with the administration of road construction and related contracts utilizing the Standard Specifications for Highway Construction, 2008 edition, as published by the State Highway Division, State of Oregon.
3. The Mediator will have no direct involvement in the contract and will not be an employee of the Agency.
4. Compensation for the hearing official, if any, will be shared equally by the Contractor and the Agency.
5. The Mediator will hear presentations and review written documentation from the Contractor and Agency.
6. An attempt will be made at this meeting to come to an agreement between the Agency and the Contractor concerning the dispute.
7. If an agreement cannot be reached, the two parties shall proceed to Step 2.

(c) Step 2: Binding Arbitration – The parties may agree to binding arbitration and the claim will be reviewed by a single arbitrator using the Construction Industry Arbitration Rules of the American Arbitration Association with the following conditions and exceptions:

1. The location of the arbitration shall be in Bend, Oregon.
2. Each party shall bear its own costs (except arbitration filing costs), expert witness fees, and attorney fees.
3. Arbitration filing costs and any arbitrator’s fees will be divided equally between the Agency and the Contractor.
4. Judgment upon the award rendered by the arbitrator may be entered in a court in Deschutes County, Oregon.

(e) Step 4: Litigation – The Contractor must follow each step in order, and exhaust all available administrative remedies before resorting to litigation. Lawsuits must be properly filed in a court of competent jurisdiction in Deschutes County, Oregon within six months from the date of the final decision that exhausted the Contractor’s available administrative remedies under this Section 00199.

**00199.50 Mediation** – Delete this subsection.

## SECTION 00225 - WORK ZONE TRAFFIC CONTROL

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

**00225.01(c) Standards** - Add the following bullet to the end of the bullet list:

ODOT "Traffic Control Plans Design Manual", available on the ODOT Traffic Control Plans Unit website.

**00225.02 General Requirements** - In the paragraph that begins "Work may be suspended...", replace the sentence that begins "Costs for work performed..." with the following sentence:

Costs for work performed by the Agency may be deducted from monies due the Contractor.

Add the following to the end of this subsection:

Install "ROAD WORK AHEAD" (W20-1-48) signs with "FINES DOUBLE" (R2-6-36) rider on the Powell Butte Highway, Neff Road, and Alfalfa Market Road according to the "TCD Spacing Table" shown on the standard drawings or as modified by the supplemental drawings 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 supplemental drawings.

Install two sign flag boards, as shown on the standard drawings, above the following detour and road closed advance warning signs, where applicable:

"DETOUR AHEAD", "DETOUR XXXX FT", "DETOUR X/X MILE" (W20-2) signs.

"ROAD CLOSED AHEAD", "ROAD CLOSED XXXX FT", "ROAD CLOSED X/X MILE" (W20-3) signs.

Install on each approach to the Powell Butte Highway/Neff Road/Alfalfa Market Road intersection a portable changeable message sign (PCMS). PCMS shall remain in place for the duration of the project.

**00225.10 General** - In the paragraph that begins "Evaluate the condition...", replace the first sentence with the following sentence:

Evaluate the condition of TCD using the criteria shown in the most current version in effect of the American Traffic Safety Services Association (ATSSA) publication titled "Quality Guidelines for Temporary Traffic Control Devices and Features", available from the ATSSA website at [www.atssa.com](http://www.atssa.com).

**00225.11(c-1) Temporary Signs** - Replace the bullet that begins "Type 2 riprap geotextile..." with the following bullet:

Geotextile fabric

**00225.17 Flagger Station Lighting** - Add the following paragraph to the end of this subsection:

In addition to the products listed on the QPL, tripod mounted or cart mounted flagger station lights that were purchased on or before January 1, 2014 and that were on the QPL before January 1, 2014 may also be used. Provide proof of the original purchase date to the Engineer.

**00225.29 Pilot Cars** - Replace the bullet that begins " No smaller than..." with the following bullet:

- No smaller than a compact pickup truck.

**00225.32 Traffic Control Supervisor** - Replace the paragraph that begins "Do not designate the Project Superintendent..." with the following paragraph:

When the bid schedule includes an item for a TCS, do not designate the Project superintendent as the TCS.

**00225.41(b-4) Temporary Sign Supports** - Replace the bullet that begins "Do not tip over TSS..." with the following bullet:

- Do not tip over any TSS that is exposed to traffic, unless approved by the Engineer or the TSS is protected from traffic by a barrier system.

**00225.41(c) Sign Flag Boards and Sign Flags** - Replace this subsection, including subsections 00225.41(c-1) and 00225.41(c-2), with the following subsection:

**00225.41(c) Sign Flag Boards** - Install two sign flag boards, as shown or specified.

## **SECTION 00230 - TEMPORARY DETOURS**

Section 00230, which is not a Standard Specification, is included in this Project by Special Provision.

### **Description**

**00230.00 Scope** - This work consists of constructing, maintaining, and removing temporary detours as shown or directed.

### **Materials**

**00230.10 Embankment** - Provide embankment materials according to the applicable parts of Section 00330.

**00230.11 Geotextile** - Provide embankment geotextile meeting the requirements of Section 02320. Provide "Level B" documentation according to 02320.10(c).

**00230.12 Riprap** - Provide riprap meeting the requirements of Section 00390.

**00230.13 Aggregate Base** - Provide aggregate base meeting the requirements of 00640.10.

**00230.14 Asphalt Concrete Pavement** - Provide ACP meeting the requirements of 00745.50.

**00230.15 Emulsified Asphalt Tack Coat** - Use CSS-1, CSS-1h, CMS-2, CMS-2S, CMS-2h, CRS-1, CRS-2, HFRS-2, or HFMS-2 asphalt in tack as the Contractor elects.

### Construction

**00230.40 Embankment** - Construct detour embankments according to the applicable parts of Section 00330 except compaction to the specified densities will not be required. Compact the embankment material until there is no reaction or yielding under the compactor.

**00230.41 Geotextile** - Place embankment geotextile according to Section 00350.

**00230.42 Riprap** - Place riprap according to the applicable parts of Section 00390.

**00230.43 Aggregate Base** - Place and compact aggregate base according to the applicable parts of Section 00640.

**00230.44 Asphalt Concrete Pavement** - Compact the asphalt concrete mixture according to 00745.49(d).

### Maintenance

**00230.60 Surface Maintenance** - Maintain detour surfaces according to 00220.60.

### Finishing and Cleaning Up

**00230.70 General** - When temporary detours are no longer needed, do the following:

- Remove them
- Restore the area on which the detours occupied to the original ground contours
- Dispose of excess materials according to 00330.41(a-5)

### Measurement

**00230.80 Measurement** - No measurement of quantities will be made for work performed under this Section. It is estimated that the following approximate quantities of materials will be required:

Material	Amount
Embankment .....	797 cu. yd.
Geotextile .....	19,180 sq. ft.
Excavation.....	502 cu. yd.
Aggregate Base.....	900 cu. yd.
Asphalt Concrete Mixture .....	560 ton

### Payment

**00230.90 Payment** - The accepted quantities of work performed under this Section will be paid for at the Contract lump sum amount for the item "Construct and Remove Detours".

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

## **SECTION 00305 - CONSTRUCTION SURVEY WORK**

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

### **Description**

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

<http://www.oregon.gov/ODOT/HWY/GEOMETRONICS/Pages/documents.aspx>

### **Measurement**

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

### **Payment**

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

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

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

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

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

## **SECTION 00310 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS**

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

**00310.80 Measurement** - Add the following to the end of the length and area bullet:

Asphalt pavement cutting will be the length of the actual cut based on a depth of 6 inches. If the depth is greater than 6 inches, the length will be adjusted by converting to an equivalent number of feet on a proportionate length basis.

**00310.92 Separate Item Basis** - Add the following pay item to the pay item list:

(g) Asphalt Pavement Saw Cutting..... Foot

Add the following paragraph to the end of this subsection:

Item (g) applies to asphalt pavement saw cutting when shown.

### **SECTION 00320 - CLEARING AND GRUBBING**

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

**00320.40(b) Preserving and Trimming Vegetation** - Replace this subsection with the following subsection:

**00320.40(b) Preserving Vegetation and Other Natural Materials:**

**(1) Within the Work Areas** - Avoid injuring vegetation or other natural materials designated to be saved. Preservation of this vegetation includes protection and special care.

**(2) Outside the Work Areas** - Avoid injuring vegetation or other natural materials. Confine operations which may injure vegetation or other natural materials to the work area or to areas that have already been cleared.

**(3) Vegetation and Materials to be Saved** - The Engineer will designate no work zones and identify and mark trees, existing landscaping, vegetation, or other natural materials to be saved, as shown. Provide and place work zone fencing, from section 00225.12 of the QPL, around designated no work zones and critical root zones of marked trees, as directed. Do not begin construction activity or move equipment into existing landscaped or vegetated areas until the work zone fencing is in place to designate and protect no work and critical root zones.

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

Add the following subsection:

**00320.40(c) Tree and Vegetation Trimming** - Trim trees according to good tree surgery practices, as directed, and according to the following:

- Do not leave unsound branches of trees in place.

- Trim branches over roadways and bridges to provide at least 20 feet of clearance above the roadway surface.
- Trim branches over walks to provide at least 8 feet of clearance above the walk surface.
- Trim branches that obstruct sight distance at intersections or impair the visibility of signs.
- Keep equipment and materials off of the critical root zone as directed.
- Remove hazardous, dead, and damaged trees outside the clearing limit as directed.

**SECTION 00330 - EARTHWORK**

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

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

Perform all earthwork under this Section on the excavation basis.

**00330.41(a-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 00280.03, 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.

**330.41 Excavations** - add the following to the end of this section

Rock is anticipated to be encountered and shall be included in the general excavation bid item. No separate payment will be made for rock excavation

**00330.81 Excavation Basis Measurement** – (Add the following paragraph)

The pay quantity for “General Excavation” was determined by a topographic survey and computer generated surface model. The pay quantities for “General Excavation” will be limited to the neat lines of specified typical sections, lines, grades, and slopes and above ground or base elevations at the time excavation construction begins. The pay quantities WILL NOT include additional quantities required due to work outside of the neat lines (unless specified). If at any time during the construction the contractor feels that this is not an accurate representation of the actual excavation, he shall notify the County immediately of the possible discrepancy and it shall be his responsibility to provide measurements and documentation (including earthwork modeling) to the satisfaction of the Engineer to justify a change in the plan quantities. The cost of this analysis will be considered incidental and no separate payment shall be made. The proposed DTM used in the design will be made available to the successful bidder after award of the contract.

Estimated Project In Place Quantities

Excavation	4157 C.Y
Embankment	2259 C.Y

Note: Earthwork quantities account for final roadway excavation and embankment only. No quantities for landscape grading or temporary roadway grading are included in these numbers. No significant excavation is anticipated in the areas outside of the final roadway grading limits. See section 00230 for estimated quantities for the temporary detour road.

### **SECTION 00360 - DRAINAGE BLANKETS**

Comply with Section 00360 of the Standard Specifications.

**360.11 Granular Drainage Blanket** – Revise this section to read as follows:

Furnish granular drainage blanket material adhering to open aggregate section 02630.11

### **SECTION 00440 - COMMERCIAL GRADE CONCRETE**

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

**00440.13 Field-Mixed Concrete** - Add the following paragraph to the end of this subsection:

Pre-packaged dry blended concrete meeting the requirements of 00440.12 may be used for work items listed in 00440.14(a).

### **SECTION 00470 - MANHOLES, CATCH BASINS, AND INLETS**

Comply with Section 00470 of the Standard Specifications.

**00470.10 Materials:** Replace the subsection reference for "Precast Concrete Manholes, Catch Basins and Inlets..." with "02450".

### **SECTION 0A596 - MECHANICALLY STABILIZED EARTH RETAINING WALLS**

Section 0A596, which is not a Standard Specification, is included in this Project by Special Provision.

#### **Description**

**0A596.00 Scope** - This work consists of furnishing and constructing Mechanically Stabilized Earth (MSE) retaining walls as shown and specified.

**0A596.03 Definitions:**

**Alternate Gabion Basket Joint Fasteners** - Spiral binders, high tensile locking spring steel clips, or clamp-on ring type fasteners that are an alternate to tie wire for assembling and joining gabion units.

**Appurtenances** - Traffic barriers, guardrail, fences, non-standard coping, drainage structures, sign supports, lighting supports, sound barriers, foundations, and utilities that are not part of the retaining wall system but are connected to, resting on, or passing through the retaining wall system.

**Batter** - The slope of the wall facing from vertical that is expressed as degrees, or as a ratio of the horizontal change in inches for each 12 inches of vertical change. A vertical face has a zero batter.

**Extensible Tensile Reinforcements** - Geosynthetic reinforcement where the deformation under load is equal to or greater than the reinforced backfill.

**Inextensible Tensile Reinforcements** - Steel reinforcement where the deformation under load is significantly less than the reinforced backfill.

**Manufacturer** - The fabricator having exclusive production rights for a proprietary retaining wall system.

**Mechanically Stabilized Earth Retaining Wall System** - A gravity retaining wall system composed of wall facing and granular backfill reinforced with either extensible or inextensible soil reinforcements connected to the facing elements.

**Nonproprietary Retaining Wall System** - A retaining wall system that is not patented or trademarked and is shown on the plans.

**Piecemark** - An alpha-numeric marking that identifies a specific type of retaining wall component. All components with the same piecemark are considered identical. Piecemarks shown on the working drawings identify placement of the component.

**Preapproved Proprietary Retaining Wall System** - A wall system that is listed in Appendix 15-D of the Geotechnical Design Manual (GDM).

**Preapproved Proprietary Retaining Wall System Options** - Acceptable preapproved proprietary retaining walls listed in 0A596.01 when proprietary retaining wall systems are required.

**Preapproved Proprietary Retaining Wall System Alternates** - Acceptable preapproved proprietary retaining walls listed in 0A596.01 when non-proprietary retaining wall systems are shown.

**Proprietary Retaining Wall System** - A retaining wall system that is protected by trademark, patent, or copyright and is produced or distributed by a manufacturer having exclusive rights.

**Retained Backfill** - Unreinforced backfill behind the back of MSE reinforced backfill.

**Retaining Wall System** - An engineered system of structural and geotechnical components that restrains a mass of earth. The terms "retaining wall system", "retaining structure", and "retaining wall" are used interchangeably.

**(c) Manufacturer's Field Construction Manual** - A field construction manual, according to 00150.37, is prepared by the manufacturer and includes detailed instructions for constructing the retaining wall.

0A596.05 Nonproprietary Retaining Wall - Submit complete unstamped working drawings according to 00150.35 at least 30 Calendar Days before beginning construction of nonproprietary retaining walls. Field verify existing ground elevations and bottom of wall elevations before preparing and submitting working drawings. Obtain the Engineer's written approval before beginning construction of the wall system.

## **Materials**

#### **0A596.10 General:**

- (a) Proprietary Retaining Wall Systems** - Provide all proprietary retaining wall system components from the same wall manufacturer. If there are conflicts between the Manufacturer's requirements and the Agency's requirements, the Agency's requirements prevail.
- (b) Nonproprietary Retaining Wall Systems** - Provide materials according to the applicable material Specifications.
- (c) Quality Control** - Provide quality control according to Section 00165.

#### **0A596.11 Backfill:**

- (a) Gravel Leveling Pads Backfill** - Furnish dense graded 3/4" - 0 aggregate base material for leveling pads meeting the requirements of 02630.10.
- (e) Gabion Basket fill** - Furnish a durable 4 to 8 inch size rock material meeting the requirements of 00390.11(b).

#### **0A596.13 Steel:**

- (c) Gabion Baskets** - Furnish gabion baskets meeting the requirements of Section 02340.

#### **0A596.14 Geosynthetics:**

- (a) Geotextile Filter Layer for Subsurface Drainage Systems** - Furnish Type 1, Level B, drainage geotextile according to Section 02320.
- (b) Gabion Facing Geotextile Filter** - Furnish Type 2, Level B, riprap geotextile for gabion wall filter according to Section 02320.
- (c) Precast Concrete Facing Panel Joint Cover** - Furnish Type 1, Level B, drainage geotextile for concrete wall facings according to Section 02320.
- (d) Modular Block Drainage Fill Geotextile Filter** - Furnish Type 1, Level B, drainage geotextile according to Section 02320.
- (e) Welded Wire Facing Geotextile Filter** - Furnish Type 1, Level B, drainage geotextile according to Section 02320.
- (f) Geosynthetic Soil Reinforcements:**
  - (1) Geotextile** - Provide geotextile according to Section 02320.

**0A596.31 Manufacturer's Representative Qualifications and Duties** - Provide a Manufacturer's representative meeting the following qualifications:

- Is a licensed Professional Engineer in the State of Oregon or, when the licensed Professional Engineer is in "responsible charge" of the work, a qualified unlicensed designee assigned by the licensed Professional Engineer.
- Has been trained by the Manufacturer in the construction, installation, and inspection of the selected proprietary retaining wall system.

A Manufacturer's representative is required to perform the following duties:

- **Preconstruction Conference** - Meet with the Engineer and all contractor supervisory personnel and subcontractors involved in construction of the proprietary retaining wall at the preconstruction conference to discuss methods of accomplishing all phases of work required to construct the proprietary retaining wall.
- **Initial Wall Construction** - Be present at the retaining wall construction site and provide technical assistance to the Contractor and Engineer during all wall construction activities from the beginning of wall construction until at least 10 percent of the total wall length is successfully installed and backfilled to a height of at least 10 feet, or the actual wall height, whichever is less.
- Submit daily field observation reports no later than noon of the next working day. Include the following information in the daily field observation reports:
  - Date of observation.
  - Description all work observed and whether or not the work was acceptable.
  - Documentation of all communications with the Contractor and Engineer.
  - Name and signature.
- **Remaining Wall Construction** - Be available by phone or in person as needed throughout the remaining construction of the proprietary retaining wall to provide technical assistance to the Contractor and Engineer.
- **Final Field Observation Meeting** - Conduct a final field observation meeting after completing retaining wall construction with the Engineer and Contractor. Submit a final field observation meeting report that includes the following information within five Calendar Day after the final field observation meeting:
  - Date of observation.
  - Documentation of all retaining wall deficiencies.
  - Recommendation to accept or reject the retaining wall construction.
- Provide a stamped final report to the Engineer no later than 10 Calendar Days after the final field observation meeting. Include the following information in the final report:
  - Preconstruction meeting minutes.
  - All daily field observation reports.
  - Transcripts of all communications with the Contractor and the Engineer during the remaining wall construction phase.
  - Final field observation report.

## Construction

### 0A596.40 General:

**(a) Proprietary Retaining Walls** - Construct proprietary retaining walls according to Agency requirements, Manufacturer's working drawings, and the Manufacturer's field construction manual. If the Manufacturer's working drawings or the Manufacturer's field construction manual conflict with Agency requirements, Agency requirements take precedence.

Follow instructions and recommendations of the representative if approved by the Engineer.

**(b) Nonproprietary Retaining Walls** - Construct nonproprietary retaining walls as shown.

**0A596.41 Excavation and Foundation Preparation** - Perform excavation and prepare and backfill wall foundations according to Section 00510 and the following:

- Grade the foundation level for a width equal to the combined width of the bottom soil reinforcements plus the facing component thickness plus 1.0 feet on each side.
- Place backfill material in nearly horizontal layers not more than 8 inches thick. Compact the entire surface of each layer with at least three coverages, using equipment made specifically for compaction. Routing hauling and grading equipment over the surface is not acceptable for compaction.
- Do not construct backfill when the backfill, the foundation, or the embankment on which it would be placed is frozen, or unstable.

### 0A596.42 Leveling Pads:

**(a) Gravel Leveling Pads** - Construct gravel leveling pads with:

- A width of at least the width of the facing plus 12 inches (6 inches on each side of the facing units).
- A thickness of at least 6 inches.
- A location tolerance of  $\pm 1$  inch of the design location.
- A top pad tolerance of  $\pm 1/8$  inch of the design elevation.
- Compact gravel leveling pads in 3 to 4 inch lifts using a minimum of three passes of a walk behind vibratory plate compactor with a gross static weight of not less than 125 pounds and a total compaction static plus dynamic force of not less than 2,000 pounds.

**(b) Leveling Pad Types** - Construct the following types of leveling pads:

**Leveling Pads for Gabion Unit Facing** - Unreinforced cast-in-place concrete leveling pad or a gravel leveling pad at each facing foundation.

**(c) Gabion Basket Facing:**

**(1) Placement** - Use the same style of mesh for the gabion panel bases, ends, sides, diaphragms, and lids. Use the same method of joining the edges of a single gabion unit. Use the same method of tying successive gabion units and soil reinforcement together throughout each structure. Place gabion facing geotextile filter and MSE granular wall backfill with each level of gabion facing. Install soil reinforcements and connect them to the facing. Place remaining courses in vertical or battered positions as shown.

**(2) Tolerances:**

- First course of gabion basket facing within  $\pm 1/4$  inch of the design horizontal alignment.
- Final out of plane concavity or convexity within  $\pm 2$  inches in 10 feet.
- Final deviation from the design batter within  $\pm 1$  inch for each 10 feet of wall height.
- Outward leaning batter is zero.
- Out of plane offset between consecutive rows within  $\pm 1$  inch from the planned offset.
- Finished top of wall elevation within  $\pm 1$  inch of design elevation.

**0A596.45 Geotextile Placement:**

**(a) Gabion Facing Riprap Geotextile Filter** - Install gabion facing riprap geotextile filter according to Section 00350 except place geotextile against the back of the gabion wall before placing backfill material and provide at least 12 inch overlaps.

**0A596.47 Reinforced Backfill Placement and Compaction:**

**(a) Soil Reinforcement** - Place backfill material by moving equipment parallel to or away from the wall facing. Do not brake suddenly or make sharp turning movements.

On extensible soil reinforcement:

- Maintain the reinforcement in a taut condition.
- Do not operate equipment on it until at least 6 inches of backfill is placed over it.

On inextensible soil reinforcement:

- Maintain reinforcement perpendicular to the wall face.
- Do not operate equipment on it until at least 3 inches of backfill is placed over it.

**(b) Compaction** - Meet the following requirements:

**(1) Maximum Density and Optimum Moisture Content** - Determine maximum density and optimum moisture content of the MSE granular backfill material according to AASHTO T 99 Standard Proctor Method A, with coarse particle correction according to AASHTO T 224.

**(2) Moisture Content** - Prepare the reinforced backfill material to within minus 4% to plus 2% of optimum moisture content at the time of compacting. Add water to material that does not

contain sufficient moisture and thoroughly mix. Remove excess moisture by manipulation, aeration, drainage, or other means before compacting.

**(3) Density:**

**a. Reinforced Backfill Placed 3 Feet or More Behind Wall Facing Units** - Compact reinforced backfill that is placed 3 feet or more behind wall facing units to 95% of maximum density determined by the nuclear gauge testing method.

**b. Reinforced Backfill Placed Within 3 Feet Behind Wall Facing Units** - Compact reinforced backfill that is placed within 3 feet behind wall facing units to 95% of maximum density determined by the test pad testing method. Use walk-behind vibratory rollers or vibratory plate compactors that have sufficient static and dynamic forces to achieve compaction without causing distortion of the wall facing units and keeping the wall facing units within the tolerances listed in 0A596.44. Compact backfill within this zone by making at least 3 compaction equipment passes.

**c. Spread Footing for Bridge Abutment on MSE Retaining Wall** - Compact reinforced backfill that is placed in the spread footing foundation support zone to 100% of maximum density determined by the nuclear gauge testing method. The spread footing foundation support zone has a depth which is twice the footing width or six feet, whichever is greater. Extend the spread footing zone laterally the width of the footing beyond the bottom edge of the footing in all directions, except only extend this zone a minimum 18 inches for steel soil reinforcements or 36 inches for geogrid soil reinforcements between the back of the MSE wall facing and the front edge of the adjacent bridge spread footing for spread footings.

**(4) Testing Methods and Frequency:**

**a. Nuclear Gauge Method** - Test in-place field density according to AASHTO T 310. Test at the frequency required in the ODOT Manual of Field Test Procedures.

**b. Test Pad Method** - Determine the number of compaction equipment passes necessary to achieve the specified density by constructing a test pad that is at least 5 feet wide, 15 feet long, and 2 feet deep. Construct test pad fill in layers no more than 8 inches thick using the same equipment and methods that will be used to compact the wall backfill. Perform at least one density test according to AASHTO T 310 on each test pad layer. Construct and test a new test pad when changes in material occur or different equipment is used during the construction of the wall backfill.

**(5) Deflection Requirement** - Conduct at least one deflection test, witnessed by the Engineer, on each compacted layer of backfill placed 3 feet or more behind wall facing units according to ODOT TM 158. If the tested layer exhibits yielding, deflection, reaction, or pumping, rework the area to provide acceptable test results before placing the next layer.

**Maintenance**

**0A596.60 Protecting Work** - Protect and repair work as follows:

- Do not allow runoff from adjacent areas to enter the wall construction site during construction operations.
- At the end of each day's operation, direct potential runoff away from the wall by sloping the last lift of backfill away from the wall facing.
- Rework and repair all damaged subgrade areas to the depth where undamaged work is encountered.

**Measurement**

**0A596.80 Measurement** - No measurement of quantities will be made for retaining walls.

The estimated quantity of retaining walls are:

<u>Station Limits</u>	<u>Area</u>
Sta. _27+76.30 (Neff) to Sta. 29+49.56 (Neff) (Lt.)	~1056 sq. ft.

**Payment**

**0A596.90 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:

<b>Pay Item</b>	<b>Unit of Measurement</b>
(a) Retaining Wall, Gabion .....	Lump Sum

**SECTION 00620 - COLD PLANE PAVEMENT REMOVAL**

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

**00620.40(a) General** - Replace this subsection, except for the subsection number and title, with the following:

Remove the existing pavement to the depth, width, grade and cross section shown or as directed. The use of a heating device to soften the pavement is not allowed.

Traffic will be allowed on the cold planed surface up to 30 Calendar Days after removing the existing surface. Sweep and clean the cold planed surface before opening to traffic.

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

**SECTION 00640 - AGGREGATE BASE AND SHOULDERS**

Comply with Section 00640 of the Standard Specifications.

**SECTION 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:

- (a) Provide PG 70-28ER in Level 3, 1/2" Dense HMAC Wearing Course
- (b) Provide PG 64-28ER in Level 3, 3/4" Dense HMAC Base/Intermediate Course
- (c) Provide PG 64-28ER in Level 3, 1/2" Dense HMAC Base course
- (d) Provide PG 64-28ER in Level 2, 1/2" Dense HMAC Wearing Course

Add the following subsection:

**00744.51 Opening Sections to Traffic** - Schedule work so that, during the same shift, the surfaces being paved are paved full width and length through the top base course before opening to traffic. Traffic will be allowed on the top base course up to 15 Calendar Days.

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

**SECTION 00759 - MISCELLANEOUS PORTLAND CEMENT CONCRETE STRUCTURES**

Comply with Section 00759 of the Standard Specifications.

**00759.90 Payment** - Add the following pay items:

<b>Pay Item</b>	<b>Unit of Measurement</b>
(a) Concrete Curb, Low Profile Mountable Curb.....	Foot
(a) Concrete Curb, Inner.....	Foot
(g) Patterned Concrete Surfacing, 6 Inches Thick	Square Foot
(g) Patterned Concrete Surfacing, 8 Inches Thick.	Square Foot
(g) Bicycle Exit Ramps, Concrete Surfacing .....	Square Foot
(g) Curb Cuts, Concrete Surfacing .....	Square Foot

**SECTION 00810 - METAL GUARDRAIL**

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

**00810.10 Materials** - Replace the last sentence of this section that begins "Use guardrail terminals from..." with the following sentence:

Use guardrail terminals from the QPL.

## SECTION 00851 - PAVEMENT MARKING REMOVAL

Comply with Section 00851 of the Standard Specifications modified as follows:

**00851.40 General** - Revise the first paragraph to read as follows:

Remove durable and non-durable pavement markings by hydroblasting, steel shot blasting, or grinding so that the pavement surface is not damaged below a depth of 1/8 inch.

## SECTION 00865 - LONGITUDINAL PAVEMENT MARKINGS - DURABLE

Comply with Section 00865 of the Standard Specifications modified as follows:

**00865.45 Installation** - Add the following paragraph to the end of the bullet that begins "**Method B: Spray Markings...**":

Thermoplastic spray markings may be installed in one application at the total specified thickness if approved by the Engineer and after a successful performance test according to 00865.40. Apply spray markings in two applications if installing yellow colored markings over rumble strips.

## SECTION 00920 - SIGN SUPPORT FOOTINGS

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

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

The estimated quantities of concrete for minor sign supports are:

Support Type	Material	Quantity
Triangular Base Breakaway	Concrete	5.0 cu. yd.

## SECTION 00930 - METAL SIGN SUPPORTS

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

**00930.10 Materials** - Replace the paragraph that begins "Except for perforated steel square tube..." with the following paragraph:

Except for perforated steel square tube slip base sign supports and for perforated steel square tube anchor sign supports, galvanizing shall conform to the requirements of Section 02530. Galvanize perforated steel square tube slip base sign supports and perforated steel square tube anchor sign supports according to ASTM A653 G90, zinc coat corner seam weld after scarfing, apply a conversion coating, and apply a final clear polymer coating.

**00930.40(c) Welding** - Replace the paragraph that begins "AWS D1.1, Clause 3..." with the following bullets:

AWS D1.1, Clause 3 prequalified welds for complete joint penetration (CJP) are not allowed.

Qualify CJP welds according to AWS D1.1, Clause 4. Perform V-notch (CVN) testing at 70 °F meeting the requirements of the absorbed energy values of Table 4.14.

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

The estimated quantities of structural steel are as follows:

<b>Item</b>	<b>Estimated Quantity (Pound)</b>
Minor Sign Supports	810

**SECTION 00990 - TRAFFIC SIGNALS**

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

**00990.90 Payment** - Add the following pay items:

- Lump Sum
- (h) Dynamic Feedback Warning Sign..... Lump Sum
- (i) Solar Powered LED Border Signs..... Lump Sum

Add the following paragraphs after the paragraph that begins "Item (g) includes furnishing...":

Item (h) includes furnishing and installing all components specified in the Dynamic Feedback Warning Sign plan (Sheet ES1.0).

Item (i) includes furnishing and installing the solar powered LED border signs and associated electrical components. Payment for the sign support and foundation are not included in this item.

**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, Mix No. 1:**

<b>Botanical Name (Common Name)</b>	<b>PLS (lb/acre)</b>	<b>÷ (% Purity (minimum)</b>	<b>x % Germination) (minimum)</b>	<b>= Amount (lb/acre)</b>
Bromus carinatus (California brome)	20.0	_____	_____	_____
Elymus elymoides (Bottlebrush squirreltail)	12.0	_____	_____	_____
Festuca roemerii (Roemer's fescue)	5.0	_____	_____	_____
Festuca idahoensis (Idaho fescue)	5.0	_____	_____	_____

Poa secunda spp. Secunda (Sandberg's bluegrass)	2.5	_____	_____	_____
Eriophyllum lanatum (Oregon sunshine)	0.5	_____	_____	_____

**Permanent Seeding, Mix No. 2:**

<b>Name</b>	<b>PLS (lb/acre)</b>	<b>÷ (% Purity (minimum)</b>	<b>x % Germination) (minimum)</b>	<b>= Amount (lb/acre)</b>
Delphinium nuttallianum (Larkspur)	10.0	_____	_____	_____
Lupinus argenteus (Silvery lupine)	5.0	_____	_____	_____
Lupinus Lepidus var. utahensis (Least lupine)	5.0	_____	_____	_____
Montia perfoliata (Miner's lettuce)	10.0	_____	_____	_____
Polemonium pulcherimum (Jacob's ladder)	10.0	_____	_____	_____
Solidago spp. (Goldenrod)	10.0	_____	_____	_____

**Lawn Seeding:**

**01030.15 Mulch** - Add the following paragraph to the end of this subsection:

Projects that have variable slopes may include straw mulch and hydromulch when prior approved by the Engineer.

**01030.15(d) Compost** – Commercially manufactured fine and medium compost material meeting the requirements of Section 03020.

**SECTION 01040 - PLANTING**

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

**01040.14 Topsoil** – Add the following at the end of this subsection:

**(d) Planting Topsoil** – For backfill of tree and shrub plant pits, provide planting soil (topsoil) blend as follows:

- 15% soil conditioner meeting the requirements of subsection 01040.15
- 55% imported topsoil meeting the requirements of this section
- 30% native soil

Moisture retention chemicals meeting the requirements of subsection 01040.22(C)

Combine at the rate recommended by manufacturer.

**01040.22 Water** - Add the following sentence to the end of this subsection:

Moisture retention chemicals are required for this Project.

**01040.23(g) Tree Stakes and Ties** – Delete this subsection and replace with the following:

Where noted on the plans, furnish below-grade stabilizing system for trees, model Tree Staple stabilizers, as manufactured by Tree Staple, Inc. Uncoated, cold-rolled carbon steel which will dissipate in soil over time.

Model: TS24: 24 inches

- Tree Caliper/Height: 1-2 inches / up to 6' height
- Number of Tree Staples per tree: 2 with up to a 16-inch rootball

Model: TS42: 42 inches

- Tree Caliper/Height: 4-6 inches / up to 14' height
- Number of Tree Staples per tree: 3 with a 30+ inch rootball

Manufactured by:

Tree Staple, Inc.  
1390 Valley Road, Suite 2B  
Stirling, NJ 07980  
[www.treestaple.com](http://www.treestaple.com)

Or,

Underground rootball stabilizing system consisting of DUCKBILL anchors with D-ring, and galvanized wire rope (5' lengths per tree), and hand ratchet, as manufactured by MacLean Power Systems.

Model: 40 RBD Kit

Manufactured by:

MacLean Power Systems  
481 Munn Road, Suite 300  
Fort Mill, SC 29715  
[www.earthanchor.com](http://www.earthanchor.com)

Or, Engineer approved equal.

**01040.48(a) Method "A" (Cultivated Planting Areas, Non-Lawn)** – Replace the first paragraph with the following:

After completing fine grading for the landscape berms and irrigation installation, place blended planting soil mixture as described in subsection 01040.14 into the individual plant pits.

**01040.55(i) Tree Stakes and Ties** – Replace this subsection with the following:

Place tree staples or duckbill anchors as follows:

- Leave the burlap intact and heel the plant's root ball into place.
- Remove plastic safety caps from tree staples and set aside.
- Set each tree staple opposite the other and against the outside edge of the root ball. Place the recommended quantity of tree staples as noted below. The shorter prong should be positioned over the root ball, halfway between the trunk and the root ball's outer edge.
- Drive each tree staple into the ground with a sledgehammer until the cross bar is recessed 1"-2" below the surface of the root ball. Alternate between hitting either of the prongs to insure the tree staples are completely below grade.
- Place safety caps on exposed ends.
- Cut back burlap, leaving material under cross bars.
- Fill and finish planting using best practices.

For DUCKBILL rootball anchor kits, after selecting the appropriate Power Drive Steel Shank per manufacturer's recommendations, install rootball systems around each conifer and deciduous tree according to manufacturer's recommendations.

**01040.90(g) Miscellaneous** – Add the following pay item to the last paragraph:

No separate or additional payment will be made for:

- Moisture Retention Chemicals
- Tree Staples or DUCKBILL rootball anchors

### **SECTION 01050 - FENCES**

Comply with Section 01050 of the Standard Specifications modified as follows:

**01050.43(c) Intermediate End Posts** - Add the following sentence to the end of this subsection:

Contrary to the details shown on the standard drawings, space intermediate end posts a maximum of 300 feet apart.

**01050.90(a) Payment** – Add the following to the end of this subsection:

Type 1-5W Modified Fence includes a single electrified strand on top. Payment for this item includes connection to the existing electrified section of fence and verification of proper operation.

Type 2 Modified Fence includes an additional barbed wire attached at the bottom of the fence per the owner's instructions.

**0150.90(d) Payment** – Add the following to the end of this subsection:

Payment for this item (Removing and Rebuilding Fence) is for relocating the existing gate on the ditch rider road including any additional materials necessary to ensure proper operation in similar or better condition than the existing gate.

## SECTION 01120 - IRRIGATION SYSTEMS

Comply with Section 01120 of the Standard Specifications, modified as follows:

**01120.10 General** – Add the following:

Any fees and/or charges related to the work described in this Section will be paid by the Contractor.

**01120.12 Automatic Controllers** – Delete this subsection and replace with the following:

Provide battery operated Control Modules, model TBOS-II TBOS2CM1, as manufactured by:

Rain Bird Corporation  
970 West Sierra Madre Avenue  
Azusa, CA 91702  
1-800-724-6247  
[www.rainbird.com](http://www.rainbird.com)

Provide one Field Transmitter for Control Module scheduling, model TBOS2FTUS, as manufactured by Rain Bird.

**01120.40 General** – Add the following:

Include or accommodate the following in the irrigation system design:

- Use point-of-connection and sleeving as shown on the plans.
- Ensure irrigation water is distributed to all new roadside plantings.
- Field verify the proposed point-of-connection for the roadside irrigation service, including water service to be provided by the Avion Water Co. Contact:

Mike Heffernan  
Engineering Department  
Avion Water Company  
[mike@aviowater.com](mailto:mike@aviowater.com)  
541.382.5342

- Verify available water service line hydrostatic pressure and available flow (12am - 6am) prior to starting irrigation construction, and report findings to the Engineer.
- Provide a low-flow irrigation system that will deposit water uniformly throughout the planted areas shown on plan.

- Individual irrigation zones to have matching manufacturer make and model low-flow elements, and performance characteristics.
- Locate irrigation equipment for convenient operation and maintenance. All underground equipment, excluding pipe, shall be installed in irrigation valve boxes and vaults.
- Minimize the potential for vandalism, during and after construction.

### **SECTION 02010 - PORTLAND CEMENT**

Comply with Section 02010 of the Standard Specifications modified as follows:

**02010.20 Blended Hydraulic Cement** - Replace the paragraph that begins "Blended hydraulic cement..." with the following paragraph:

Blended hydraulic cement shall be either Type IS-Portland blast-furnace slag cement, Type IP-Portland-pozzolan cement, or Type IT-ternary blended cement according to AASHTO M 240, modified as follows:

Add the following bulleted item to the end of this subsection:

- Furnish blended hydraulic cement from the QPL.

### **SECTION 02050 - CURING MATERIAL**

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

**02050.00 Scope** - Revise this subsection to read as follows:

This Section includes the requirements for liquid compounds, polyethylene films, and curing blankets used to cover concrete and other surfaces to retain moisture and to cure.

**02050.10 Liquid Compounds** - In the paragraph that begins "Furnish liquid membrane-forming...", replace "AASHTO C 309" with "ASTM C 309".

**02050.40 Liquid Evaporation Reducer Compounds** - Delete this subsection.

### **SECTION 02190 - PRESERVATIVE TREATMENT OF LUMBER**

Comply with Section 02190 of the Standard Specifications modified as follows:

**02190.20 Drying Time** - Replace this subsection with the following subsection:

**02190.20 Drying After Treatment** - When using waterborne preservatives, as defined in AWPA P5, dry items according to AWPA T1, Section 7.

During the drying period and until the treated items are installed on the Project, separate each layer of treated items using spacers that are at least 1/2 inch thick.

The maximum moisture content shall be 19 percent prior to installation.

Collect all spacers and other treated wood waste from the construction site and dispose of them according to 00290.20.

**BID PROPOSAL  
FOR THE CONSTRUCTION OF THE  
POWELL BUTTE HWY. ROUNDABOUT**

TO: DIRECTOR  
Road Department, 61150 SE 27<sup>th</sup> Street  
Bend, Oregon 97702

The undersigned, hereinafter called the Bidder, declares that the only persons or parties interested in this Proposal are those named herein; that this Proposal is, in all respects, fair and without fraud; and it is made without collusion with any official of Deschutes County, Oregon, hereinafter called County; and that the Proposal is made without any connection or collusion with any person making another proposal on this contract.

The Bidder further declares that he has carefully examined the contract documents; that he has satisfied himself as to the quantities involved, including materials and equipment, and conditions of work involved; and that this proposal is made according to the provisions and under the terms of the contract documents, which documents are hereby made a part of this Proposal.

The Bidder agrees that all of the applicable provisions of Oregon law relating to public contracts (ORS Chapter 279) are, by this reference, incorporated in and made a part of this Proposal. Bidder hereby states that bidder will comply with ORS 279C.840.

Bidder (is) (is not) a resident bidder of the State of Oregon. If Bidder is a resident of another state, specify state of residency: \_\_\_\_\_.

The Bidder further agrees that if this Proposal is accepted, he will, within ten (10) calendar days after notification of acceptance, execute the contract with the County in the form of contract annexed hereto; and will, at the time of execution of the contract, deliver to the County the Performance and Payment Bonds (See Section 13 Information for Bidders) required herein; and will, to the extent of this Proposal, furnish all materials necessary to complete the work in the manner, in the time, and according to the methods as specified in the contract documents and required by the Road Department Director.

Bidder certifies that it has a drug testing program in place for its employees, or warrants that a drug testing program will be in place prior to execution of this contract, that the drug testing program is in writing, that new employees must pass a drug screening, that existing employees may be tested for reasonable cause or when an employee is injured or involved in an accident resulting in property damage. Bidder agrees that each subcontractor providing labor under this Contract shall maintain a qualifying drug testing program for the duration of the Contract.

The Bidder agrees to commence work upon the issuance of a "Notice to Proceed" by the County and fully complete the project according to the time schedule specially set forth in the contract documents.

Bidder further agrees to pay liquidated damages for failure to complete within the specified time.

It is agreed that if the Bidder is awarded the contract for the work herein proposed and shall fail or refuse to execute the contract and furnish the contract and furnish the specified Performance and Payment Bond within ten (10) calendar days after receipt of notification of acceptance of his proposal, then, in that event, the bid security deposited herewith according to the conditions of the Invitation to Bid and Information for Bidders shall be retained by the County as liquidated damages; and it is agreed that the said sum is a fair measure of the amount of damage the County will sustain in case the Bidder shall fail or refuse to enter into the contract for the said work and to furnish the Performance and Payment Bonds (See Section 13 Information for Bidders) as specified in the contract documents. Bid security in the form of a certified check shall be subject to the same requirements as a bond.

If the Bidder is awarded a contract on this Proposal, the Surety who will provide the performance bond will be \_\_\_\_\_, whose address is

\_\_\_\_\_

STREET	CITY	STATE	ZIP
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**BID SCHEDULE**

**FOR THE CONSTRUCTION OF THE POWELL BUTTE HIGHWAY ROUNDABOUT**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>	<u>UNITS</u>	<u>UNIT PRICE</u>	<u>COST</u>
10	MOBILIZATION (210)	ALL	LS	\$_____	\$_____
20	TEMPORARY WORK ZONE TRAFFIC CONTROL, COMPLETE (00225)	ALL	LS	\$_____	\$_____
30	CONSTRUCT AND REMOVE DETOURS(00230)	ALL	LS	\$_____	\$_____
40	EROSION CONTROL (00280)	ALL	LS	\$_____	\$_____
50	CONSTRUCTION SURVEY WORK (00305)	ALL	LS	\$_____	\$_____
60	REMOVAL OF STRUCTURES AND OBSTRUCTIONS (00310)	ALL	LS	\$_____	\$_____
70	ASPHALT PAVEMENT SAW CUTTING (00310)	1,950	FOOT	\$_____	\$_____
80	CLEARING AND GRUBBING (00320)	ALL	LS	\$_____	\$_____
90	GENERAL EXCAVATION (00330)	4,178	CUYD	\$_____	\$_____
100	GRANULAR DRAINAGE BLANKET (00360)	50	TON	\$_____	\$_____
110	LOOSE RIPRAP, CLASS 50 (00390)	5	TON	\$_____	\$_____
120	4-INCH IRRIGATION PIPE SLEEVE (00445)	50	FOOT	\$_____	\$_____
130	8-INCH DUCTILE IRON PIPE, 5 FT DEPTH (00445)	60	FOOT	\$_____	\$_____
140	CONCRETE INLETS, TYPE G-2 (00470)	2	EACH	\$_____	\$_____
150	RETAINING WALL, PREFABRICATED MODULAR GRAVITY (00596)	ALL	LS	\$_____	\$_____
160	COLD PLANE PAVEMENT REMOVAL, 0 - 2 INCHES DEEP (00620)	1670	SQYD	\$_____	\$_____

170	3/4 INCH - 0 AGGREGATE BASE (00640)	5,409	TON	\$ _____	\$ _____
180	AGGREGATE SHOULDERS (00640)	2,537	TON	\$ _____	\$ _____
190	LEVEL 3, 3/4 INCH ACP MIXTURE PG64-28ER (00744)	1,899	TON	\$ _____	\$ _____
200	LEVEL 3, 1/2 INCH ACP MIXTURE PG64-28ER (00744)	451	TON	\$ _____	\$ _____
210	LEVEL 3, 1/2 INCH ACP MIXTURE PG70-28ER (00744)	1,494	TON	\$ _____	\$ _____
220	CONCRETE CURBS, MOUNTABLE CURB, MODIFIED (00759)	5,384	FOOT	\$ _____	\$ _____
230	CONCRETE CURBS, INNER, MODIFIED (00759)	233	FOOT	\$ _____	\$ _____
240	PATTERNED CONCRETE SURFACING, 6 INCHES THICK (00759)	11,791	SQFT	\$ _____	\$ _____
250	PATTERNED CONCRETE SURFACING, 8 INCHES THICK (00759)	4,860	SQFT	\$ _____	\$ _____
260	CONCRETE SURFACING, BICYCLE EXIT RAMP (00759)	175	SQFT	\$ _____	\$ _____
270	CONCRETE SURFACING, CURB CUT (00759)	750	SQFT	\$ _____	\$ _____
280	GUARDRAIL, TYPE 1 (00810)	225	FOOT	\$ _____	\$ _____
290	GUARDRAIL END PIECES, TYPE B (00810)	2	EACH	\$ _____	\$ _____
300	TYPE 1-5W MODIFIED FENCE (01050)	140	FOOT	\$ _____	\$ _____
310	TYPE 2 FENCE (01050)	1,025	FOOT	\$ _____	\$ _____
320	TYPE 2 MODIFIED FENCE (01050)	645	FOOT	\$ _____	\$ _____
330	REMOVING AND REBUILDING FENCE (01050)	20	FOOT	\$ _____	\$ _____
340	MULTIPLE MAILBOX SUPPORTS (01070)	1	EACH	\$ _____	\$ _____

350	BI-DIRECTIONAL YELLOW TYPE 1AR MARKERS, RECESSED (00855)	80	EACH	\$ _____	\$ _____
360	PERMANENT SURFACE MOUNTED TUBULAR MARKERS (00856)	60	EACH	\$ _____	\$ _____
370	METHYL METHACRYLATE, EXTRUDED, GROOVED, NON- PROFILED (00865)	15,200	FOOT	\$ _____	\$ _____
380	THERMOPLASTIC, EXTRUDED OR SPRAYED, SURFACE, NON- PROFILED (00865)	132	FOOT	\$ _____	\$ _____
390	REMOVE EXISTING SIGNS (00905)	ALL	LS	\$ _____	\$ _____
400	REMOVE AND REINSTALL EXISTING SIGNS (00905)	ALL	LS	\$ _____	\$ _____
410	SIGN SUPPORT FOOTINGS (00920)	ALL	LS	\$ _____	\$ _____
420	TRIANGULAR BASE BREAKAWAY SIGN SUPPORTS (00930)	ALL	LS	\$ _____	\$ _____
430	PERFORATED STEEL SQUARE TUBE SLIP BASE SIGN SUPPORTS (00930)	ALL	LS	\$ _____	\$ _____
440	TYPE "G" SIGNS IN PLACE (00940)	143.25	SQFT	\$ _____	\$ _____
450	TYPE "R2" SIGNS IN PLACE (00940)	72	SQFT	\$ _____	\$ _____
460	TYPE "W1" SIGNS IN PLACE (00940)	40	SQFT	\$ _____	\$ _____
470	TYPE "Y1" SIGNS IN PLACE (00940)	92	SQFT	\$ _____	\$ _____
480	TYPE "Y7" SIGNS IN PLACE (00940)	25	SQFT	\$ _____	\$ _____
490	POLE FOUNDATIONS (00970)	ALL	LS	\$ _____	\$ _____
500	SWITCHING, CONDUIT, AND WIRING (00970)	ALL	LS	\$ _____	\$ _____
510	DYNAMIC FEEDBACK WARNING SIGN (00990)	ALL	LS	\$ _____	\$ _____
520	SOLAR POWERED LED BORDER SIGNS (00990)	ALL	LS	\$ _____	\$ _____

530	PERMANENT SEEDING, MIX NO. 1 (01030)	1.7	ACRE	\$_____	\$_____
540	PERMANENT SEEDING, MIX NO. 2 (01030)	0.5	ACRE	\$_____	\$_____
550	TOPSOIL (01040)	74	CUYD	\$_____	\$_____
560	SOIL CONDITIONER (01040)	19	CUYD	\$_____	\$_____
570	CONIFER TREES, 6 FT HEIGHT (01040)	12	EACH	\$_____	\$_____
580	CONIIFER TREES, SPECIMEN (12 FT HEIGHT) (01040)	14	EACH	\$_____	\$_____
590	SHRUBS, #1 CONTAINER (01040)	121	EACH	\$_____	\$_____
600	ROCK MULCH (01040)	2	TON	\$_____	\$_____
610	BOULDERS (01040)	42	EACH	\$_____	\$_____
620	IRRIGATION SYSTEM (01120)	ALL	LS	\$_____	\$_____
630	<b>PROJECT TOTAL</b>				\$_____

BID PRICE: (written words) \_\_\_\_\_  
 \_\_\_\_\_ DOLLARS.

- NOTE:
- A. Bidder must bid on all Items #10 through #630.
  - B. All bids must be accompanied by a bid security in the amount of ten percent (10%) of the amount of Item #630.
  - C. The successful bidder must post both a performance and a payment bond each in the amount of one-hundred percent (100%) of the awarded contract amount Item #630 to guarantee that the successful bidder will fulfill all of his obligations under this agreement.

The name of the Bidder who is submitting this Proposal is:

	CCB#	TELEPHONE	, of
ADDRESS	CITY	STATE	ZIP

which is the address to which all communications concerned with this proposal and with the Contract shall be sent.

The names of the principal officers of the corporation submitting this Proposal, or of the partnership, or of all persons interested in this proposal as principals, are as follows:


(IF SOLE PROPRIETOR OR PARTNERSHIP)

IN WITNESS HERETO, the undersigned has set his (its) hand this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

\_\_\_\_\_  
Signature of Bidder

\_\_\_\_\_  
Title

(IF CORPORATION)

IN WITNESS WHEREOF, the undersigned corporation has caused this instrument to be executed and its seal affixed by its duly authorized officers this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

\_\_\_\_\_  
Name of Corporation

By: \_\_\_\_\_

Title: \_\_\_\_\_

Attest: \_\_\_\_\_

BID BOND

KNOW ALL MEN BY THESE PRESENTS, That \_\_\_\_\_

\_\_\_\_\_, hereinafter called the

Principal, and \_\_\_\_\_,

a corporation duly organized under the laws of the State of \_\_\_\_\_

\_\_\_\_\_, having its principal place of business at \_\_\_\_\_

\_\_\_\_\_, in the State of \_\_\_\_\_,

and authorized to do business in the State of Oregon, as Surety, are held and firmly

bound unto the \_\_\_\_\_

\_\_\_\_\_

hereinafter called the Obligee, in the penal sum of \_\_\_\_\_

\_\_\_\_\_ DOLLARS (\$\_\_\_\_\_),

for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

The condition of this Bond is that, whereas, the Principal herein is herewith submitting his or its bid proposal for the Construction of the Powell Butte Highway Roundabout hereby made a part hereof.

NOW THEREFORE, if the said bid proposal submitted by the said principal be accepted, and the contract be awarded to said Principal, and if the said Principal shall execute the proposed contract and shall furnish the Performance and Payment Bond as required by the bidding and contract documents with the time fixed by said documents, then this obligation shall be void, otherwise to remain in full force and effect. Signed and sealed this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

SURETY:

CONTRACTOR:

\_\_\_\_\_  
Name

\_\_\_\_\_  
Name

By: \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

**FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM**

*Project Name:* **THE CONSTRUCTION OF THE POWELL BUTTE HIGHWAY ROUNDABOUT**

*Bid #:* N/A      **Bid Closing:** *January 19, 2016*      *Time:* **2:00 p.m.**

*Name of Bidding Contractor:* \_\_\_\_\_

**This form must be submitted at the location specified in the Invitation to Bid on the advertised bid closing date and within two working hours (4:00 p.m.) after the advertised bid closing time.**

**List below the name of each subcontractor that will be furnishing labor or materials and that is required to be disclosed, the category of work that the subcontractor will be performing and the dollar value of the subcontract. Enter "NONE" if there are no subcontractors that need to be disclosed. (ATTACH ADDITIONAL SHEETS IF NEEDED).**

<u>NAME</u>	<u>DOLLAR VALUE</u>	<u>CATEGORY OF WORK</u>
1) _____	\$ _____	_____
2) _____	\$ _____	_____
3) _____	\$ _____	_____
4) _____	\$ _____	_____
5) _____	\$ _____	_____
6) _____	\$ _____	_____
7) _____	\$ _____	_____
8) _____	\$ _____	_____

**Failure to submit this form by the disclosure deadline will result in a non-responsive bid. A non-responsive bid will not be considered for award.**

**Form submitted by (bidder name):** \_\_\_\_\_

**Contact name:** \_\_\_\_\_ **Phone number:** \_\_\_\_\_

## CONTRACT

THIS CONTRACT, made and entered into, in duplicate, by and between DESCHUTES COUNTY, a political subdivision of the State of Oregon, hereinafter called "County" and , hereinafter called "Contractor," for the project entitled:

### **FOR THE CONSTRUCTION OF THE POWELL BUTTE HIGHWAY ROUNDABOUT**

#### WITNESSETH:

THAT the said Contractor, in consideration of the sums to be paid by the County in the manner and at the times herein provided, and in consideration of the other covenants and agreements herein contained, hereby agrees to perform and complete the work herein described and provided for, and to furnish all necessary things in accordance with the applicable contract documents, bound herewith, and in accordance with such alterations or modifications of the same as may be made by the County, and according to and within the meaning and purpose of this contract. This Agreement shall be binding upon the heirs, executors, administrators, successors and assigns of the Contractor.

THAT the Contract Documents, consisting of Invitation to Bid, Information for Bidders, General Conditions, Special Provisions, Bid Proposal, Bid Schedule, Award, Bid Bond, Subcontractor Disclosure, Contract, Performance Bond, Payment Bond, Certificate of Insurance, Prevailing Wage Rates, Oregon Standard Specifications, Typical Section, Project Location, Plans and Standard Drawings bound herewith are hereby specifically referred to and by this reference made a part hereof, and shall, by such reference have the same force and effect as though all of the same were fully written or inserted herein.

THAT the Contractor shall faithfully complete and perform all of the obligations of this Contract, and in particular, shall promptly, as due, make payment of all just debts, dues, demands and obligations incurred in the performance of said Contract; and shall not permit any lien or claim to be filed or prosecuted against the County, its agents or employees. It is expressly understood that this Contract in all things shall be governed by the laws of the State of Oregon, and the Ordinances of the County.

THAT in consideration of the faithful performance of all of the obligations, general and special, herein set out, and in consideration of the faithful performance of the work as set forth in the Contract Documents in accordance with the directions of the Road Department Director and to his satisfaction, the County agrees to pay to the said Contractor the amount earned, as determined from the quantities of work performed, and taking into consideration any amounts that may be deductible and under the terms of the Contract, and to make such payments in the manner and at the times provided in the applicable provisions, and schedule of contract prices.

IN WITNESS WHEREOF, DESCHUTES COUNTY has caused this agreement to be signed in its name, by its Board of County Commissioners, duly attested by its Recording Secretary; and the said Contractor has caused this Agreement to be signed and sealed the same as of the \_\_\_\_\_ day of \_\_\_\_\_, 2016.

BOARD OF COUNTY COMMISSIONERS  
OF DESCHUTES COUNTY, OREGON

\_\_\_\_\_  
ALAN UNGER, CHAIR

\_\_\_\_\_  
TAMMY BANEY, VICE CHAIR

\_\_\_\_\_  
ANTHONY DEBONE, COMMISSIONER

ATTEST:

\_\_\_\_\_  
RECORDING SECRETARY

CONTRACTOR:

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

APPROVED:

\_\_\_\_\_  
CHRIS DOTY  
Road Department Director

APPROVED AS TO FORM:

\_\_\_\_\_  
LEGAL COUNSEL

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

\_\_\_\_\_  
(Name of Contractor)

\_\_\_\_\_  
(Address of Contractor)

a \_\_\_\_\_, hereinafter called  
(Corporation, Partnership, or Individual)

Principal, and \_\_\_\_\_  
(Name of Surety)

hereinafter called Surety, are held and firmly bound unto \_\_\_\_\_

\_\_\_\_\_  
(Name of Owner)

\_\_\_\_\_  
(Address of Owner)

hereinafter called OWNER, in the penal sum of \_\_\_\_\_  
\_\_\_\_\_ Dollars, \$(\_\_\_\_\_)

in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the \_\_\_\_\_ day of \_\_\_\_\_, 2016, a copy of which is hereto attached and made a part hereof for the construction of:

\_\_\_\_\_  
\_\_\_\_\_

NOW THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the OWNER, with or without notice to the Surety and during the **TWO YEAR GUARANTY PERIOD**, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which is may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED FURTHER, that the said surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any wise affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in \_\_\_\_\_ counterparts, each one of which shall be deemed an original, this the \_\_\_\_\_ day of \_\_\_\_\_ 2016.  
(No.)

ATTEST:

\_\_\_\_\_  
(Principal) Secretary

\_\_\_\_\_  
(Principal)

(SEAL)

BY \_\_\_\_\_

\_\_\_\_\_  
(Witness as to Principal)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Address)

\_\_\_\_\_

\_\_\_\_\_  
(Surety)

\_\_\_\_\_

ATTEST:

\_\_\_\_\_  
(Surety) Secretary

\_\_\_\_\_  
AGENT OF RECORD TELEPHONE

(SEAL)

BY \_\_\_\_\_

\_\_\_\_\_  
Witness as to Surety

Attorney-in-Fact

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Address)

NOTE: Date of BOND must not be prior to date of Contract.  
If CONTRACTOR is Partnership, all partners should execute BOND.

Bond # \_\_\_\_\_

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: that

\_\_\_\_\_  
(Name of Contractor)

\_\_\_\_\_  
(Address of Contractor)

a \_\_\_\_\_, hereinafter called  
(Corporation, Partnership or Individual)

Principal, and \_\_\_\_\_  
(Name of Surety)

\_\_\_\_\_  
(Address of Surety)

hereinafter called Surety, are held and firmly bound unto \_\_\_\_\_

\_\_\_\_\_  
(Name of Owner)

\_\_\_\_\_  
(Address of Owner)

hereinafter called OWNER, in the penal sum of \_\_\_\_\_ Dollars,

\$(\_\_\_\_\_) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal; entered into a certain contract with the OWNER, dated the \_\_\_\_\_ day of \_\_\_\_\_ 2016, a copy of which is hereto attached and made a part hereof for the construction of:

\_\_\_\_\_  
\_\_\_\_\_

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, SUBCONTRACTORS, and corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such contract, and any authorized or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such WORK, and all insurance premiums on said WORK, and for all labor, performed in such WORK whether by SUBCONTRACTOR or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any wise affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in \_\_\_\_\_ counterparts, each one of which shall be deemed an original, this the \_\_\_\_\_ day of \_\_\_\_\_, 2016.

ATTEST:

\_\_\_\_\_  
(Principal) Secretary

\_\_\_\_\_  
(SEAL) \_\_\_\_\_ (s)

\_\_\_\_\_  
Witness as to Principal  
\_\_\_\_\_  
(Address)

ATTEST:

\_\_\_\_\_  
Witness as to Surety  
\_\_\_\_\_  
(Address)

\_\_\_\_\_  
Principal

BY

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
AGENT OF RECORD TELEPHONE

\_\_\_\_\_  
Surety

BY \_\_\_\_\_  
Attorney-in-Fact

\_\_\_\_\_  
(Address)

NOTE: Date of BOND must not be prior to date of Contract.  
IF CONTRACTOR is Partnership, all parties should execute BOND.

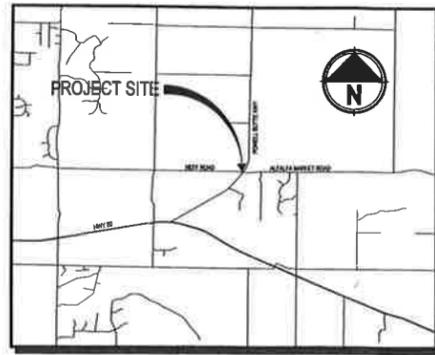


# **“APPENDIX “A”**

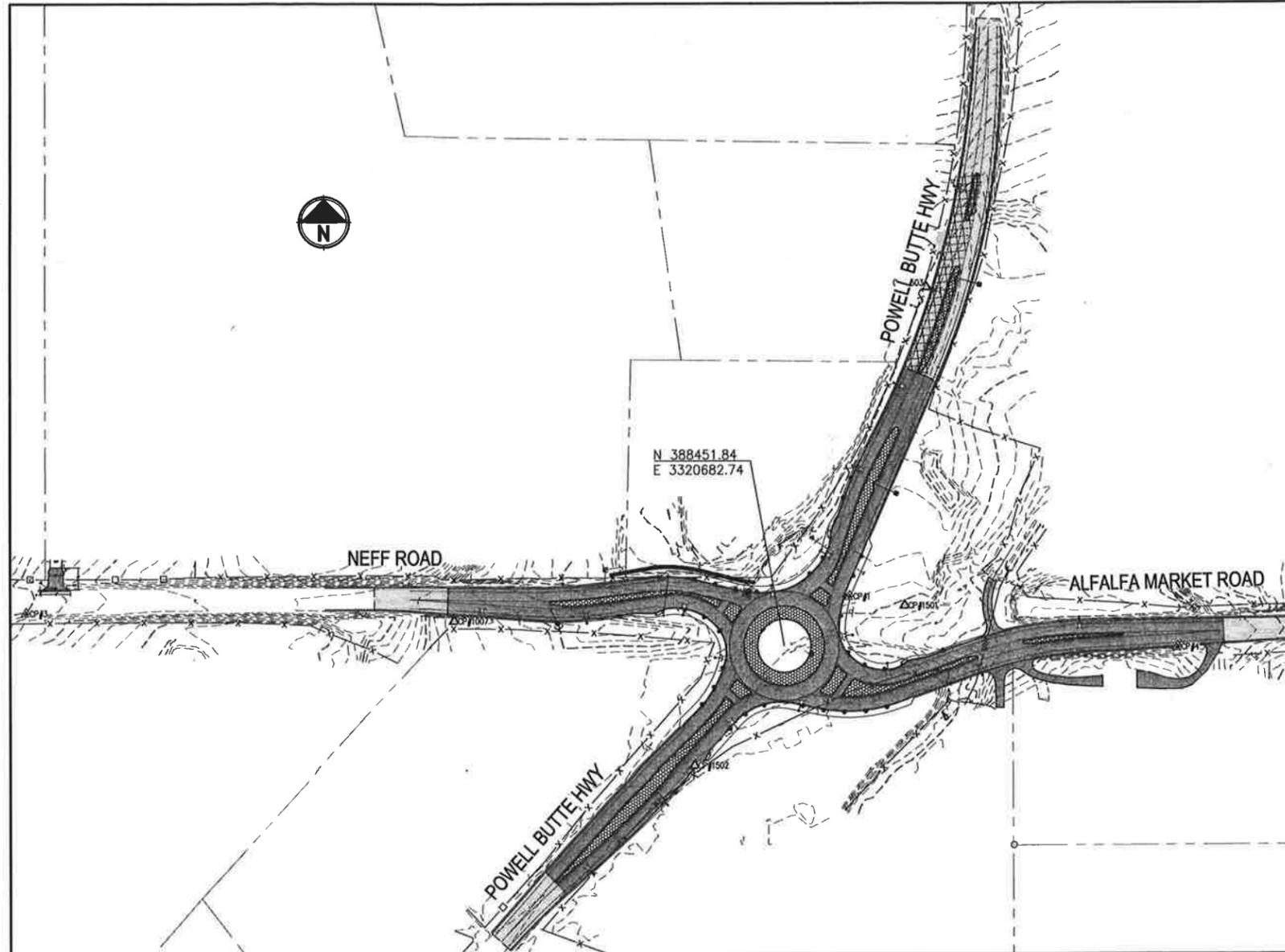
## **PLANS**

# DESCHUTES COUNTY ROAD DEPARTMENT POWELL BUTTE HIGHWAY ROUNDABOUT

DESCHUTES COUNTY  
DECEMBER 2015



VICINITY MAP  
NOT TO SCALE



### SHEET INDEX

C1.0 COVER SHEET	IL2.0 ILLUMINATION PLAN
C1.1 GENERAL NOTES	IL3.0 ILLUMINATION PLAN
C2.0 PAVING INDEX	
C2.1 TYPICAL SECTIONS	TCP1.0 DETOUR SIGN DETAILS
C2.2 TYPICAL SECTIONS	TCP2.0 STAGE I-CONSTRUCTION PLAN
C3.0 STANDARD DETAILS	TCP3.0 STAGE II-CONSTRUCTION PLAN
C4.0 DEMOLITION PLAN - NEFF RD	TCP4.0 STAGE II-DETOUR PLAN
C4.1 DEMOLITION PLAN - ALFALFA MKT RD	TCP5.0 STAGE III-CONSTRUCTION PLAN
C4.2 DEMOLITION PLAN - PBH NORTH	TCP6.0 STAGE III-DETOUR PLAN
C4.3 DEMOLITION PLAN - PBH SOUTH	TCP7.0 STAGE IV-CONSTRUCTION PLAN
C5.0 GEOMETRY PLAN	TCP8.0 STAGE IV-DETOUR PLAN
C6.0 NEFF RD PLAN AND PROFILE	
C6.1 ALFALFA MKT RD PLAN AND PROFILE	ES1.0 DYNAMIC FEEDBACK WARNING SIGN
C6.2 PBH SOUTH PLAN AND PROFILE	
C6.3 PBH NORTH PLAN AND PROFILE	L1.0 LANDSCAPE PLAN
C6.4 NORTHEAST CURB PLAN AND PROFILE	L1.1 PLANT LIST & DETAILS
C6.5 SOUTHEAST CURB PLAN AND PROFILE	L1.2 LANDSCAPE GRADING PLAN
C6.6 SOUTHWEST CURB PLAN AND PROFILE	IR1.0 IRRIGATION PLAN
C6.7 NORTHWEST PLAN AND PROFILE	IR1.1 IRRIGATION DETAILS
C6.8 CENTER ISLAND CURB PLAN AND PROFILE	
C6.9 GABION WALL PLAN AND PROFILE	
C7.0 CONSTRUCTION RD PLAN AND PROFILE	
SS1.0 SIGNING AND STRIPING PLAN DETAILS	
SS2.0 EXISTING SIGN DETAILS	
SS3.0 PROPOSED SIGN DETAILS	
SS4.0 SIGN & POST DATA TABLE	
SS5.0 SIGN & POST DATA TABLE	
SS6.0 SIGNING AND STRIPING PLAN	
SS7.0 SIGNING AND STRIPING PLAN	
IL1.0 ILLUMINATION LEGEND AND NOTES	

### OWNER

DESCHUTES COUNTY ROAD DEPARTMENT  
61150 SE 27TH  
BEND, OR 97702  
CONTACT CHRIS DOTY  
(541) 322-7105 (OFFICE)  
EMAIL: chris.doty@deschutesa.org

### SUBCONSULTANTS

KITTELSON AND ASSOCIATES  
354 UPPER TERRACE DR  
BEND, OR 97702  
(541) 312-8300 (OFFICE)

### ENGINEER

PARAMETRIX  
595 SW BLUFF DRIVE SUITE B  
BEND, OREGON 97702  
CONTACT: FRED KROON, P.E.  
PHONE: (541) 508-7710  
EMAIL: fkroon@parametrix.com

WHFACIFIC  
9755 SW BARNES RD, STE  
PORTLAND, OR 97225  
(503) 626-0455

Digitally signed by BARRY C JOHNSON  
DN: cn=BARRY C JOHNSON, o=PARAMETRIX, ou=PARAMETRIX, email=BARRY.C.JOHNSON@PARAMETRIX.COM, c=US  
Reason: I agree to the terms defined by the placement of my signature on this document  
Date: 2015.12.09 11:57:13 -0800

### AGENCIES/PURVEYORS

WATER	AVION WATER COMPANY ENGINEERING DEPARTMENT 60813 PARRELL RD BEND, OREGON 97702 CONTACT: MIKE HEFFERNAN OFFICE: (541) 382-5342 FAX: (541) 382-5390 EMAIL: mike@avionwater.com
POWER	CENTRAL ELECTRIC 61090 SOUTHEAST 27TH ST BEND, OREGON 97702 OFFICE: (541) 389-1980 FAX: (541) 389-7953
PHONE/CABLE	CENTURYLINK 100 NW KEARNY AVE BEND, OREGON 97701 CONTACT: JOE DAIRY OFFICE: (541)-385-0221
IRRIGATION	CENTRAL OREGON IRRIGATION DISTRICT 1055 SW LAKE CT REDMOND, OR 97756 CONTACT: JEREMIAH FENDER (541) 548-6047

### LEGEND:

EXISTING	PROPOSED	
		DECIDUOUS TREE
		PINE TREE
		JUNIPER TREE
		CONTROL POINT
		IRRIGATION
		DITCH
		SIGN
		CULVERT
		EDGE OF PAVEMENT
		STORM DRAIN
		WATER
		OVERHEAD POWER
		OVERHEAD TELEPHONE
		UNDERGROUND TELEPHONE
		FENCE (BARBED WIRE)
		FENCE (WOOD)
		GRAVEL ROAD
		EDGE OF PAVEMENT
		ROCK OUTCROP
		GUARDRAIL
		MAILBOX
		GUY WIRE
		WATER VALVE
		WATER SPIGOT
		IRRIGATION VALVE
		TELEPHONE PEDESTAL
		IRRIGATION HEADWALL
		IRRIGATION PVC
		WATER VAULT
		CURBS
		STAMPED CONCRETE
ROW	RIGHT OF WAY	
TW	TOP OF WALL	
LF	LINEAR FOOT (FEET)	
SY	SQUARE YARD(S)	
CF	CUBIC FOOT (FEET)	
SF	SQUARE FOOT (FEET)	
TYP	TYPICAL	

FADED BACK FEATURES ARE EXISTING (EXCEPT FOR FOUND MONUMENTS)

SURVEY CONTROL TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	388519.50	3320772.71	3528.86	SET CNTRL - PK NAIL IN ROCK
2	387789.60	3320026.06	3529.49	SET CNTRL - 5/8 IR RPC WHP
3	388498.18	3319847.53	3524.68	SET CNTRL - 5/8 IR RPC WHP
4	388448.66	3321220.86	3537.08	SET CNTRL - 5/8 IR RPC WHP
5	389465.30	3321001.87	3507.56	SET CNTRL - 5/8 IR RPC WHP
1007	388486.83	3320232.22	3529.49	FND CNTRL - 2 AC DCPW RD RW
1501	388507.13	3320847.78	3530.08	FND CNTRL - 1/2 IR RPC DCRD
1502	388288.34	3320560.41	3527.39	FND CNTRL - 1/2 IR RPC DCRD
1503	388943.11	3320877.40	3524.34	FND CNTRL - 1/2 IR RPC DCRD

### AREA MAP

1"=100'

### BASIS OF BEARING

Deschutes County COCS (Deschutes13)  
Transformation to work correctly with ORGN correctors)

### DATUM

Central Oregon Coordinate System (COCS), NAD83(2011)

### BENCHMARK

Deschutes County COCS values for COCS published point #182 = 3538.719

### APPROVALS:

DESCHUTES COUNTY ROAD DEPARTMENT:		12/16/15
CENTRAL OREGON IRRIGATION DISTRICT:		12/22/15
CENTRAL ELECTRIC COOPERATIVE:		12/17/15
CENTURY LINK:		12/16/15
BEND BROADBAND:		12/15/15
QUANTUM:		
CASCADE NATURAL GAS:		12/15/15
BEND FIRE DEPARTMENT:		12/17/15
AVION WATER:		

BID DOCUMENTS

REVISIONS	DATE	BY

**Parametrix**  
ENGINEERING, PLANNING, ENVIRONMENTAL SCIENCES  
595 SW BLUFF DRIVE SUITE B | BEND, OR 97702  
P 541.508.7710 WWW.PARAMETRIX.COM

DESIGNED: FRED KROON  
DRAWN: BARRY C. JOHNSON  
DATE: DECEMBER 2015  
JOB NO: 287-2509-001  
DRAWN BY: BARRY C. JOHNSON  
CHECKED BY: BARRY C. JOHNSON  
APPROVED BY: BARRY C. JOHNSON

REGISTERED PROFESSIONAL ENGINEER  
BARRY C. JOHNSON  
14,972  
EXPIRES: 6/30/2017

PROJECT NAME  
DESCHUTES COUNTY ROAD DEPARTMENT  
POWELL BUTTE HIGHWAY ROUNDABOUT  
DESCHUTES COUNTY, OR

COVER SHEET

DRAWING NO.  
1 OF 46  
C1.0

**CONSTRUCTION NOTES:**

1. NO CONSTRUCTION SHALL BE STARTED WITHOUT A NOTICE TO PROCEED BY THE DESCHUTES COUNTY ROAD DEPARTMENT. THE COUNTY ROAD DEPARTMENT AND THE DESIGN ENGINEER SHALL BE NOTIFIED AT LEAST TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION. ANY CONSTRUCTION WORK DONE PRIOR TO NOTICE TO PROCEED BEING ISSUED OR WITHOUT INSPECTION WILL BE REJECTED.
2. CONTRACTOR SHALL VERIFY ALL CONDITIONS ON THE JOB SITE INCLUDING BUT NOT LIMITED TO, ALL DIMENSIONS, GRADES, ELEVATIONS, EXTENT AND COMPATIBILITY TO THE EXISTING SITE CONDITIONS, AND WITH THE WORK DESCRIBED ON THE ENGINEER'S DRAWINGS. ANY DISCREPANCIES OR UNEXPECTED CONDITIONS THAT AFFECT OR CHANGE THE WORK DESCRIBED IN THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION IMMEDIATELY. CONTRACTOR SHALL NOT PROCEED WITH ANY OF THE WORK IN THE AREA OF DISCREPANCIES UNTIL ALL SUCH DISCREPANCIES ARE RESOLVED. IF THE CONTRACTOR CHOOSES TO DO SO, THEN IT IS UNDERSTOOD THAT THE CONTRACTOR IS CHOOSING TO PROCEED AT THE CONTRACTOR'S OWN RISK AND SHALL INCUR ALL COSTS, IF ANY TO RESOLVE THE ISSUES TO THE SATISFACTION OF THE ENGINEER.
3. ALL CONSTRUCTION WORK AND INSTALLATIONS SHALL CONFORM TO COUNTY STANDARDS AND SPECIFICATIONS, 2015 OREGON STANDARD DRAWINGS AND SPECIFICATIONS FOR CONSTRUCTION, AND ALL WORK SHALL BE SUBJECT TO THE APPROVAL OF THE COUNTY.
4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT "UNDERGROUND LOCATE SERVICE" AT 1-800-392-2344 AT LEAST 48 BUSINESS-DAY HOURS PRIOR TO THE START OF CONSTRUCTION FOR THE LOCATION OF POWER, GAS, CABLE TV AND TELEPHONE UNDERGROUND FACILITIES. THE CONTRACTOR WILL ALSO BE RESPONSIBLE FOR CONTACTING THE APPROPRIATE PUBLIC AGENCY FOR THE LOCATION OF UNDERGROUND FACILITIES.
5. ALL UTILITIES SHOWN ARE ACCURATE TO THE EXTENT OF AVAILABLE RECORDS AND KNOWLEDGE. NO POTHOLING TO VERIFY LOCATIONS AND ELEVATIONS WAS AUTHORIZED BY THE OWNER. THE CONTRACTOR HAS THE TOTAL RESPONSIBILITY TO VERIFY THE LOCATION OF EXISTING UNDERGROUND UTILITIES AND TO NOTIFY THE UTILITY COMPANIES WHEN WORKING IN THEIR PROXIMITY. CONTRACTOR TO VERIFY LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION. 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 952-001-0090. YOU MAY OBTAIN COPIES OF THE RULES BY CALLING THE CENTER. THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503)232-2987.
6. ALL UTILITY SERVICES WILL BE FIELD STAKED IN ACCORDANCE WITH DESCHUTES COUNTY STANDARDS AND SPECIFICATIONS.
7. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES AND IMPROVEMENTS.
8. ANY DAMAGE TO EXISTING FACILITIES OR IMPROVEMENTS, RESULTING FROM THE CONTRACTOR'S OPERATION, SHALL BE REPAIRED OR REPLACED AT CONTRACTOR'S EXPENSE.
9. CONTRACTOR SHALL EXPOSE, VERIFY, CONNECT AND/OR MATCH EXISTING UTILITIES AND IMPROVEMENTS, IN CONFORMANCE WITH DESCHUTES COUNTY STANDARDS AND SPECIFICATIONS, TO PROVIDE COMPLETE AND/OR OPERATIONAL SYSTEMS.
10. DURING THE COURSE OF THE WORK, CONTRACTOR SHALL COORDINATE AND ACCOMMODATE OTHER CONTRACTORS OR OPERATIONS OF THE COUNTY.
11. ALL TRENCH BACKFILL OR EMBANKMENTS WITHIN PUBLIC WAYS AND AREAS OUTSIDE OF PAVING SHALL BE CONSTRUCTED TO DESCHUTES COUNTY STANDARDS AND SPECIFICATIONS AND THE 2015 OREGON STANDARDS FOR CONSTRUCTION.
12. TRENCHES WITH PIPE COVER OF LESS THAN 12-INCHES TO SUBGRADE TO BE BACKFILLED WITH CLSM.
13. CONTRACTOR SHALL RESTRICT ALL OPERATIONS TO THE PROJECT AREA. AREAS WITHIN THE PROJECT BOUNDARIES. ANY DISRUPTION TO NATIVE LANDSCAPES, OUTSIDE OF THE PROJECT AREA, SHALL BE RESTORED AT NO COST TO THE OWNER.
14. CABLE AND GAS UTILITY TRENCHING SHALL BE COMPLETED IN ACCORDANCE WITH PLANS AND SPECIFICATIONS FROM APPLICABLE UTILITY COMPANIES. ALL CABLE AND GAS UTILITIES WILL BE INSTALLED BY THE APPLICABLE UTILITY COMPANY IN CONFORMANCE WITH THEIR JOINT TRENCH DETAIL. CONTRACTOR SHALL COORDINATE TRENCH EXCAVATIONS, BEDDING AND BACKFILL WITH POWER, PHONE, TELEVISION, AND GAS REPRESENTATIVES.
15. ALL GRADING SHALL BE IN CONFORMANCE WITH THE CURRENT COUNTY STANDARDS.
16. ALL FINAL CUT SLOPES SHALL NOT EXCEED A GRADE OF 2 TO 1 VERTICAL UNLESS OTHERWISE APPROVED. FILL SLOPES SHALL NOT EXCEED A GRADE OF 2 HORIZONTAL TO 1 VERTICAL UNLESS OTHERWISE APPROVED BY THE ENGINEER OR SHOWN ON THESE PLANS.
17. ALL UNSUITABLE SOILS MATERIALS, RUBBISH AND DEBRIS RESULTING FROM GRADING OPERATIONS SHALL BE REMOVED FROM THE JOB SITE AND DISPOSED OF PROPERLY.
18. THE CONTRACTOR SHALL EMPLOY ALL LABOR, EQUIPMENT, AND METHODS REQUIRED TO PREVENT DUST IN AMOUNTS DAMAGING TO PROPERTY, CULTIVATED VEGETATION AND DOMESTIC ANIMALS OR CAUSING A NUISANCE TO PERSONS OCCUPYING BUILDINGS IN THE VICINITY OF THE JOB SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED BY DUST RESULTING FROM CONSTRUCTION.
19. THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE INDUSTRIAL SAFETY REGULATIONS. DESCHUTES COUNTY AND THEIR OFFICIALS, THE ENGINEER, AND THE OWNER SHALL NOT BE RESPONSIBLE FOR ENFORCING SAFETY REGULATIONS.
20. MATERIAL QUANTITIES USED, NOTED, OR PROVIDED IN A SEPARATE ITEMIZED QUANTITY TAKE-OFF ARE AN ENGINEER'S OPINION OF PROBABLE MATERIAL REQUIREMENTS, AND IS AN ESTIMATE ONLY. CONTRACTORS HAVE THE SOLE RESPONSIBILITY OF MAKING THEIR OWN QUANTITY TAKE-OFF AND COST ESTIMATE.
21. BIDDERS SHALL BE PREQUALIFIED WITH THE STATE OF OREGON IN ACCORDANCE WITH ORS 279C.430-279C.450 AND DESCHUTES COUNTY CODE 12.52.020.
22. COUNTY ROAD DEPARTMENT'S SIGNATURE DOES NOT CONSTITUTE APPROVAL OF FACILITIES PROPOSED ON PRIVATE PROPERTY.
23. ANY WORK WITHIN EXISTING PUBLIC RIGHT-OF-WAY OR DEDICATED EASEMENTS REQUIRES A PERMIT TO WORK IN THE PUBLIC RIGHT-OF-WAY OBTAINED FROM DESCHUTES COUNTY. WORK WITHIN THE RIGHT-OF-WAY OR EASEMENTS MAY OCCUR ONLY BETWEEN THE HOURS OF 7:00 AM AND 7:00 PM, UNLESS OTHERWISE PERMITTED, ANY AND EVERY CALENDAR DAY EXCLUDING SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS.
24. TEMPORARY ACCESS FOR ALL USERS SHALL BE MAINTAINED WITHIN THE EXISTING RIGHT-OF-WAY AND EASEMENTS.

REVISIONS	DATE	BY

ONE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY

**Parametrix**  
 ENGINEERING, PLANNING, ENVIRONMENTAL SCIENCES  
 505 SW BLUE DRIVE, SUITE B | BEND, OR 97702  
 P 531.508.7710  
 WWW.PARAMETRIX.COM

DESIGNED BY: BARRY C. JOHNSON  
 DATE: DECEMBER 2015  
 CHECKED BY: [ ]  
 APPROVED BY: [ ]

Digitally signed by BARRY C JOHNSON  
 DN: C=US,  
 E=bjohnson@parametrix.com,  
 O=PARAMETRIX,  
 CN=BARRY C JOHNSON  
 Reason: I agree to the terms defined by the placement of my signature on this document  
 Date: 2015.12.08 11:57:25-08'00'



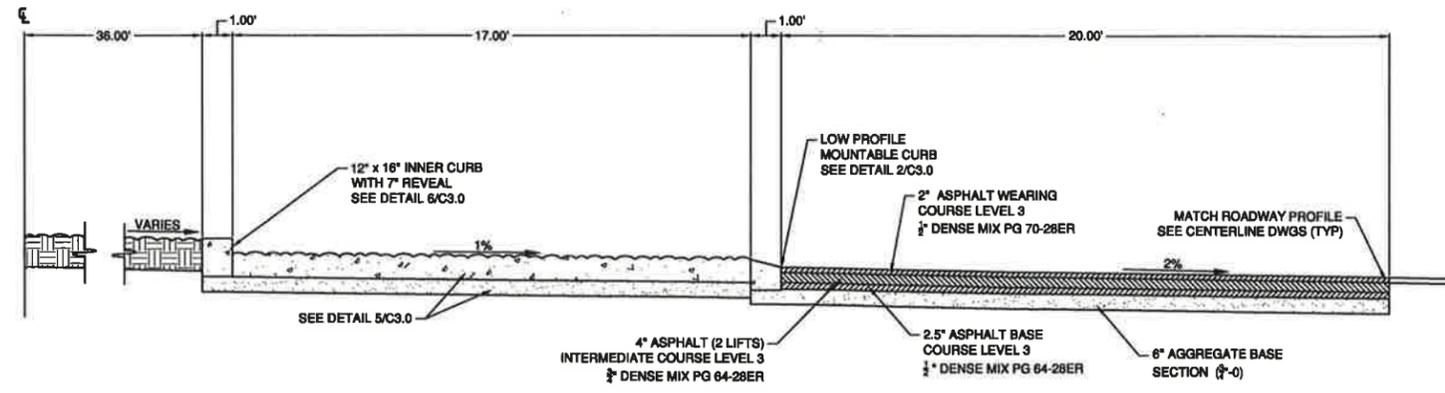
PROJECT NAME  
 DESCHUTES COUNTY ROAD DEPARTMENT  
 POWELL BUTTE HIGHWAY ROUNDABOUT  
 DESCHUTES COUNTY, OR

**GENERAL NOTES**

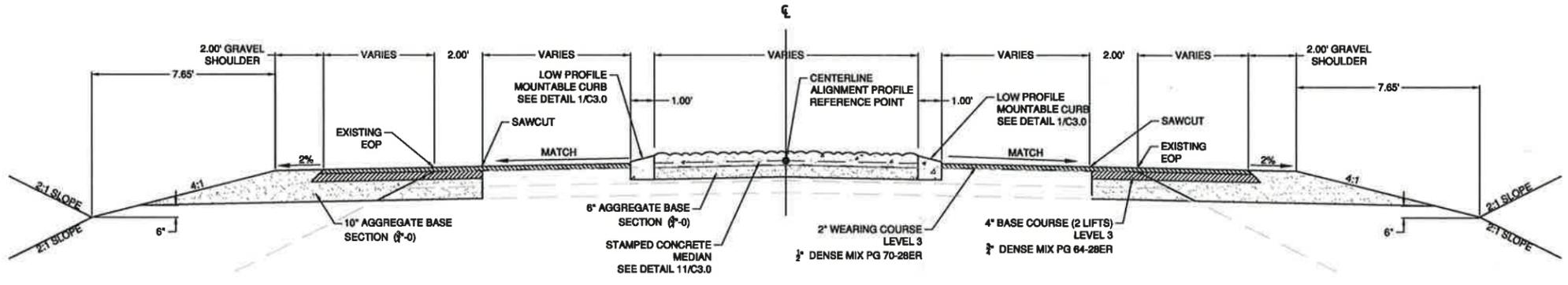
DRAWING NO.  
 2 OF 46  
**C1.1**



FILE: BE2509001-C2.0-TS00 LAYOUT: C2.1 TYPICAL SECTIONS PATH: U:\Bent\Projects\Clients\2509-Deschutes County\2509-001 PowellButteHighwayRoundabout\995\Sheet\CADD\DWG PLOTTED BY: henrym DATE: Monday, December 07, 2015 3:19:04 PM

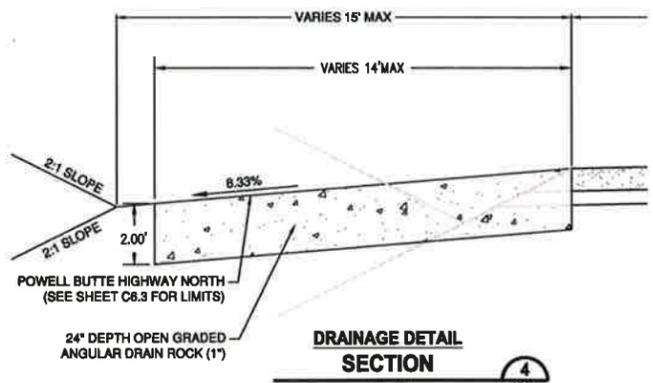


**INNER ROUNDABOUT SECTION**  
1  
1"=3' C2.1

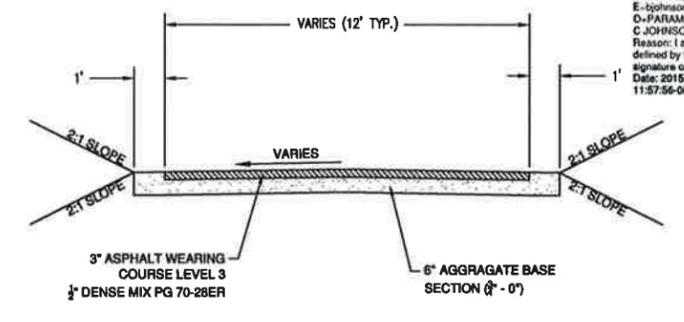


**ROADWAY WIDENING WITH ISLAND SECTION**  
2  
1"=3' C2.1

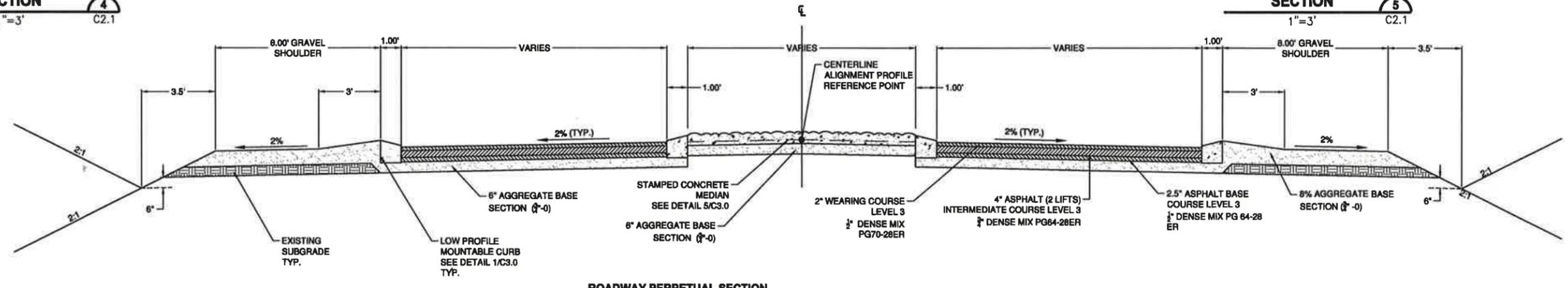
\*NOTE: ISLAND IS INTERMITTENT (SEE PLAN VIEW FOR LOCATION)



**DRAINAGE DETAIL SECTION**  
4  
1"=3' C2.1



**DRIVEWAY DETAIL SECTION**  
5  
1"=3' C2.1



**ROADWAY PERPETUAL SECTION**  
3  
1"=3' C2.1

Digitally signed by BARRY C JOHNSON  
DN: cn=Barry C Johnson, o=Parametrix, ou=Parametrix, email=bjohnson@parametrix.com, c=US  
Reason: I agree to the terms defined by the placement of my signature on this document.  
Date: 2015.12.08 11:57:56-0800

REVISIONS	DATE	BY

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P 541.508.7710 WWW.PARAMETRIX.COM

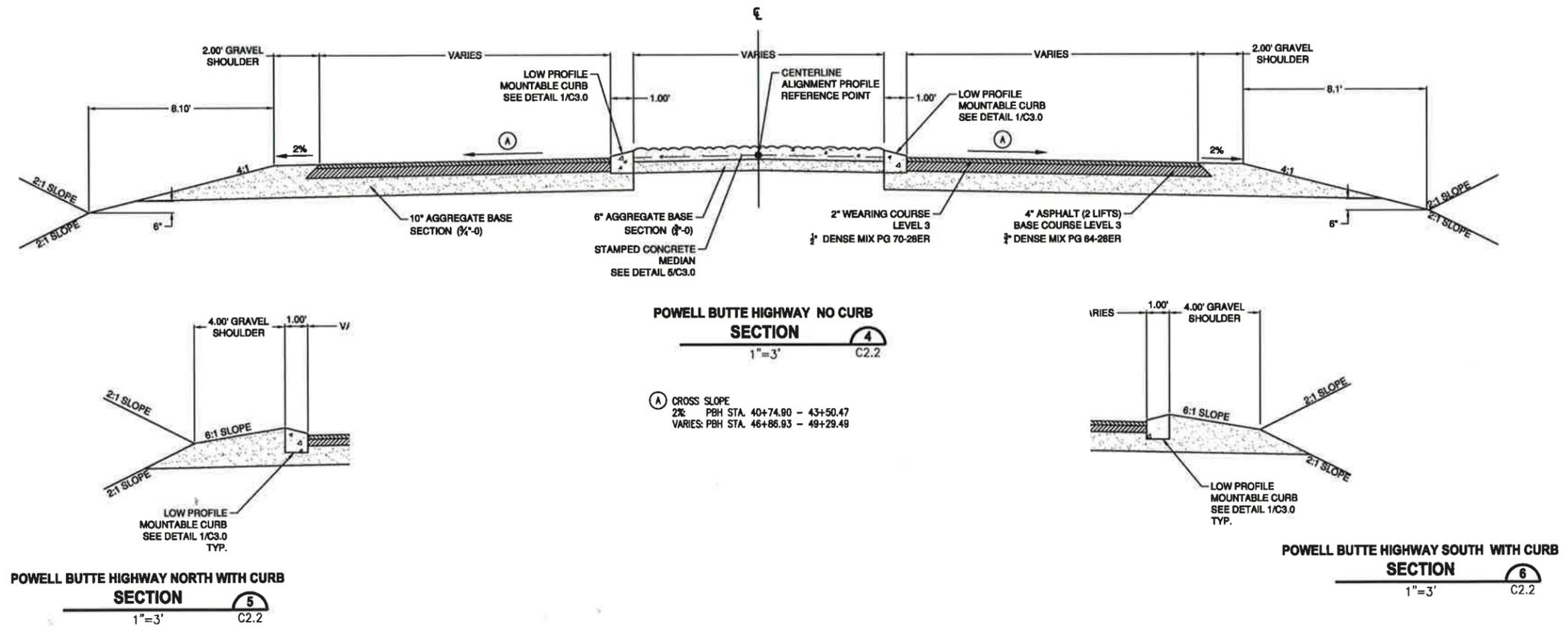
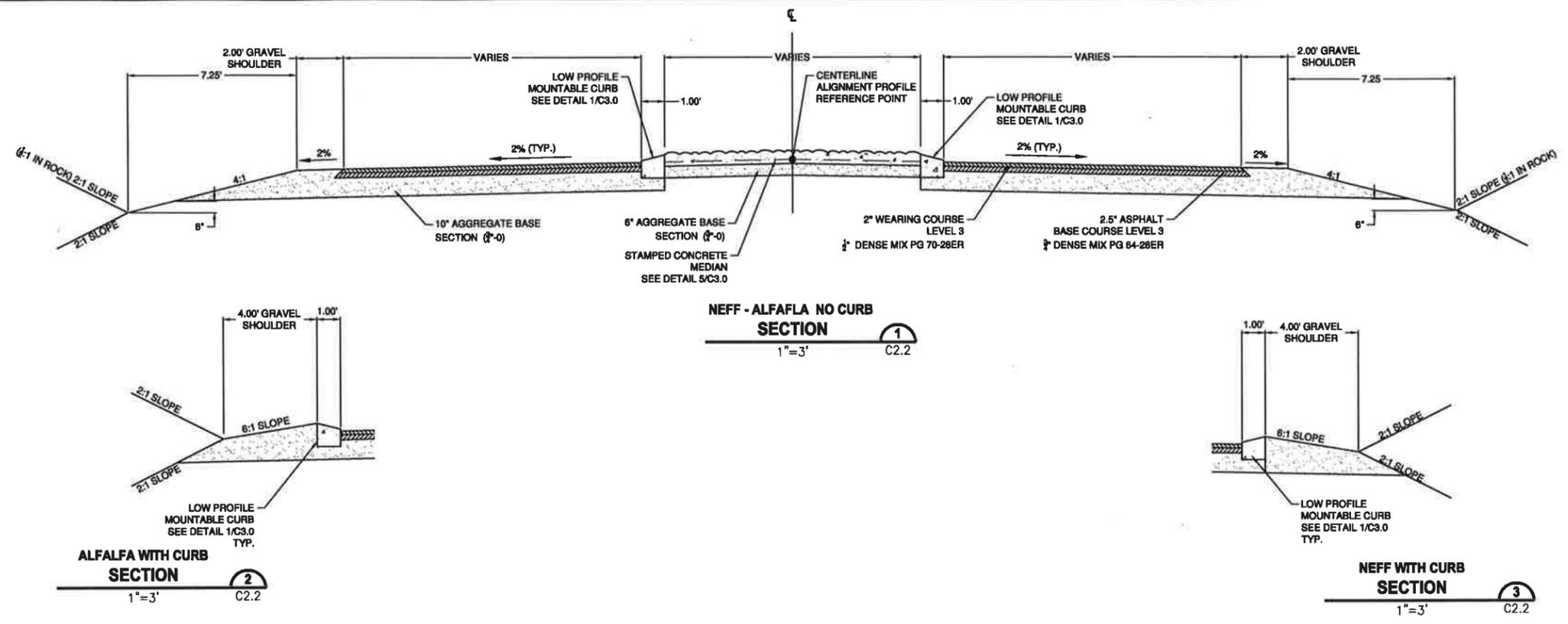
DESIGNED BY: BARRY C. JOHNSON  
CHECKED BY: [ ]  
APPROVED BY: [ ]  
DATE: DECEMBER 2015  
JOB No. 297-2509-001  
DRAWN BY: [ ]  
DWG. NO. [ ]

REGISTERED PROFESSIONAL ENGINEER  
14,972  
BARRY C. JOHNSON  
EXPIRES: 6/30/2017

PROJECT NAME  
**DESCHUTES COUNTY ROAD DEPARTMENT  
POWELL BUTTE HIGHWAY ROUNDABOUT**  
DESCHUTES COUNTY, OR

**TYPICAL SECTIONS**

FILE: B23509001-C2.0-TS00 LAYOUT: C2.2 TYPICAL SECTIONS PATH: U:\Bent\Projects\Clients\2509-Deschutes County\297-2509-001 PowellButteHighway\About\985\ca\CADD\DWG\ PLOTTED BY: henrym DATE: Monday, December 07, 2015 3:04:39 PM



REVISIONS	DATE	BY

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DATE: DECEMBER 2015  
JOB No. 297-2509-001  
DESIGNED BY: BARRY C. JOHNSON  
CHECKED BY: [Signature]  
APPROVED BY: [Signature]

Digitally signed by BARRY C. JOHNSON  
DN: C=US,  
E=bjohnson@parametrix.com,  
O=PARAMETRIX,  
CN=BARRY C. JOHNSON  
Reason: I agree to the terms defined by the placement of my signature on this document  
Date: 2015.12.08 11:58:11-08'00'

REGISTERED PROFESSIONAL ENGINEER  
14,972  
CREATED JULY 25, 1989  
BARRY C. JOHNSON  
EXPIRES: 6/30/2017

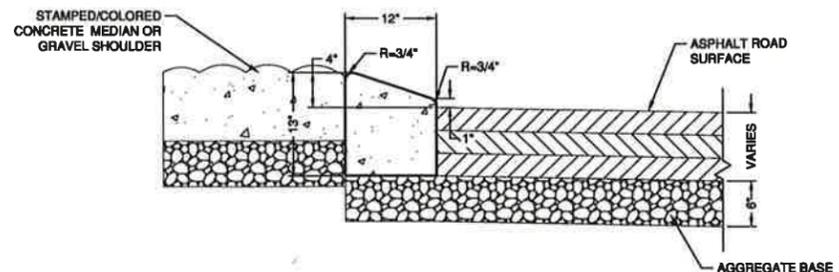
PROJECT NAME  
DESCHUTES COUNTY ROAD DEPARTMENT  
POWELL BUTTE HIGHWAY ROUNDABOUT  
DESCHUTES COUNTY, OR

TYPICAL SECTIONS

DRAWING NO.  
5 OF 46  
C2.2

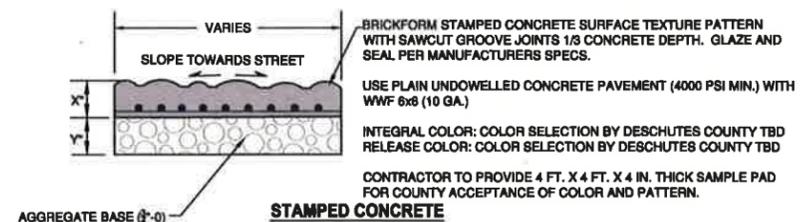
BID DOCUMENTS

FILE: BE2506001-C3.0-0700 LAYOUT: 3.0 DETAILS PATH: U:\Bent\Projects\2506-Deschutes\2506-001 PowellButteHighwayRoundabout\985\cadd\dwg\ PLOTTED BY: harrmpmr DATE: Tuesday, December 08, 2015 10:51:23 AM



**HIGH STRENGTH MODIFIED  
LOW PROFILE MOUNTABLE CURB**  
**DETAIL 1**  
NTS C3.0

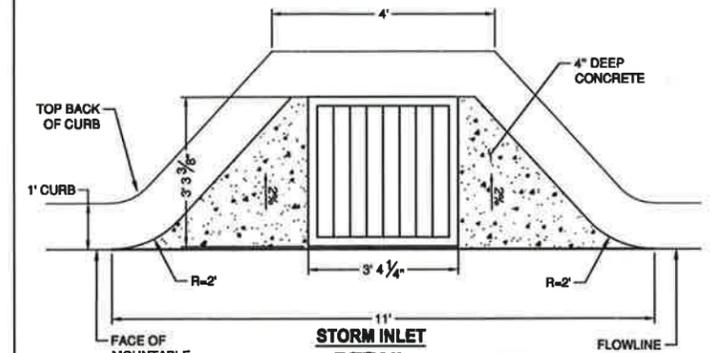
NOTES:  
1. REFERENCE ODOT DRG RD700  
2. ALL CONCRETE SHALL BE 5000 PSI HIGH STRENGTH WITH FIBER REINFORCEMENT



**STAMPED CONCRETE**  
**DETAIL 5**  
NTS C3.0

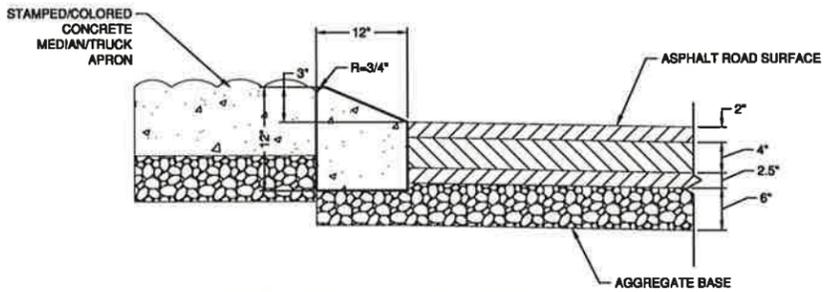
X DIMENSION:  
- MEDIAN = 6"  
- TRUCK APRON = 6"  
Y DIMENSION:  
- MEDIAN = 6" (0" IN AC GRIND AREA)  
- TRUCK APRON = 6"

TEXTURE PATTERN  
ENGLISH FIELD STONE (FM-1350)  
RANDOM STONE (FM-700)



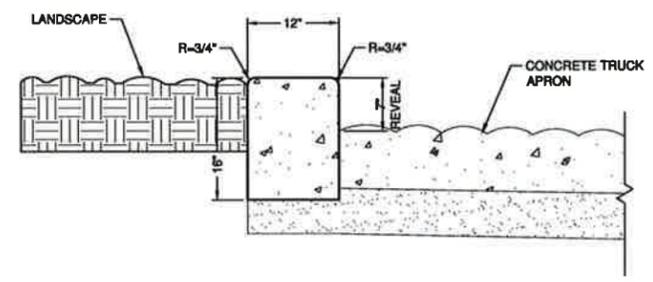
**STORM INLET**  
**DETAIL 9**  
NTS C3.0

NOTE: ALL CONCRETE SHALL BE 5000 PSI HIGH STRENGTH WITH FIBER REINFORCEMENT



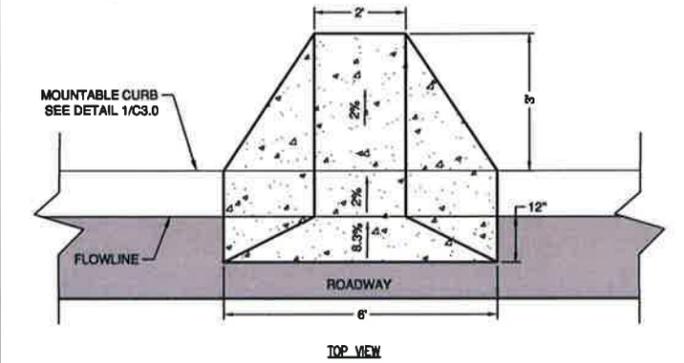
**TRUCK APRON HIGH STRENGTH MODIFIED  
LOW PROFILE MOUNTABLE CURB**  
**DETAIL 2**  
NTS C3.0

NOTES:  
1. REFERENCE ODOT DRG RD700  
2. ALL CONCRETE SHALL BE 5000 PSI HIGH STRENGTH WITH FIBER REINFORCEMENT

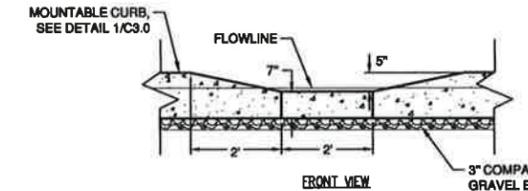


**INNER CURB**  
**DETAIL 6**  
NTS C3.0

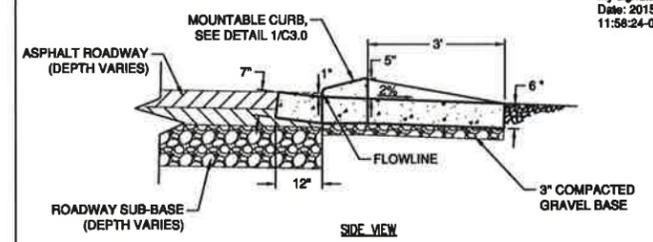
NOTE: CONCRETE SHALL BE 5000 PSI HIGH STRENGTH WITH FIBER REINFORCEMENT



**TOP VIEW**



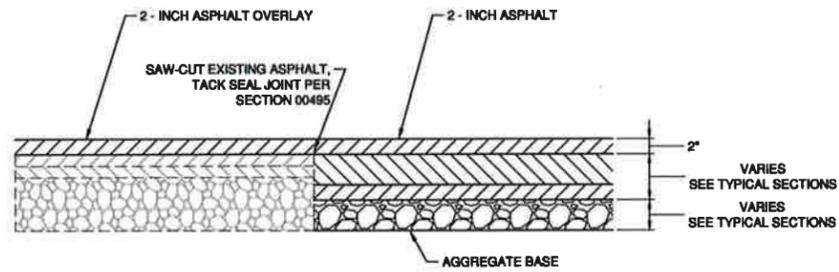
**FRONT VIEW**



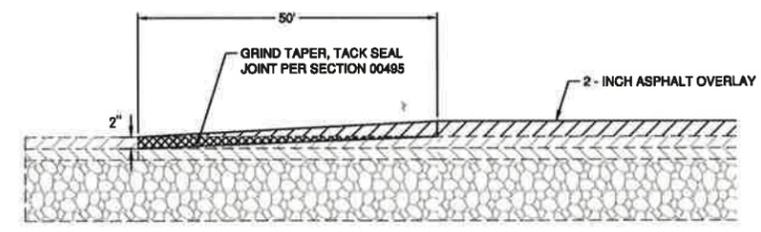
**SIDE VIEW**

**CURB CUT**  
**DETAIL 10**  
NTS C3.0

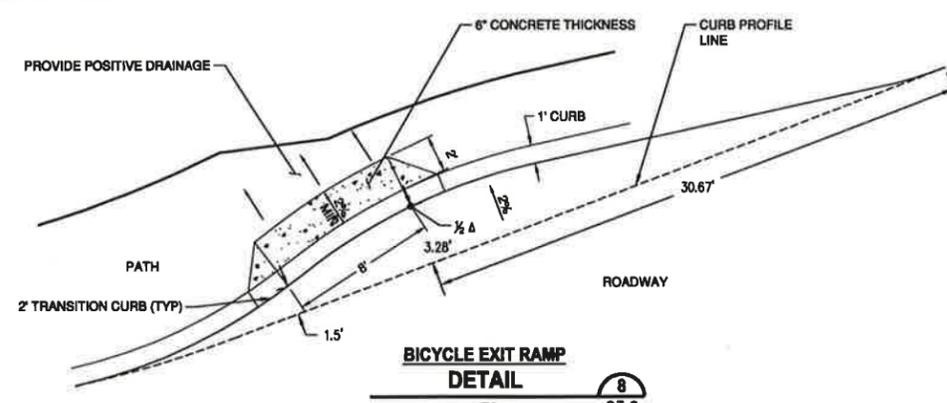
NOTE: ALL CONCRETE SHALL BE 5000 PSI HIGH STRENGTH WITH FIBER REINFORCEMENT



**AC OVERLAY TO  
FULL DEPTH AC TRANSITION**  
**DETAIL 3**  
NTS C3.0

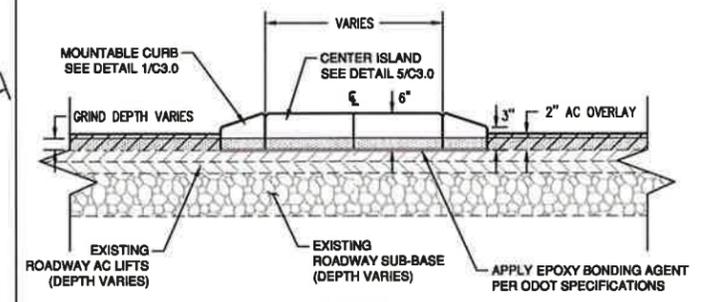


**BUTT JOINT**  
**DETAIL 4**  
NTS C3.0



**BICYCLE EXIT RAMP**  
**DETAIL 8**  
NTS C3.0

NOTE: ALL CONCRETE SHALL BE 5000 PSI HIGH STRENGTH WITH FIBER REINFORCEMENT



**AC GRIND**  
**DETAIL 11**  
NTS C3.0

**BID DOCUMENTS**

BY				
DATE				
REVISIONS				

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P 541.508.7710 WWW.PARAMETRIX.COM

DESIGNED BY: BARRY C. JOHNSON  
CHECKED BY: [ ]  
DATE: DECEMBER 2015  
JOB NO: 297-2506-001  
DRAWN BY: [ ]  
DWG. NO: [ ]

Digitally signed by BARRY C. JOHNSON  
DN: C=US, E=bjohnson@parametrix.com, O=PARAMETRIX, CN=BARRY C. JOHNSON  
Reason: I agree to the terms defined by the placement of my signature on this document  
Date: 2015.12.08 11:58:24-08'00'

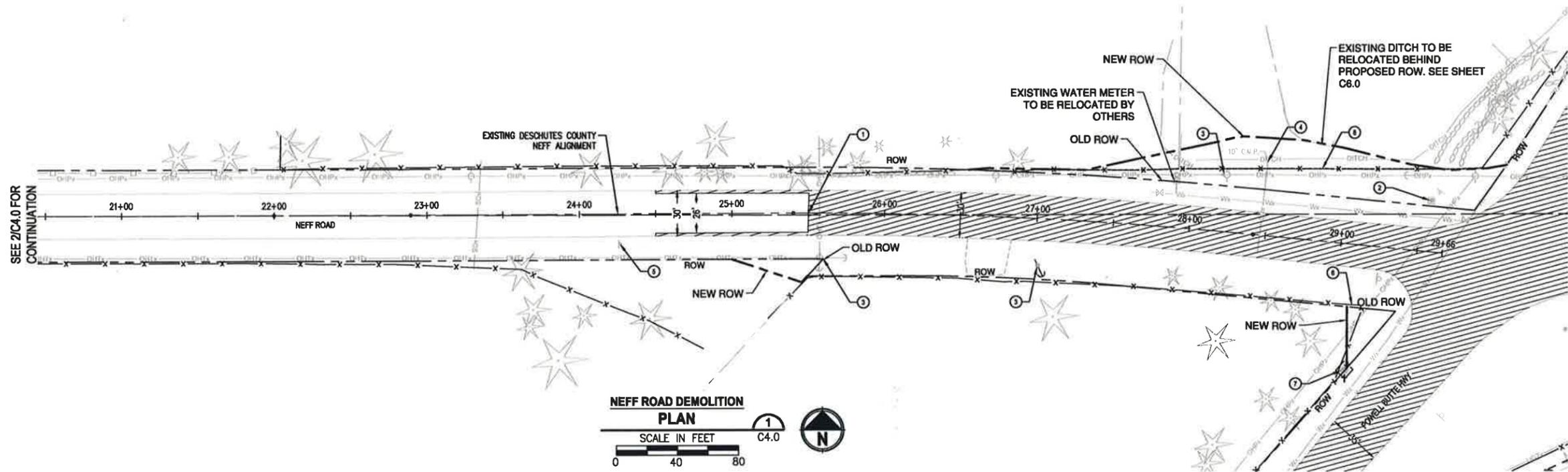
REGISTERED PROFESSIONAL ENGINEER  
BARRY C. JOHNSON  
EXPIRES: 6/30/2017

PROJECT NAME  
DESCHUTES COUNTY ROAD DEPARTMENT  
POWELL BUTTE HIGHWAY ROUNDABOUT  
DESCHUTES COUNTY, OR

**DETAILS**

DRAWING NO.  
6 OF 46  
**C3.0**

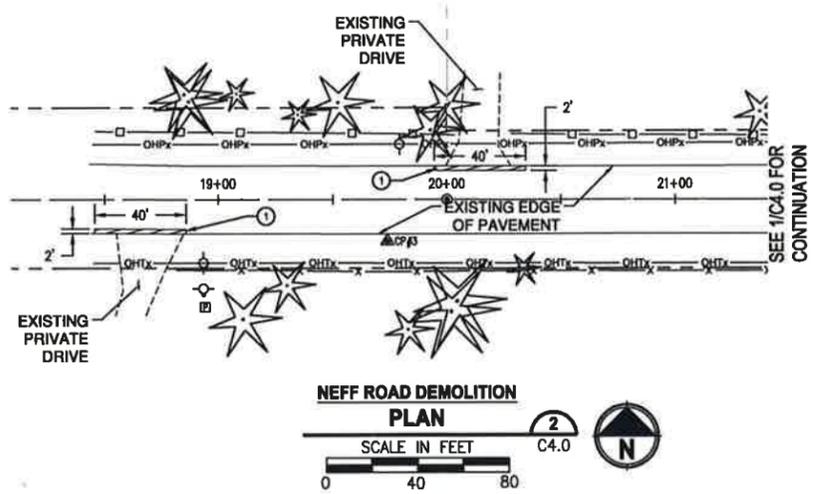
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**NEFF ROAD DEMOLITION PLAN**  
SCALE IN FEET  
0 40 80  
1  
C4.0

**DEMO LEGEND:**

-  REMOVE AC SURFACING AND BASE ROCK TO SUB GRADE
-  REMOVE TREE. CONTRACTOR TO MARK AND REVIEW IN THE FIELD WITH THE INSPECTOR PRIOR TO REMOVAL
-  REMOVE EXISTING FENCE



**NEFF ROAD DEMOLITION PLAN**  
SCALE IN FEET  
0 40 80  
2  
C4.0

**DEMO NOTES:**

- ① STA 25+50  
SAWCUT EXISTING ASPHALT - 308 LF
- ② RELOCATE EXISTING GUY POLE AND POWER METER (BY OTHERS)
- ③ RELOCATE EXISTING POWER/TELEPHONE POLE (BY OTHERS)
- ④ REMOVE EXISTING CULVERT-60 LF
- ⑤ SALVAGE SIGN AND RETURN TO DESCHUTES COUNTY ROAD DEPARTMENT
- ⑥ STA 29+08 - 29+10  
REMOVE BARB WIRE FENCE - 41 LF
- ⑦ MEMORIAL TO BE PRESERVED AND PROTECTED (INSTALL TEMPORARY CONSTRUCTION FENCE)
- ⑧ REMOVE APPROXIMATELY 317 LF OF FENCE

Digitally signed by BARRY C JOHNSON  
DN: C=US,  
E=bjohnson@parametrix.com,  
O=PARAMETRIX,  
CN=BARRY C JOHNSON  
Reason: I agree to the terms defined by the placement of my signature on this document  
Date: 2015.12.05 11:58:35-0600

REVISIONS	DATE	BY

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ACCORDINGLY

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P 541.508.7710  
WWW.PARAMETRIX.COM

DATE: DECEMBER 2015  
JOB NO.: 287-2509-001  
DRAWN: DWL/DR  
CHECKED: [Signature]  
APPROVED: [Signature]

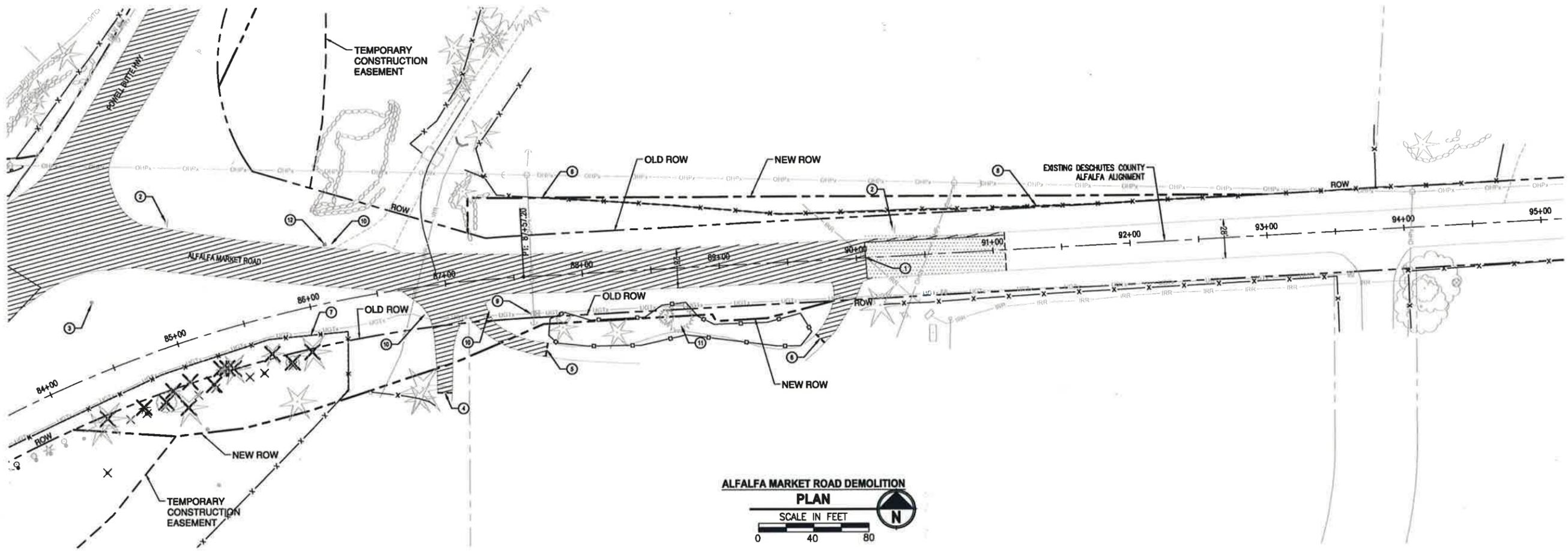
REGISTERED PROFESSIONAL ENGINEER  
14,972  
CREATED  
JULY 25, 1999  
BARRY C. JOHNSON  
EXPIRES: 6/30/2017

PROJECT NAME  
DESCHUTES COUNTY ROAD DEPARTMENT  
POWELL BUTTE HIGHWAY ROUNDABOUT  
DESCHUTES COUNTY, OR

**DEMOLITION PLAN  
NEFF ROAD**

DRAWING NO.  
7 OF 46  
**C4.0**

FILE: BE2506001-Ck1-DEM0-ALFALFA00 LAYOUT: C4.1 ALFALFA MARKET RD DEMO PLAN PATH: U:\Bend\Projects\Clients\2500-Deschutes County\257-2509-001 PowellButteRd\Drawings\CADD\DWG\ PLOTTED BY: henrymor DATE: Monday, December 07, 2015 3:06:00 PM



**ALFALFA MARKET ROAD DEMOLITION  
PLAN**  
SCALE IN FEET  
0 40 80

**DEMO LEGEND:**

-  REMOVE AC SURFACING AND BASE ROCK TO SUB GRADE
-  REMOVE TREE, CONTRACTOR TO MARK AND REVIEW IN THE FIELD WITH THE INSPECTOR PRIOR TO REMOVAL
-  REMOVE BARBED WIRE FENCE
-  REMOVE EXISTING IRRIGATION SYSTEM AS NEEDED COORDINATE WITH PROPERTY OWNER
-  INSTALL TREE PROTECTIVE FENCING

**DEMO NOTES:**

- ① STA 90+08.48  
SAWCUT EXISTING ASPHALT - 130 LF
- ② SALVAGE SIGN AND RETURN TO DESCHUTES COUNTY ROAD DEPARTMENT
- ③ REMOVE EXISTING GUY POLE AND FLASHING BEACON.
- ④ SAWCUT EXISTING ASPHALT -48' BEYOND OLD ROW
- ⑤ SAWCUT EXISTING ASPHALT -24' BEYOND OLD ROW
- ⑥ SAWCUT EXISTING ASPHALT -27' BEYOND OLD ROW
- ⑦ REMOVE APPROXIMATELY 715' LF OF EXISTING FENCE, SEE SHEET C4.3 FOR CONTINUATION
- ⑧ REMOVE APPROXIMATELY 380 LF OF EXISTING FENCE UP TO EXISTING GATE NEAR STA 91+00
- ⑨ RELOCATE EXISTING POWER POLE, TELEPHONE PEDESTAL AND GUY WIRE, BY OTHERS.
- ⑩ RELOCATE EXISTING ADDRESS MARKER
- ⑪ PROTECT EXISTING TREES. PROVIDE PROTECTIVE FENCING
- ⑫ PROTECT MAILBOX AND MAINTAIN ACCESS PRIOR TO RELOCATION

Digitally signed by BARRY C JOHNSON  
DN: C=US,  
E=bjohnson@parametrix.com,  
O=PARAMETRIX,  
CN=BARRY C JOHNSON  
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11:58:48-08'00'

REVISIONS	DATE	BY

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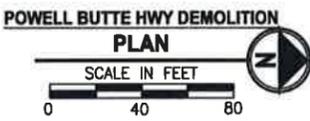
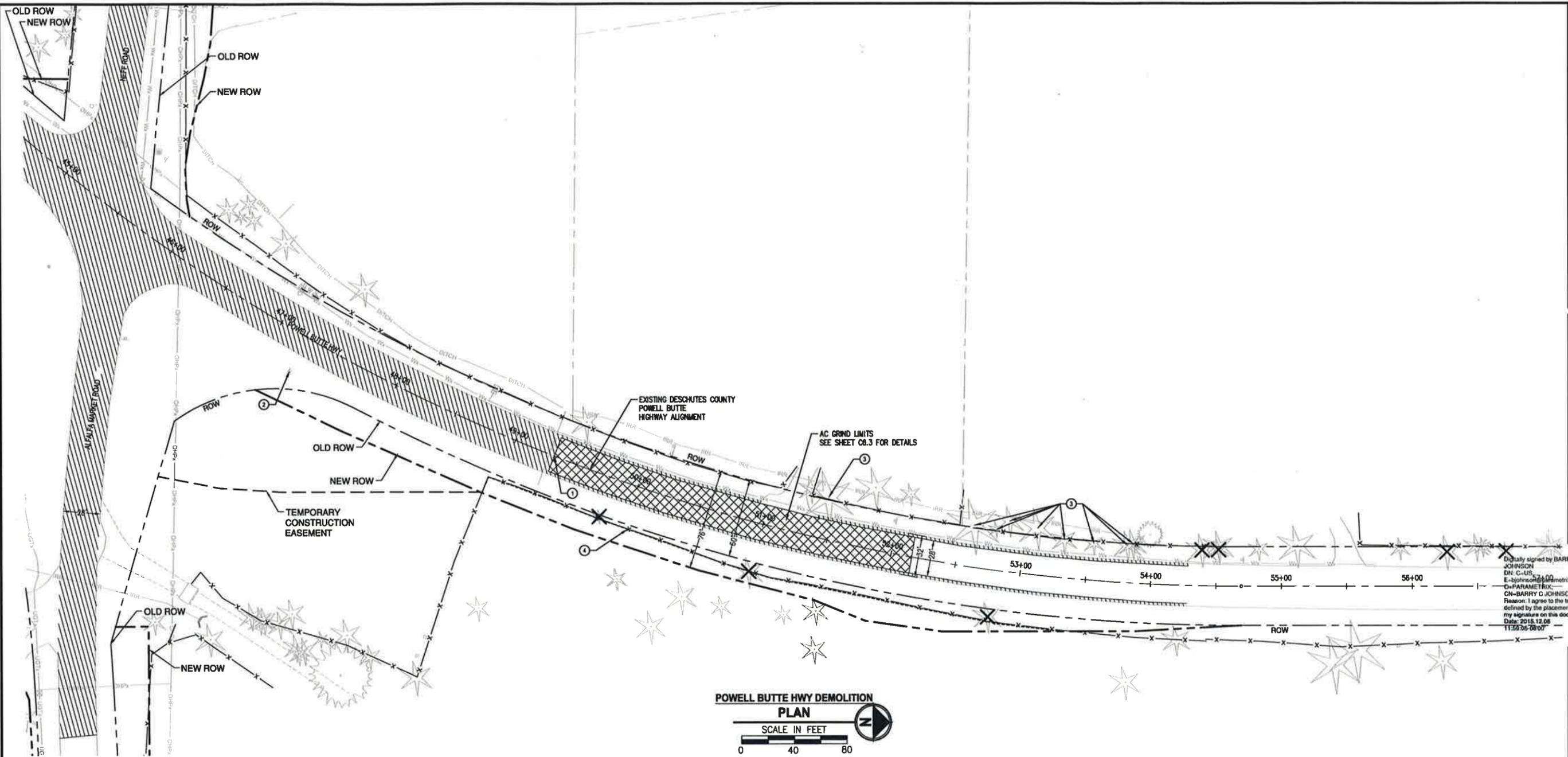
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JOB NO. 297-2509-001  
DRAWN: LFAK  
CHECKED: [Signature]  
APPROVED: [Signature]

REGISTERED PROFESSIONAL ENGINEER  
14,972  
OREGON  
BARRY C. JOHNSON  
EXPIRES: 6/30/2017

PROJECT NAME  
DESCHUTES COUNTY ROAD DEPARTMENT  
POWELL BUTTE HIGHWAY ROUNDABOUT  
DESCHUTES COUNTY, OR

**DEMOLITION PLAN  
ALFALFA MARKET ROAD**

FILE: BE2500001-C4.2-DEMOL-PBHN00 LAYOUT: C4.2 PBHN DEMO PLAN DATE: Monday, December 07, 2015 3:06:28 PM PLOTTED BY: henrymar



**DEMO LEGEND:**

- REMOVE AC SURFACING AND BASE ROCK TO SUB GRADE
- AC GRIND SECTION
- REMOVE TREE, CONTRACTOR TO MARK AND REVIEW IN THE FIELD WITH THE INSPECTOR PRIOR TO REMOVAL
- REMOVE EXISTING FENCE

**DEMO NOTES:**

- ① STA 49+32.28  
SAWCUT EXISTING ASPHALT - 1000 LF
- ② SALVAGE SIGN AND RETURN TO DESCHUTES COUNTY ROAD DEPARTMENT.
- ③ LIMB TREES, WITHIN ROW - COORDINATE WITH COUNTY/INSPECTOR
- ④ REMOVE APPROXIMATELY 470 LF OF EXISTING FENCE

REVISIONS	DATE	BY

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 P 541.508.7710 WWW.PARAMETRIX.COM

DATE: DECEMBER 2015  
 JOB NO.: 287-2506-001  
 DRAWN: JAK  
 CHECKED: [Signature]  
 APPROVED: [Signature]

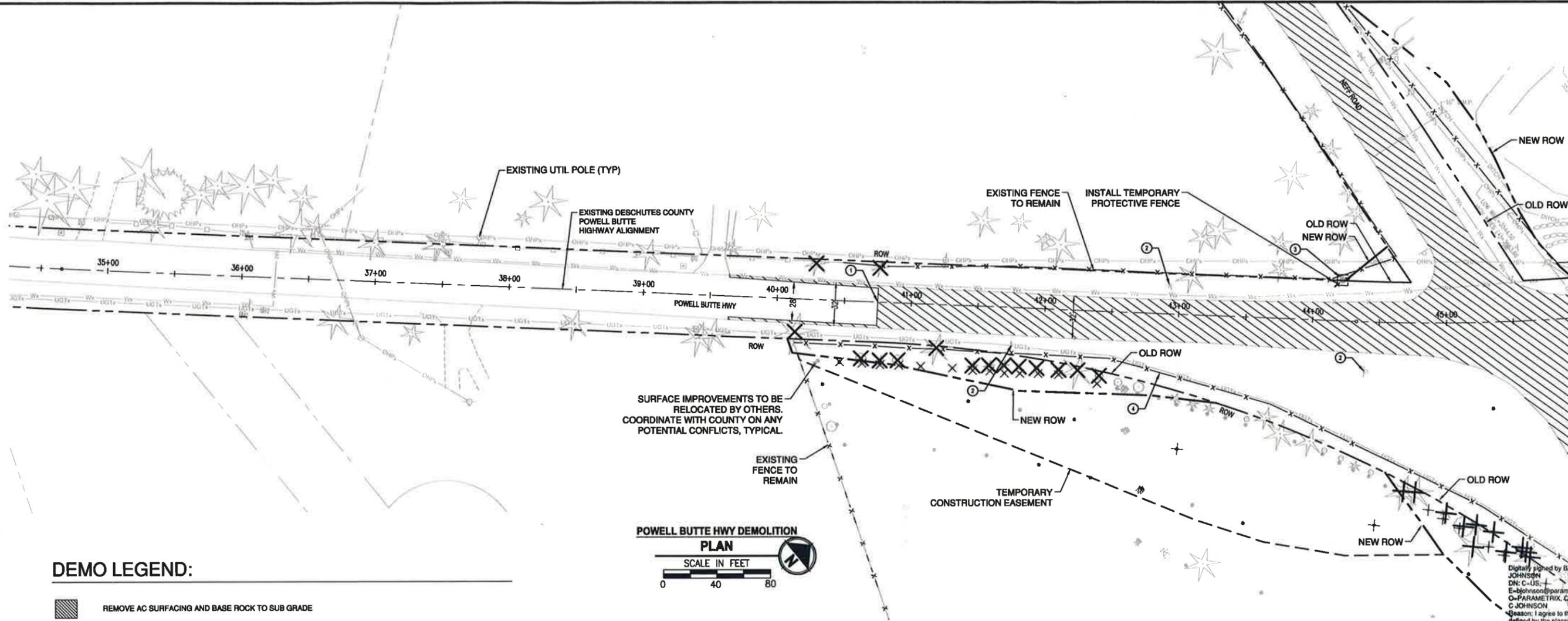
Digitally signed by BARRY C. JOHNSON  
 DN: C=US, E=bjohnson@parametrix.com, O=PARAMETRIX, CN=BARRY C. JOHNSON  
 Reason: I agree to the terms defined by the placement of my signature on this document  
 Date: 2015.12.08 11:59:36-0800

REGISTERED PROFESSIONAL ENGINEER  
 14,972  
 OREGON  
 JULY 25, 1984  
 BARRY C. JOHNSON  
 EXPIRES: 6/30/2017

PROJECT NAME  
**DEMOLITION PLAN  
 POWELL BUTTE HWY  
 NORTH**  
 DESCHUTES COUNTY ROAD DEPARTMENT  
 POWELL BUTTE HIGHWAY ROUNDABOUT  
 DESCHUTES COUNTY, OR

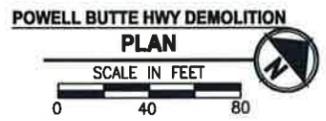
DRAWING NO.  
**9 OF 46**  
**C4.2**

FILE: B2259901-C4.3-DEM-D-PR600 LAYOUT: C4.3 PRHS DEMO PLAN PATH: U:\Bent\Projects\Clients\2509-Deschutes\Count\237-2509-001 PowellButte\Drawings\985sect\CADD\DWG PLOTTED BY: henrymor DATE: Monday, December 07, 2015 3:08:57 PM



**DEMO LEGEND:**

-  REMOVE AC SURFACING AND BASE ROCK TO SUB GRADE
-  REMOVE TREE, CONTRACTOR TO MARK AND REVIEW IN THE FIELD WITH THE INSPECTOR PRIOR TO REMOVAL
-  REMOVE EXISTING IRRIGATION SYSTEM AS NEEDED, COORDINATE WITH PROPERTY OWNER



**DEMO NOTES:**

- ① STA 40+74.82 SAWCUT EXISTING ASPHALT-252 LF
- ② SALVAGE SIGN AND RETURN TO DESCHUTES COUNTY ROAD DEPARTMENT.
- ③ MEMORIAL TO BE PRESERVED AND PROTECTED
- ④ EXISTING FENCE TO BE REMOVED BY OTHERS

Digitally signed by BARRY C JOHNSON  
DN: C=US, E=bjohnson@parametrix.com, O=PARAMETRIX, CN=BARRY C JOHNSON  
Reason: I agree to the terms defined by the placement of my signature on this document  
Date: 2015.12.09 11:59:18-08'00'

REVISIONS	DATE	BY

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P 541.508.7710 WWW.PARAMETRIX.COM

DATE: DECEMBER 2015  
JOB NO.: 297-2509-001  
DRAWN: JAW  
CHECKED: [Signature]  
APPROVED: [Signature]

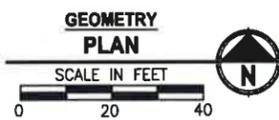
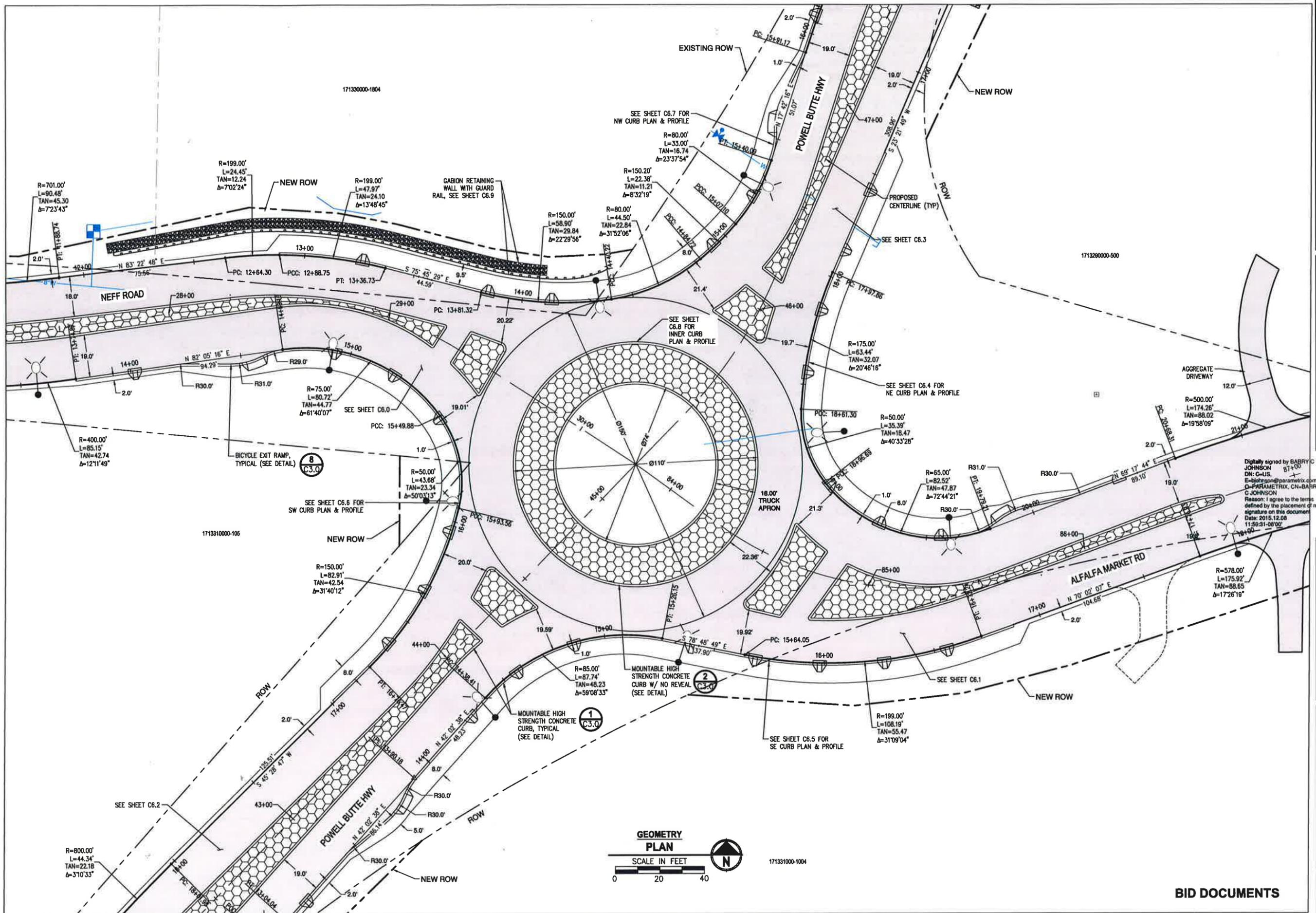
REGISTERED PROFESSIONAL ENGINEER  
BARRY C. JOHNSON  
OREGON  
EXPIRES: 6/30/2017

PROJECT NAME  
DESCHUTES COUNTY ROAD DEPARTMENT  
POWELL BUTTE HIGHWAY ROUNDABOUT  
DESCHUTES COUNTY, OR

**DEMOLITION PLAN  
POWELL BUTTE HWY  
SOUTH**

DRAWING NO.  
10 OF 48  
**C4.3**

FILE: BE2500001-C5.0-C000 LAYOUT: GEOMETRY PLAN PATH: U:\Bend\Projects\Clients\2509-Deschutes County\297-2509-001 PowellButteHwy\RoadAbout\995Sheet\CADD\DWG PLOTTED BY: herymwr DATE: Monday, December 07, 2015 3:07:24 PM



REVISIONS	DATE	BY

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 595 SW BLUFF DRIVE, SUITE B | BEND, OR 97702  
 P 541.508.7710 WWW.PARAMETRIX.COM  
 DATE: DECEMBER 2015 DRAWN: JAK CHECKED: APPROVED: [Signature]

Digitally signed by BARRY C. JOHNSON  
 DN: C=US, E=bjohnson@parametrix.com, O=PARAMETRIX, CN=BARRY C. JOHNSON  
 Reason: I agree to the terms defined by the placement of my signature on this document.  
 Date: 2015.12.08 11:59:31-0800  
 EXPIRES: 6/30/2017

PROJECT NAME  
**DESCHUTES COUNTY ROAD ROUNDABOUT  
 POWELL BUTTE HIGHWAY ROUNDABOUT**  
 DESCHUTES COUNTY, OR

**GEOMETRY PLAN**

DRAWING NO.  
 11 OF 46  
**C5.0**

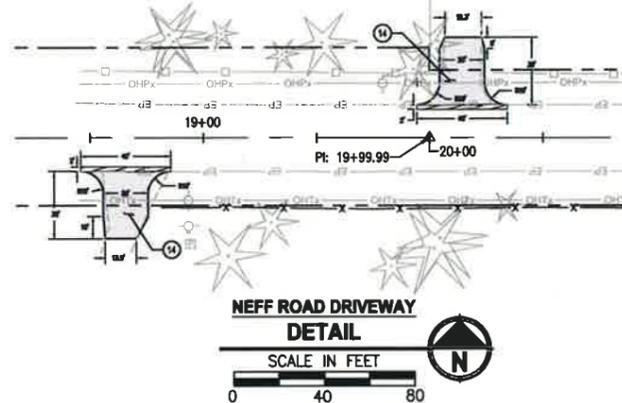
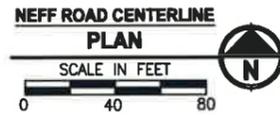
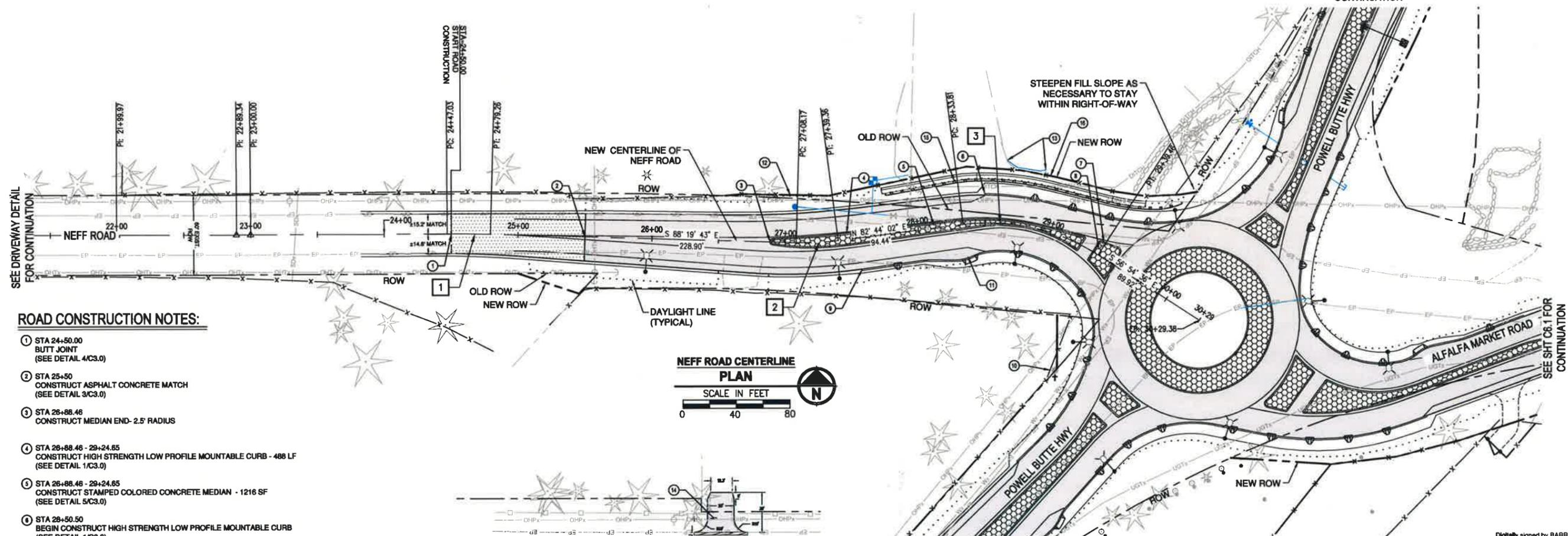
**BID DOCUMENTS**

FILE: BE250901-C6.0-PROP-NEFF LAYOUT: NEFF-PLAN AND PROFILE PATH: U:\Bent\Projects\Clients\Deschutes County\207-2509-01 PowellButteRdAbout\955hea\CADD\DWG PLOTTED BY: herryman DATE: Tuesday, December 08, 2015 9:08:37 AM

SEE DRIVEWAY DETAIL FOR CONTINUATION

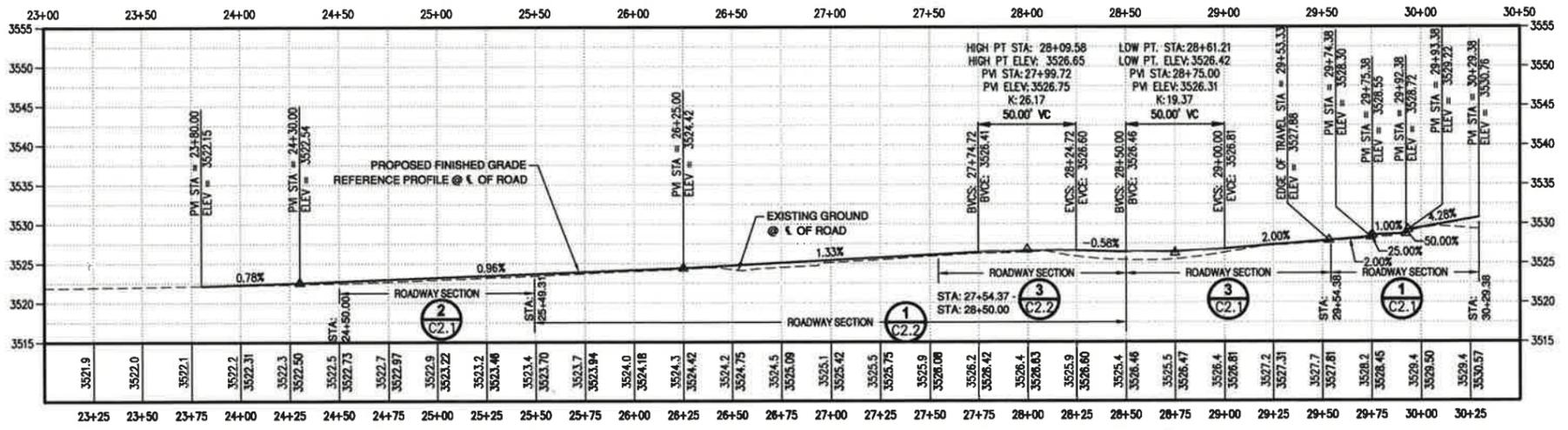
**ROAD CONSTRUCTION NOTES:**

- 1 STA 24+50.00 BUTT JOINT (SEE DETAIL 4/C3.0)
- 2 STA 25+50 CONSTRUCT ASPHALT CONCRETE MATCH (SEE DETAIL 3/C3.0)
- 3 STA 26+88.46 CONSTRUCT MEDIAN END- 2.5' RADIUS
- 4 STA 26+88.46 - 29+24.65 CONSTRUCT HIGH STRENGTH LOW PROFILE MOUNTABLE CURB - 488 LF (SEE DETAIL 1/C3.0)
- 5 STA 26+88.46 - 29+24.65 CONSTRUCT STAMPED COLORED CONCRETE MEDIAN - 1216 SF (SEE DETAIL 5/C3.0)
- 6 STA 29+50.50 BEGIN CONSTRUCT HIGH STRENGTH LOW PROFILE MOUNTABLE CURB (SEE DETAIL 1/C3.0)
- 7 STA 29+34.68 - 29+53.33 CONSTRUCT HIGH STRENGTH LOW PROFILE MOUNTABLE CURB - 79 LF (SEE DETAIL 1/C3.0)
- 8 STA 29+34.68 - 29+53.33 CONSTRUCT STAMPED COLORED CONCRETE MEDIAN - 325 SF (SEE DETAIL 5/C3.0)
- 9 STA 27+54.37 BEGIN CONSTRUCT HIGH STRENGTH LOW PROFILE MOUNTABLE CURB (SEE DETAIL 1/C3.0)
- 10 MEMORIAL TO BE PRESERVED AND PROTECTED
- 11 CONSTRUCT BICYCLE EXIT RAMP (SEE DETAIL 8/C3.0)
- 12 INSTALL 140 LF OF ODOT RD810 (TYPE 1-SW WITH SINGLE STRAND ELECTRIFIED FENCE) ALONG PROPERTY LINE
- 13 RELOCATED EXISTING DRAINAGE DITCH BEHIND PROPOSED FENCE.
- 14 CONSTRUCT NEW DRIVEWAY AS SHOWN. INSTALL 3" AC OVER 6" AGG BASE.
- 15 CONSTRUCT GABION WALL SEE SHEET C6.9
- 16 INSTALL 225 LF OF ODOT RD810 (TYPE 2) FENCE ALONG PROPERTY LINE



**ROAD CURVE DATA TABLE**

CURVE #	RADIUS	LENGTH	TAN	DELTA (Δ)
1	1000	32.30	16.15	1°51'03"
2	200	31.20	15.63	8°56'15"
3	150	105.65	55.12	40°21'22"



**PROFILE**  
 HORIZ: 1"=40'  
 VERT: 1"=10'

SEE SHT C6.3 FOR CONTINUATION

SEE SHT C6.2 FOR CONTINUATION

SEE SHT CR.1 FOR CONTINUATION

REVISIONS	DATE	BY

ONE INCH AT FULL SCALE IF ACCORDINGLY

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 DATE: DECEMBER 2015  
 DRAWN: BARRY C. JOHNSON  
 CHECKED: [Signature]  
 APPROVED: [Signature]

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 Date: 2015.12.08 11:58:46-08'00'

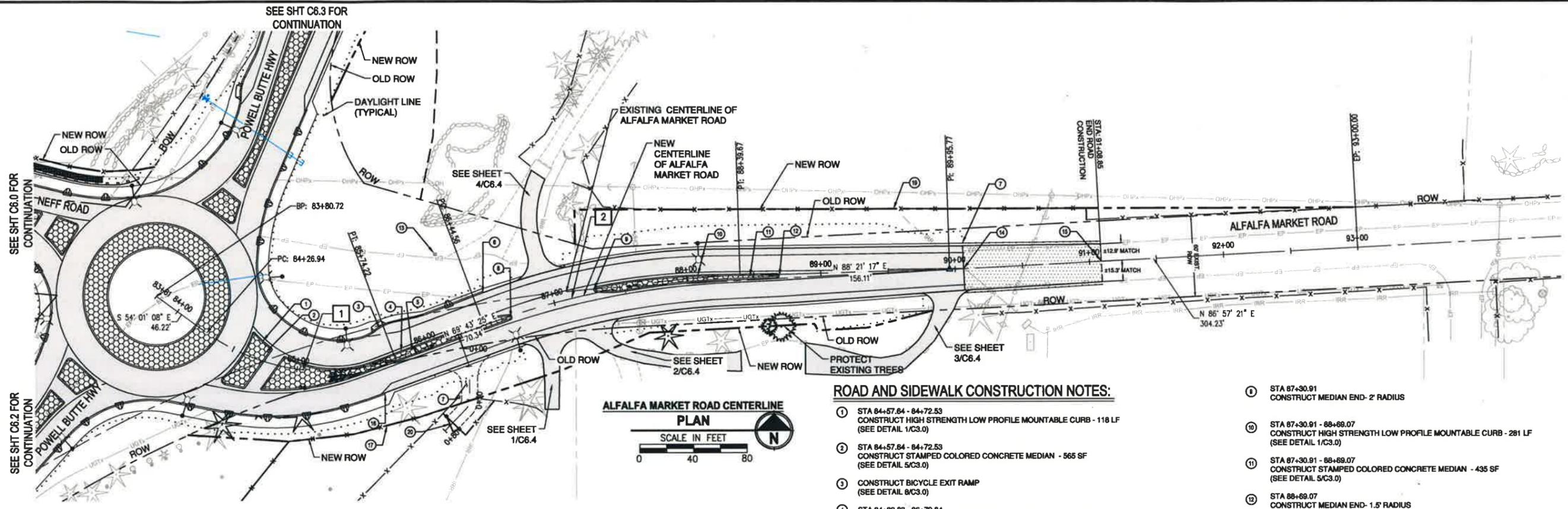
**REGISTERED PROFESSIONAL ENGINEER**  
 BARRY C. JOHNSON  
 EXPIRES: 6/30/2017

PROJECT NAME  
**DESCHUTES COUNTY ROAD DEPARTMENT POWELL BUTTE HIGHWAY ROUNDABOUT**  
 DESCHUTES COUNTY, OR

**NEFF ROAD CENTERLINE PLAN AND PROFILE**

BID DOCUMENTS

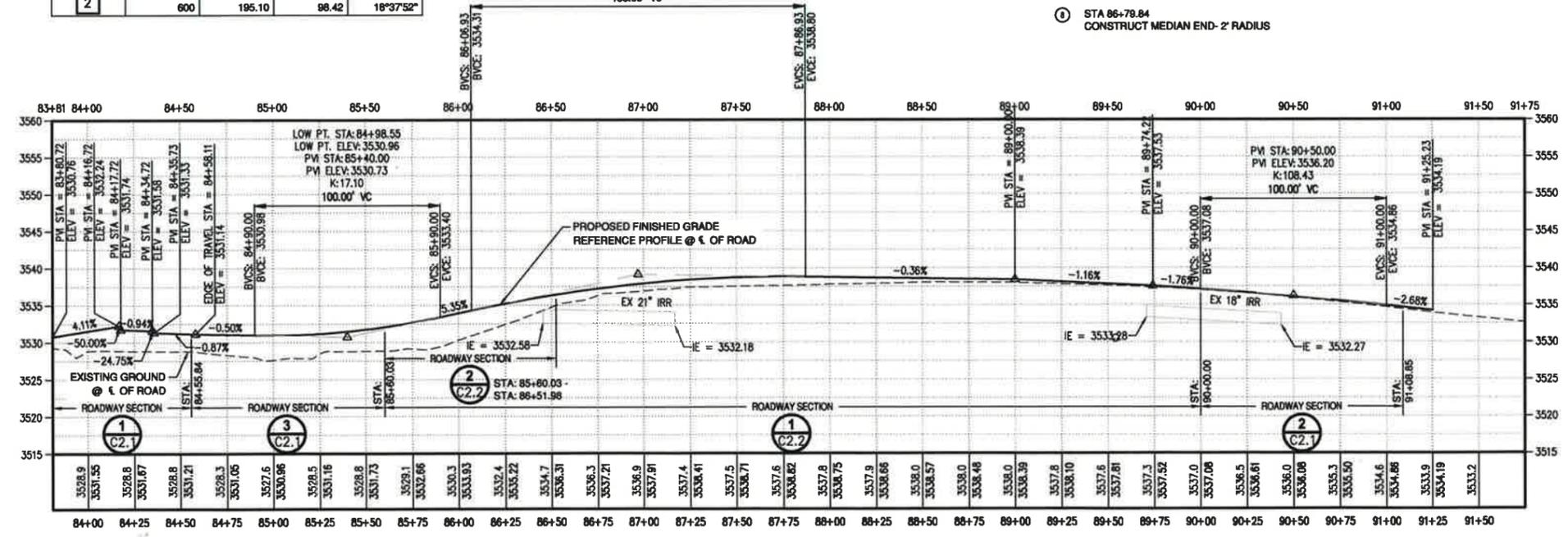
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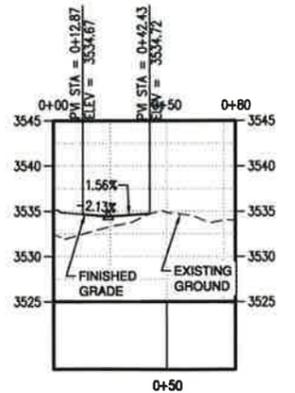
**ROAD CURVE DATA TABLE**

CURVE #	RADIUS	LENGTH	TAN	DELTA (Δ)
1	150	147.28	80.19	56°15'26"
2	600	195.10	98.42	18°37'52"

HIGH PT. STA: 87+75.67  
 HIGH PT. ELEV: 3538.82  
 PVI STA: 86+96.93  
 PVI ELEV: 3539.12  
 K: 31.56  
 180.00' VC



**ALFALFA CENTERLINE PROFILE**  
 HORIZ: 1"=40'  
 VERT: 1"=10'



**GRAVEL ACCESS PROFILE**  
 HORIZ: 1"=40'  
 VERT: 1"=10'

**ROAD AND SIDEWALK CONSTRUCTION NOTES:**

- 1 STA 84+57.84 - 84+72.53  
CONSTRUCT HIGH STRENGTH LOW PROFILE MOUNTABLE CURB - 118 LF (SEE DETAIL 1/C3.0)
- 2 STA 84+57.84 - 84+72.53  
CONSTRUCT STAMPED COLORED CONCRETE MEDIAN - 565 SF (SEE DETAIL 5/C3.0)
- 3 CONSTRUCT BICYCLE EXIT RAMP (SEE DETAIL 6/C3.0)
- 4 STA 84+82.83 - 86+79.84  
CONSTRUCT HIGH STRENGTH LOW PROFILE MOUNTABLE CURB - 534 LF (SEE DETAIL 1/C3.0)
- 5 STA 84+57.84 - 84+72.53  
CONSTRUCT STAMPED COLORED CONCRETE MEDIAN - 1447 SF (SEE DETAIL 5/C3.0)
- 6 STA 86+51.99  
END CONSTRUCT HIGH STRENGTH LOW PROFILE MOUNTABLE CURB (SEE DETAIL 1/C3.0)
- 7 CONSTRUCT GRAVEL ACCESS, SEE GRAVEL ACCESS PROFILE (THIS SHEET) FOR DETAILS. PROVIDE 6" OF AGG BASE.
- 8 STA 86+79.84  
CONSTRUCT MEDIAN END- 2' RADIUS

- 9 STA 87+30.91  
CONSTRUCT MEDIAN END- 2' RADIUS
- 10 STA 87+30.91 - 88+69.07  
CONSTRUCT HIGH STRENGTH LOW PROFILE MOUNTABLE CURB - 281 LF (SEE DETAIL 1/C3.0)
- 11 STA 87+30.91 - 88+69.07  
CONSTRUCT STAMPED COLORED CONCRETE MEDIAN - 435 SF (SEE DETAIL 5/C3.0)
- 12 STA 88+69.07  
CONSTRUCT MEDIAN END- 1.5' RADIUS
- 13 RELOCATE EXISTING MAILBOXES. COORDINATE WITH U.S. POSTAL SERVICE
- 14 STA 90+06.44  
CONSTRUCT ASPHALT CONCRETE MATCH (SEE DETAIL 3/C3.0)
- 15 STA 91+08.85  
BUTT JOINT (SEE DETAIL 4/C3.0)
- 16 STA 85+80.03  
END CONSTRUCT HIGH STRENGTH LOW PROFILE MOUNTABLE CURB (SEE DETAIL 1/C3.0)
- 17 SEE SHEET C7.0 FOR DESCRIPTION AND LOCATION OF TEMPORARY FENCING.
- 18 NOT USED
- 19 INSTALL 330LF OF ODOT RD610 (TYPE 2) FENCE ALONG NEW ROW UP TO EXISTING GATE @ STA 91+00
- 20 STA 86+06.82 - 86+22.45  
SALVAGE AND RELOCATE EXISTING GATE. SEE RD 820 FOR DETAILS ON NEW GATE POSTS IF REQUIRED.

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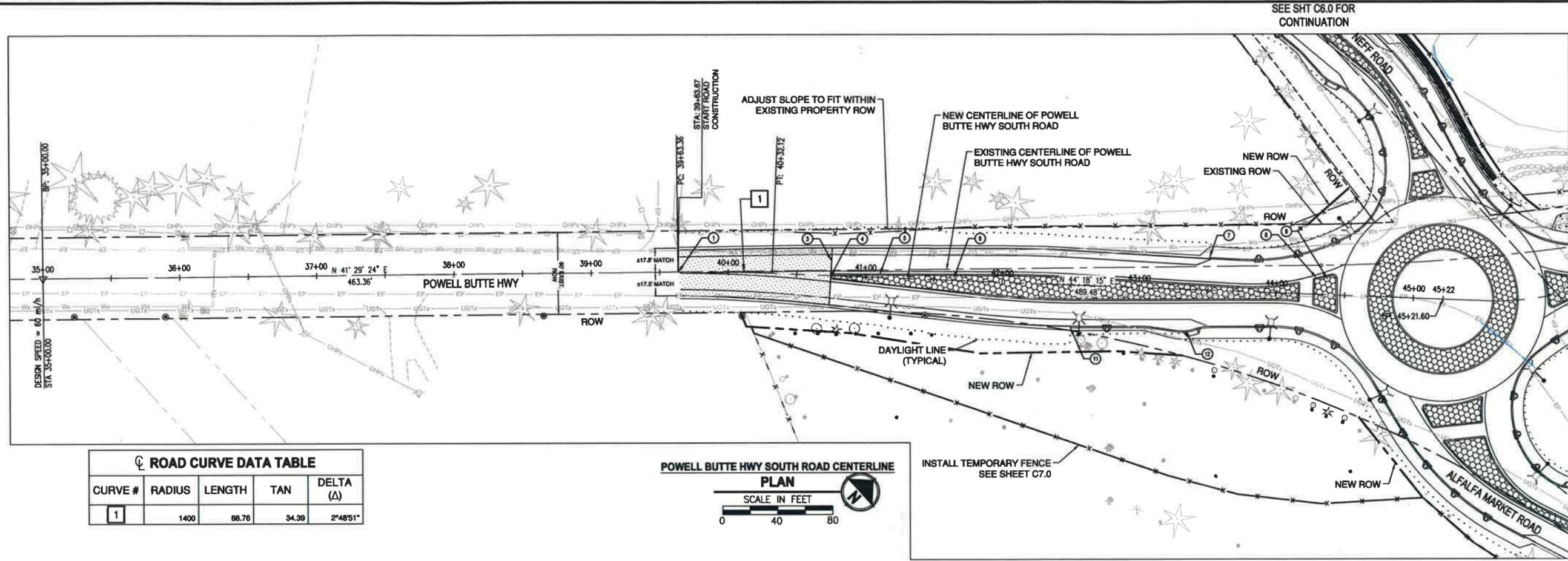
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 CHECKED BY: BARRY C JOHNSON  
 DATE: DECEMBER 2015 | FAX: 503-738-2977  
 DRAWN BY: BARRY C JOHNSON



PROJECT NAME  
 DESCHUTES COUNTY ROAD DEPARTMENT  
 POWELL BUTTE HIGHWAY ROUNDABOUT  
 DESCHUTES COUNTY, OR

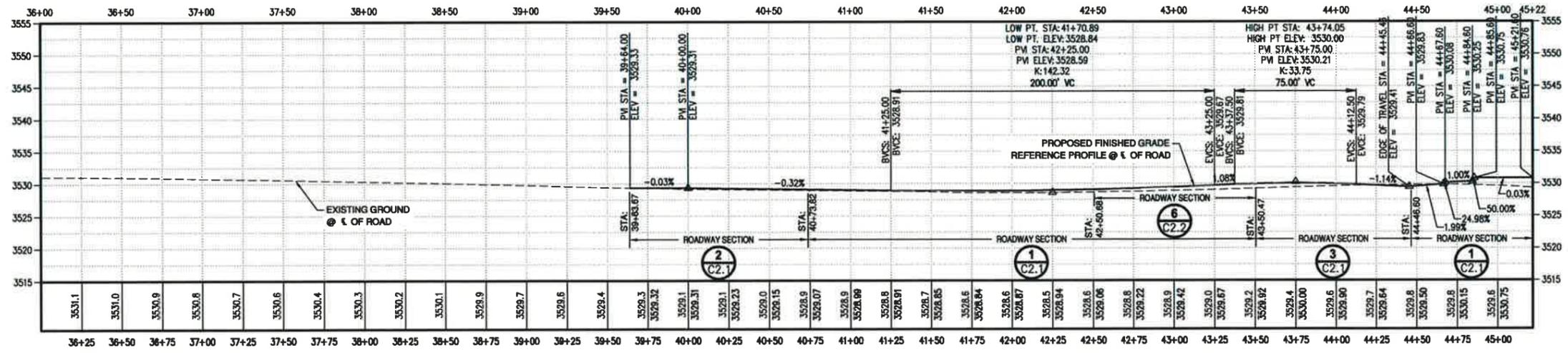
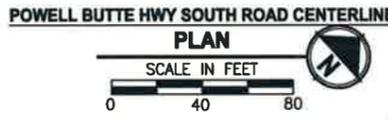
**ALFALFA MARKET ROAD CENTERLINE PLAN AND PROFILE**

FILE: B2509001-C6.2-PP00-PBH LAYOUT: POWELL BUTTE HWY SOUTH PLAN & PROFILE PATH: U:\Bent\Projects\Clients\2509-Deschutes County\2015-2509-001 PowellButteHwy\Drawings\CADD\DWG PLOTTED BY: harrington DATE: Tuesday, December 08, 2015 8:10:34 AM



**ROAD CURVE DATA TABLE**

CURVE #	RADIUS	LENGTH	TAN	DELTA (Δ)
1	1400	88.76	34.39	2°48'51"



**PROFILE**  
HORIZ: 1"=40'  
VERT: 1"=10'

**ROAD AND SIDEWALK CONSTRUCTION NOTES:**

- ① STA 39+83.67 BUTT JOINT (SEE DETAIL 4/C3.0)
- ② NOT USED
- ③ STA 40+73.81 CONSTRUCT ASPHALT CONCRETE MATCH (SEE DETAIL 3/C3.0)
- ④ STA 40+74.80 CONSTRUCT MEDIAN END- 2' RADIUS
- ⑤ STA 40+74.80 - 44+16.90 CONSTRUCT HIGH STRENGTH LOW PROFILE MOUNTABLE CURB - 701 LF (SEE DETAIL 1/C3.0)
- ⑥ STA 40+74.80 - 44+16.90 CONSTRUCT STAMPED COLORED CONCRETE MEDIAN - 3685 SF (SEE DETAIL 5/C3.0)
- ⑦ STA 43+50.47 BEGIN CONSTRUCT HIGH STRENGTH LOW PROFILE MOUNTABLE CURB (SEE DETAIL 1/C3.0)
- ⑧ STA 44+26.90 - 44+44.56 CONSTRUCT HIGH STRENGTH LOW PROFILE MOUNTABLE CURB - 83 LF (SEE DETAIL 1/C3.0)
- ⑨ STA 44+26.90 - 44+44.56 CONSTRUCT STAMPED COLORED CONCRETE MEDIAN - 346 SF (SEE DETAIL 5/C3.0)
- ⑩ NOT USED
- ⑪ STA 42+50.68 BEGIN CONSTRUCT HIGH STRENGTH LOW PROFILE MOUNTABLE CURB (SEE DETAIL 1/C3.0)
- ⑫ CONSTRUCT BICYCLE EXIT RAMP (SEE DETAIL 8/C3.0)

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PROJECT NAME  
**DESCHUTES COUNTY ROAD DEPARTMENT  
POWELL BUTTE HIGHWAY ROUNDABOUT**  
DESCHUTES COUNTY, OR

**POWELL BUTTE HWY  
SOUTH CENTERLINE  
PLAN AND PROFILE**

DRAWING NO.  
14 OF 46  
**C6.2**

REVISIONS	DATE	BY

SEE SHT C6.0 FOR CONTINUATION

SEE SHT C6.1 FOR CONTINUATION

SEE SHT C6.3 FOR CONTINUATION

CASE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY.

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DESIGNED: [ ]  
DATE: DECEMBER 2015 | FAX: [ ]  
297-2508-001 DW/DR

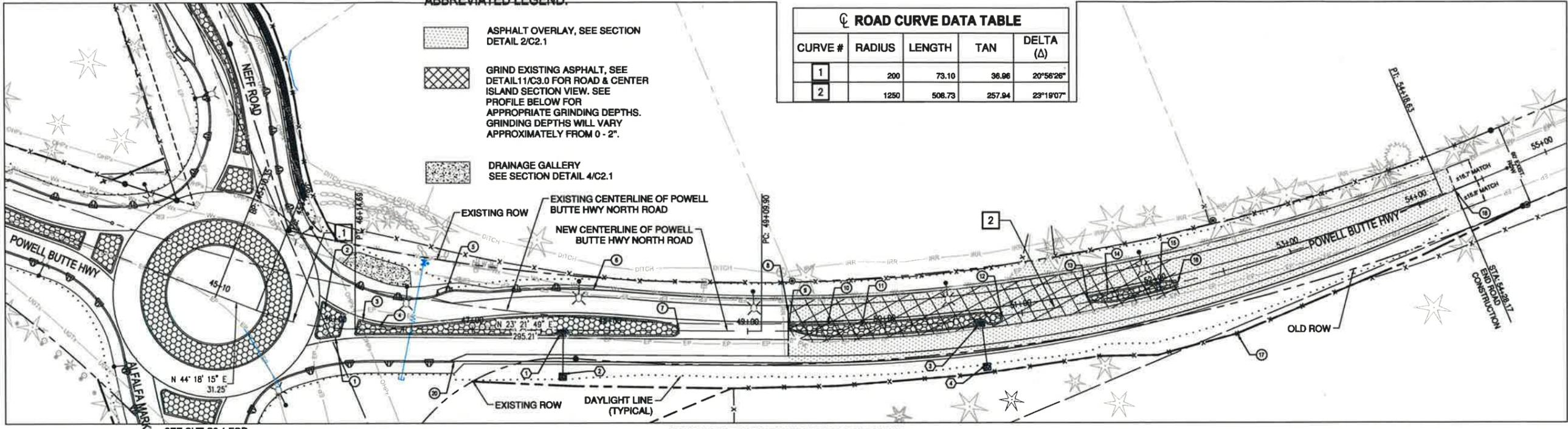
**BID DOCUMENTS**

SEE SHT C6.0 FOR CONTINUATION

ABBREVIATED LEGEND:

- ASPHALT OVERLAY, SEE SECTION DETAIL 2/C2.1
- GRIND EXISTING ASPHALT, SEE DETAIL 11/C3.0 FOR ROAD & CENTER ISLAND SECTION VIEW. SEE PROFILE BELOW FOR APPROPRIATE GRINDING DEPTHS. GRINDING DEPTHS WILL VARY APPROXIMATELY FROM 0 - 2".
- DRAINAGE GALLERY SEE SECTION DETAIL 4/C2.1

ROAD CURVE DATA TABLE				
CURVE #	RADIUS	LENGTH	TAN	DELTA (Δ)
1	200	73.10	36.06	20°56'26"
2	1250	508.73	257.94	23°19'07"



POWELL BUTTE HWY NORTH ROAD CENTERLINE



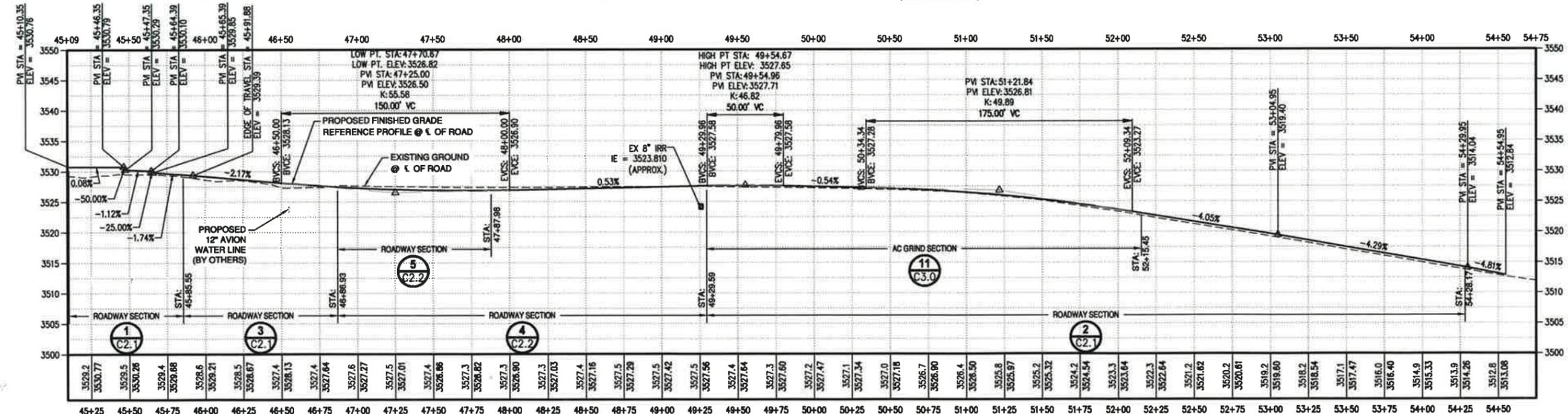
ROAD AND SIDEWALK CONSTRUCTION NOTES:

- 1 STA 45+87.36 - 46+05.71 CONSTRUCT HIGH STRENGTH LOW PROFILE MOUNTABLE CURB - 80 LF (SEE DETAIL 1/C3.0)
- 2 STA 45+87.36 - 46+05.71 CONSTRUCT STAMPED COLORED CONCRETE MEDIAN - 330 SF (SEE DETAIL 5/C3.0)
- 3 STA 46+15.88 - 48+49.88 CONSTRUCT HIGH STRENGTH LOW PROFILE MOUNTABLE CURB - 465 LF (SEE DETAIL 1/C3.0)
- 4 STA 46+15.88 - 48+49.88 CONSTRUCT STAMPED COLORED CONCRETE MEDIAN - 2130 SF (SEE DETAIL 5/C3.0)
- 5 CONSTRUCT BICYCLE EXIT RAMP (SEE DETAIL 6/C3.0)
- 6 STA 47+87.98 END CONSTRUCT HIGH STRENGTH LOW PROFILE MOUNTABLE CURB (SEE DETAIL 1/C3.0)
- 7 STA 48+49.88 CONSTRUCT MEDIAN END- 4' RADIUS
- 8 STA 49+29.49 CONSTRUCT ASPHALT CONCRETE MATCH (SEE DETAIL 3/C3.0)
- 9 STA 49+29.64 CONSTRUCT MEDIAN END- 4' RADIUS
- 10 STA 49+29.64 - 50+85.25 CONSTRUCT HIGH STRENGTH LOW PROFILE MOUNTABLE CURB - 319 LF (SEE DETAIL 1/C3.0)
- 11 STA 49+29.64 - 50+85.25 CONSTRUCT STAMPED COLORED CONCRETE MEDIAN - 1131 SF (SEE DETAIL 5/C3.0)
- 12 STA 50+85.25 CONSTRUCT MEDIAN END- 4' RADIUS
- 13 STA 51+48.86 CONSTRUCT MEDIAN END- 2.5' RADIUS
- 14 STA 51+48.86 - 52+15.45 CONSTRUCT HIGH STRENGTH LOW PROFILE MOUNTABLE CURB - 140 LF (SEE DETAIL 1/C3.0)
- 15 STA 51+48.86 - 52+15.45 CONSTRUCT STAMPED COLORED CONCRETE MEDIAN - 318 SF (SEE DETAIL 5/C3.0)
- 16 STA 52+15.45 CONSTRUCT MEDIAN END- 2.5' RADIUS
- 17 INSTALL 470LF OF ODOT RD610 (TYPE 2) FENCE. CONNECT TO EXISTING FENCE
- 18 STA 54+28.17 BUTT JOINT (SEE DETAIL 4/C3.0)
- 19 NOT USED
- 20 STA 46+86.93 END CONSTRUCT HIGH STRENGTH LOW PROFILE MOUNTABLE CURB (SEE DETAIL 1/C3.0)

STORM NETWORK CONSTRUCTION NOTES:

- 1 STA 50+70.03, 4.08' RT O.C. INSTALL ODOT TYPE G-2 INLET PER STD DWG RD364. SEE DETAIL 10/C3.0 FOR DIMENSIONS. RIM = 3528.82', I.E. OUT = 3524.32'. INSTALL 30 LF 8" DUCTILE IRON PIPE, S = 0.01 FT/FT MIN.
- 2 INSTALL OUTFALL AND RIPRAP PROTECTION. RIPRAP SHALL BE CLASS 50 (6" MINIMUM SIZE CRUSHED ROCK) CONSTRUCTED AS 5'x5'x1' DEEP PAD.
- 3 STA 50+70.01, 3.08' RT O.C. INSTALL ODOT TYPE G-2 INLET PER STD DWG RD364. SEE DETAIL 10/C3.0 FOR DIMENSIONS. RIM = 3527.15', I.E. OUT = 3524.65. INSTALL 30 LF 8" DUCTILE IRON PIPE, S = 0.01 FT/FT MIN.
- 4 INSTALL OUTFALL AND RIPRAP PROTECTION. RIPRAP SHALL BE CLASS 50 CONSTRUCTED AS 5'x5'x1' DEEP PAD.

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PROFILE

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 VERT: 1"=10'

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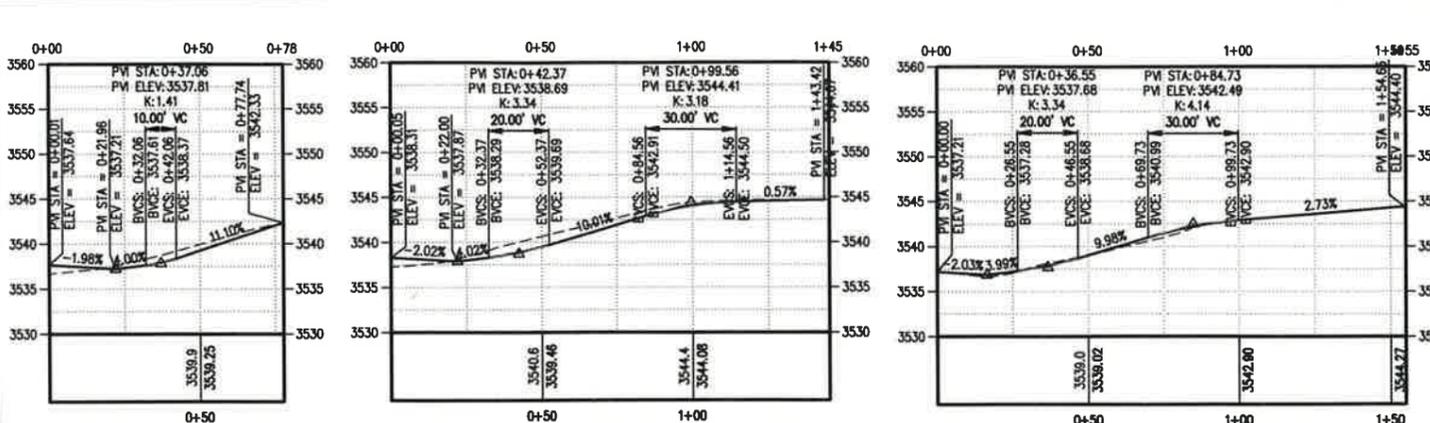
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DESIGNED BY: herypmar  
 CHECKED BY: herypmar  
 DATE: DECEMBER 2015  
 DRAWING NO: 207-2509-001 DWG/DR

PROJECT NAME  
 DESCHUTES COUNTY ROAD DEPARTMENT  
 POWELL BUTTE HIGHWAY ROUNDABOUT  
 DESCHUTES COUNTY, OR

**POWELL BUTTE HWY  
 NORTH CENTERLINE  
 PLAN AND PROFILE**

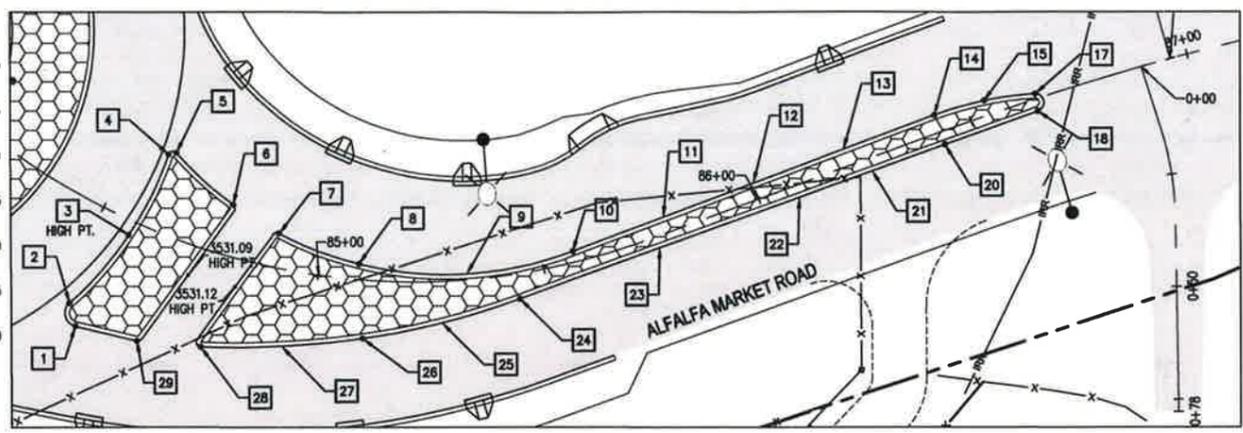
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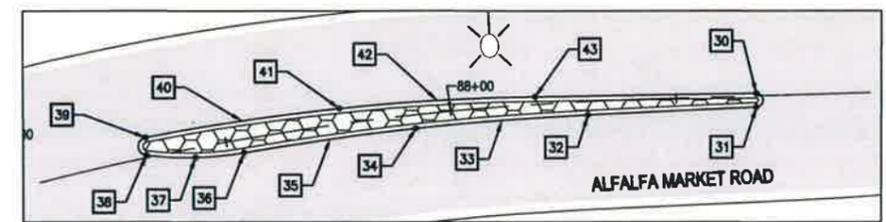
**DRIVEWAY 1 SECTION**  
 1  
 HORZ: 1" = 30'  
 VERT: 1" = 10'

**DRIVEWAY 2 SECTION**  
 2  
 HORZ: 1" = 30'  
 VERT: 1" = 10'

**DRIVEWAY 3 SECTION**  
 3  
 HORZ: 1" = 30'  
 VERT: 1" = 10'



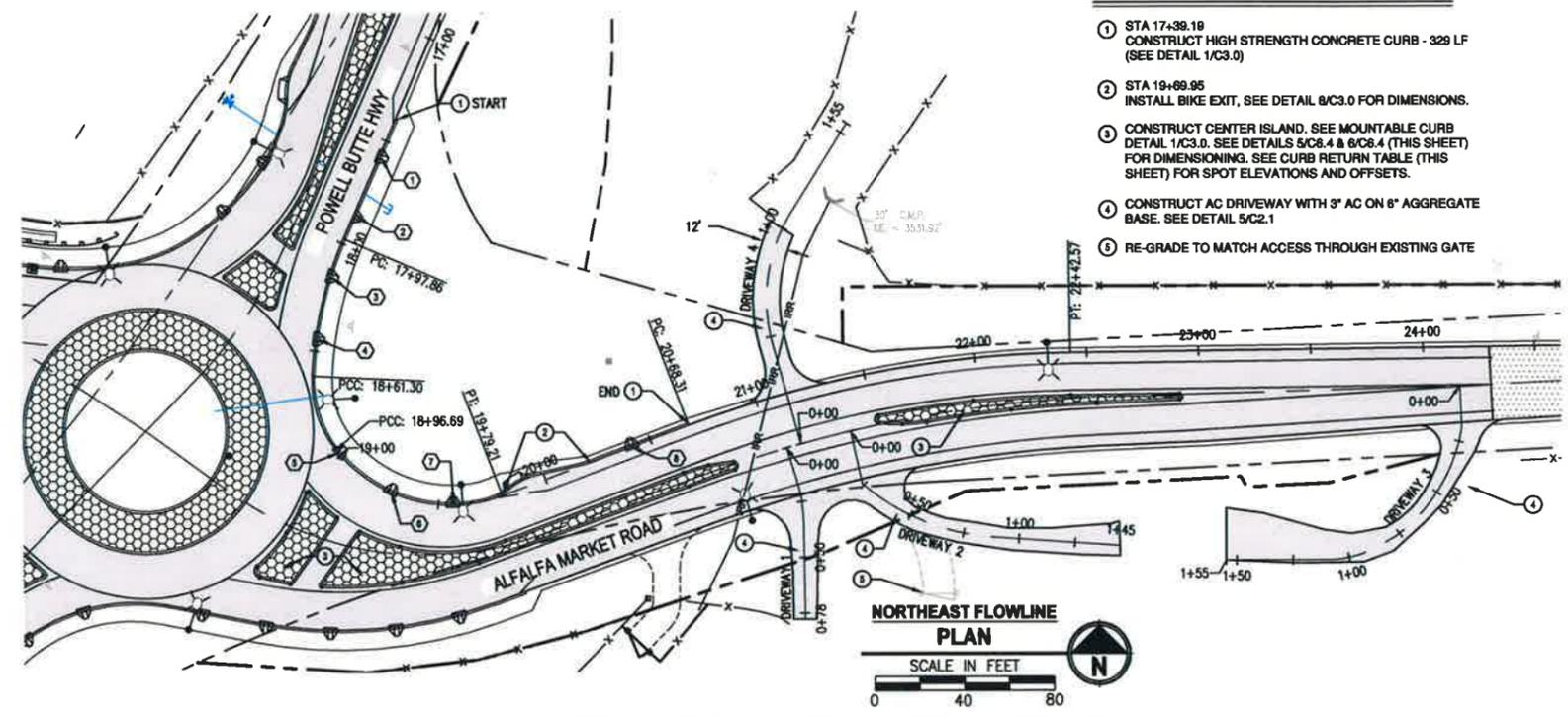
**CENTER ISLAND DETAIL**  
 5  
 SCALE IN FEET  
 0 20 40



**CENTER ISLAND DETAIL**  
 6  
 SCALE IN FEET  
 0 20 40

**CONSTRUCTION NOTES:**

- 1 STA 17+39.18 CONSTRUCT HIGH STRENGTH CONCRETE CURB - 329 LF (SEE DETAIL 1/C3.0)
- 2 STA 19+89.95 INSTALL BIKE EXIT, SEE DETAIL 6/C3.0 FOR DIMENSIONS.
- 3 CONSTRUCT CENTER ISLAND, SEE MOUNTABLE CURB DETAIL 1/C3.0. SEE DETAILS 5/C6.4 & 6/C6.4 (THIS SHEET) FOR DIMENSIONING. SEE CURB RETURN TABLE (THIS SHEET) FOR SPOT ELEVATIONS AND OFFSETS.
- 4 CONSTRUCT AC DRIVEWAY WITH 3" AC ON 6" AGGREGATE BASE. SEE DETAIL 5/C2.1
- 5 RE-GRADE TO MATCH ACCESS THROUGH EXISTING GATE



**NORTHEAST FLOWLINE PLAN**  
 SCALE IN FEET  
 0 40 80

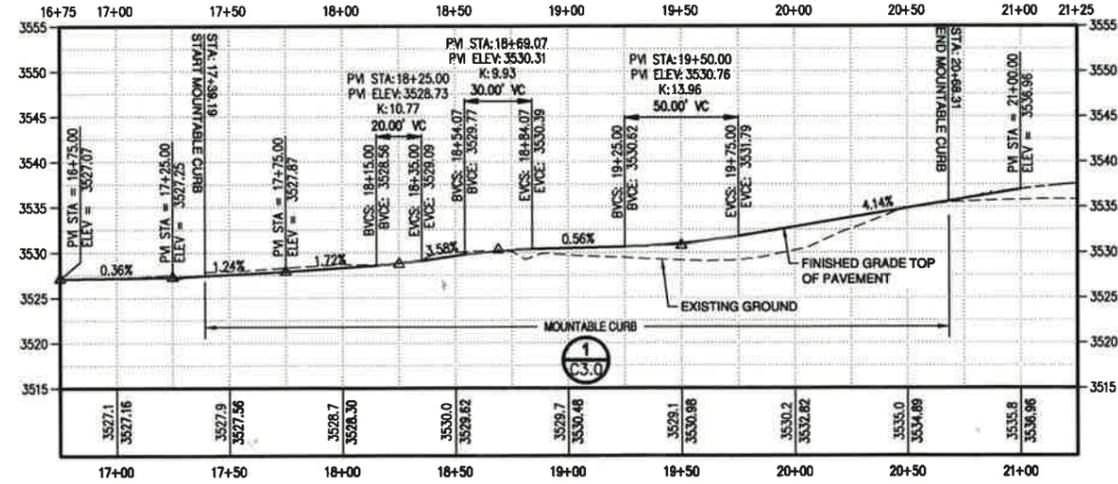
CURB RETURN TABLE				
POINT	FL @ FOC LOCATION	ELEVATION	DESC	*RADIUS
1	84+55.46/26.52' RT	3530.87	PC	3'
2	84+52.53/22.41' RT	3530.91	PRC	76.5'
3	84+57.64/3.17' RT	3531.01	1/2A	76.5'
4	84+58.43/16.85' LT	3530.91	PRC	1'
5	84+60.04/17.84' LT	3530.90	PRC	79'
6	84+77.47/11.25' LT	3531.00	PRC	1'
7	84+89.53/7.61' LT	3531.04	PRC	79'
8	85+08.77/3.47' LT	3531.18	1/2A	79'
9	85+32.97/1.26' LT	3531.56	3/4A	79'
10	85+57.17/2.45' LT	3532.16	PT	
11	85+78.82/3.57' LT	3532.98	FL	
12	86+00.17/3.73' LT	3533.87	FL	
13	86+21.51/3.89' LT	3534.75	FL	
14	86+42.86/4.04' LT	3535.63	PC	77'
15	86+54.19/3.34' LT	3536.25	1/2A	77'
16	NOT USED			
17	86+65.34/1.17' LT	3536.65	PCC	2'
18	86+64.67/2.70' RT	3536.79	PT	
19	NOT USED			
20	86+42.82/2.90' RT	3535.82	FL	
21	86+25.77/2.81' RT	3534.96	FL	
22	86+08.63/2.72' RT	3534.10	FL	
23	85+75.76/2.54' RT	3532.71	FL	
24	85+43.79/5.55' RT	3531.79	PC	180'
25	85+27.04/9.18' RT	3531.46	1/4A	180'
26	85+10.71/12.99' RT	3531.28	1/2A	180'
27	84+94.79/16.95' RT	3531.14	3/4A	180'
28	84+79.26/20.99' RT	3531.02	PCC	1'
29	84+67.30/24.15' RT	3530.94	PT	

**STORM CONSTRUCTION NOTES:**

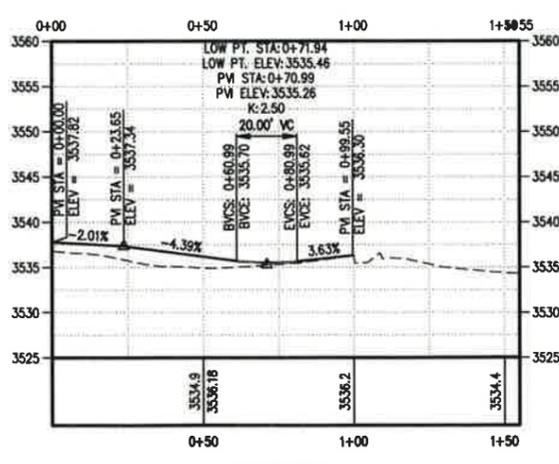
- 1 STA 17+57.53 OC, INSTALL CURB CUT PER DETAIL 10/C3.0
- 2 STA 17+86.53 OC, INSTALL CURB CUT PER DETAIL 10/C3.0
- 3 STA 18+15.53 OC, INSTALL CURB CUT PER DETAIL 10/C3.0
- 4 STA 18+44.53 OC, INSTALL CURB CUT PER DETAIL 10/C3.0
- 5 STA 18+98.69 OC, INSTALL CURB CUT PER DETAIL 10/C3.0
- 6 STA 19+27.69 OC, INSTALL CURB CUT PER DETAIL 10/C3.0
- 7 STA 19+56.69 OC, INSTALL CURB CUT PER DETAIL 10/C3.0
- 8 STA 20+41.31 OC, INSTALL CURB CUT PER DETAIL 10/C3.0

POINT	FL @ FOC LOCATION	ELEVATION	DESC	*RADIUS
1	88+67.65/0.50' LT	3538.50	PC	1.5'
2	88+67.59/2.50' RT	3538.46	PT	
3	88+30.44/3.00' RT	3538.58	PC	579'
4	88+11.21/3.00' RT	3538.65	1/4A	579'
5	87+91.98/3.00' RT	3538.72	1/2A	579'
6	87+72.76/3.00' RT	3538.75	3/4A	579'
7	87+53.53/3.00' RT	3538.68	PRC	74'
8	87+42.68/2.11' RT	3538.60	1/2A	74'
9	87+32.16/0.54' LT	3538.51	PCC	2'
10	87+32.83/4.43' LT	3538.44	PCC	481'
11	87+54.31/4.03' LT	3538.66	1/4A	481'
12	87+75.81/3.43' LT	3538.75	1/2A	481'
13	87+97.33/2.63' LT	3538.71	3/4A	481'
14	88+18.87/1.64' LT	3538.65	PT	

PC = POINT OF CURVATURE  
 PRC = POINT OF REVERSE CURVATURE  
 PCC = POINT OF COMPOUND CURVATURE  
 1/2A = MID-POINT  
 PT = POINT OF TANGENCY  
 FOC = FACE OF CURB  
 FL = FLOWLINE  
 \*RADIUS AHEAD IS PROVIDED



**NE CURB PROFILE**  
 1  
 HORZ: 1" = 40'  
 VERT: 1" = 10'



**DRIVEWAY 4 SECTION**  
 4  
 HORZ: 1" = 30'  
 VERT: 1" = 10'

REVISIONS	DATE	BY

ONE INCH AT FULL SCALE IF NOT SCALE ACCORDINGLY

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 WWW.PARAMETRIX.COM

DESIGNED BY: BARRY C. JOHNSON  
 CHECKED BY: BARRY C. JOHNSON  
 DATE: DECEMBER 2015  
 APPROVED BY: BARRY C. JOHNSON  
 DRAWING NO: 297-2509-001 DWL/DW

**REGISTERED PROFESSIONAL ENGINEER**  
 BARRY C. JOHNSON  
 OREGON  
 14,972  
 EXPIRES: 6/30/2017

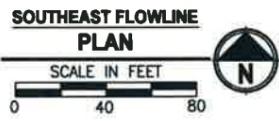
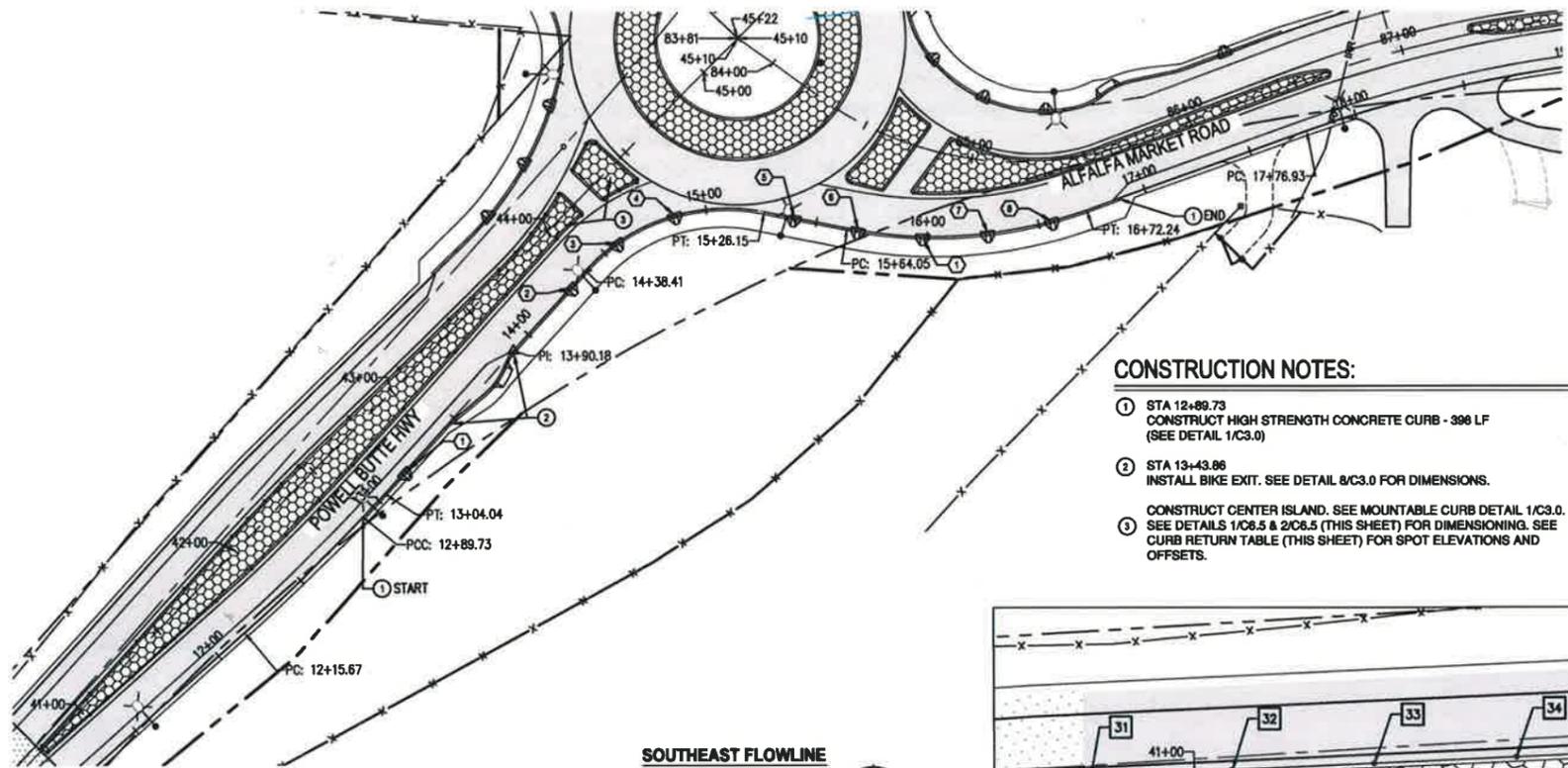
PROJECT NAME: DESCHUTES COUNTY ROAD DEPARTMENT POWELL BUTTE HIGHWAY ROUNDABOUT  
 DESCHUTES COUNTY, OR

**NORTHEAST CURB PLAN AND PROFILE**

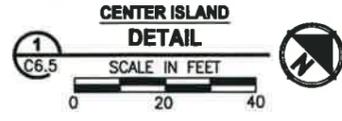
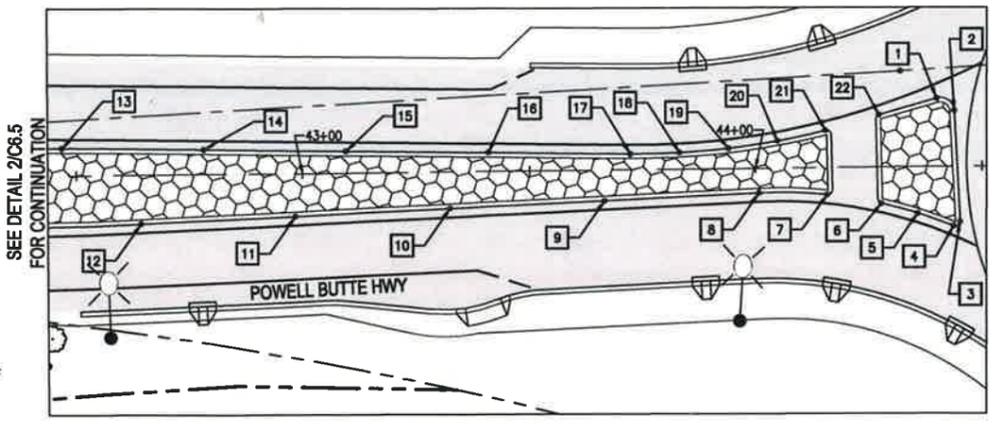
DRAWING NO. 16 OF 46  
**C6.4**

**BID DOCUMENTS**

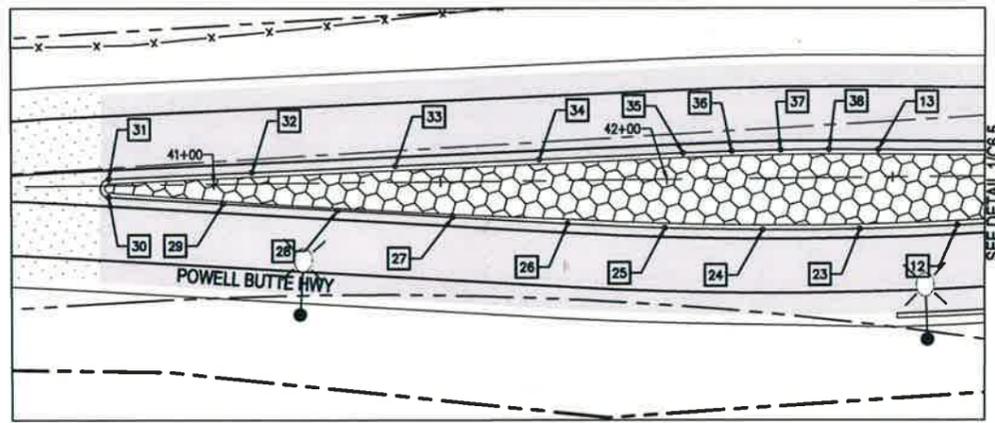
FILE: H:\25090001-C6.5-SE CURB-PROF.DWG LAYOUT: SE CURB PLAN & PROFILE PATH: U:\Bentley\Projects\2509-Deschutes County\2509-001 PowellButteRd\About\9850ca\CADD\DWG PLOTTED BY: hennymor DATE: Monday, December 07, 2015 3:10:11 PM



- CONSTRUCTION NOTES:**
- STA 12+89.73 CONSTRUCT HIGH STRENGTH CONCRETE CURB - 300 LF (SEE DETAIL 1/C3.0)
  - STA 13+43.86 INSTALL BIKE EXIT. SEE DETAIL B/C3.0 FOR DIMENSIONS.
  - CONSTRUCT CENTER ISLAND. SEE MOUNTABLE CURB DETAIL 1/C3.0. SEE DETAILS 1/C6.5 & 2/C6.5 (THIS SHEET) FOR DIMENSIONING. SEE CURB RETURN TABLE (THIS SHEET) FOR SPOT ELEVATIONS AND OFFSETS.

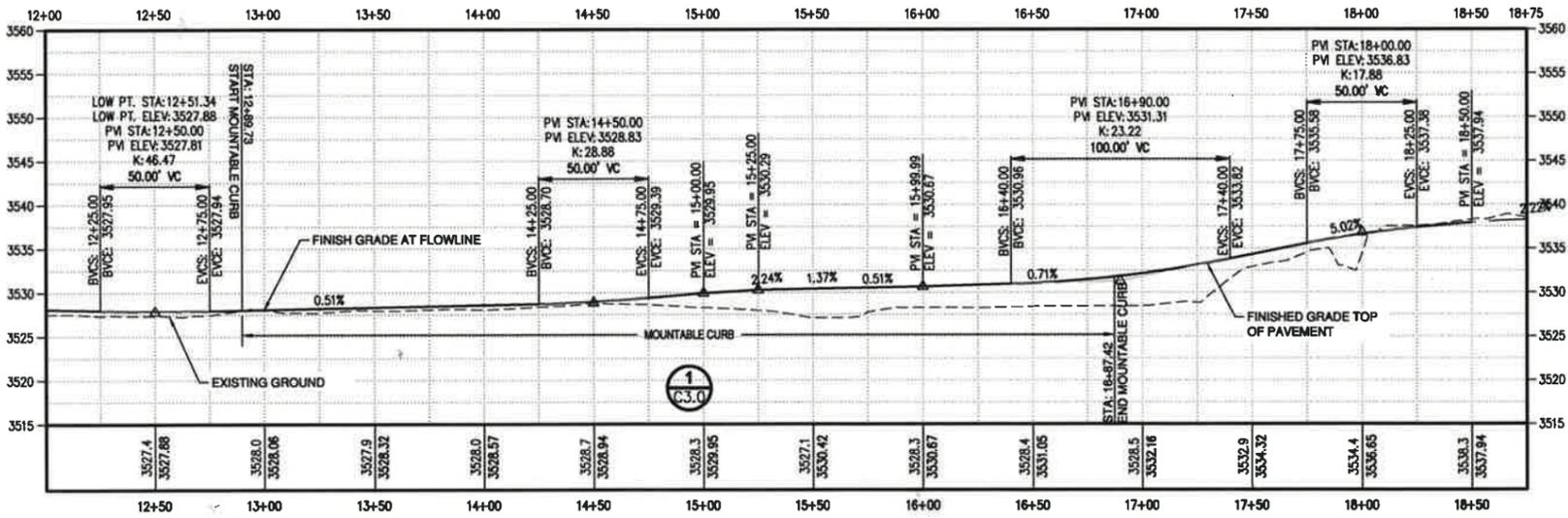


- STORM CONSTRUCTION NOTES:**
- STA 13+16.71 OC, INSTALL CURB CUT PER DETAIL 10/C3.0
  - STA 14+27.87 OC, INSTALL CURB CUT PER DETAIL 10/C3.0
  - STA 14+58.87 OC, INSTALL CURB CUT PER DETAIL 10/C3.0
  - STA 14+85.87 OC, INSTALL CURB CUT PER DETAIL 10/C3.0
  - STA 15+39.87 OC, INSTALL CURB CUT PER DETAIL 10/C3.0
  - STA 15+68.87 OC, INSTALL CURB CUT PER DETAIL 10/C3.0
  - STA 16+26.87 OC, INSTALL CURB CUT PER DETAIL 10/C3.0
  - STA 16+55.87 OC, INSTALL CURB CUT PER DETAIL 10/C3.0



CURB RETURN TABLE				
POINT	FL @ FOC LOCATION	ELEVATION	DESC	*RADIUS
1	44+20.27/15.19' LT	3529.18	PC	3'
2	44+44.08/12.42' LT	3529.26	PT	
3	44+45.05/12.31' RT	3529.61	PC	1'
4	44+43.66/13.27' RT	3529.61	PRC	100'
5	44+35.82/10.33' RT	3529.57	1/2A	100'
6	44+27.76/8.06' RT	3529.52	PRC	100'
7	44+15.85/5.99' RT	3529.36	PRC	100'
8	44+00.75/5.44' RT	3529.20	PT	
9	43+66.62/6.79' RT	3528.98	FL	
10	43+32.49/8.14' RT	3528.81	FL	
11	42+98.35/9.48' RT	3528.64	FL	
12	42+64.22/10.83' RT	3528.46	PC	799'
13	42+46.90/6.12' LT	3528.91	PT	
14	42+78.27/5.48' LT	3529.23	FL	
15	43+09.65/4.83' LT	3529.55	FL	
16	43+41.02/4.19' LT	3529.81	FL	
17	43+72.39/3.55' LT	3529.72	PC	169'
18	43+83.27/3.67' LT	3529.62	1/4A	169'
19	43+94.13/4.50' LT	3529.52	1/2A	169'
20	44+04.91/6.03' LT	3529.43	3/4A	169'
21	44+15.57/8.24' LT	3529.36	PRC	1'
22	44+27.45/11.58' LT	3529.28	PT	
23	42+42.65/11.39' RT	3528.35	1/4A	799'
24	42+21.07/11.37' RT	3528.26	1/2A	799'
25	41+99.50/10.76' RT	3528.28	3/4A	799'
26	41+77.95/9.57' RT	3528.38	PT	
27	41+52.63/7.83' RT	3528.53	FL	
28	41+27.31/6.09' RT	3528.67	FL	
29	41+01.98/4.35' RT	3528.81	FL	
30	40+76.66/2.61' RT	3528.96	PC	2'
31	40+76.73/1.38' LT	3529.12	PT	
32	41+08.45/2.49' LT	3528.97	FL	
33	41+40.17/3.60' LT	3528.82	FL	
34	41+71.90/4.70' LT	3528.68	FL	
35	42+03.62/5.81' LT	3528.60	PC	781'
36	42+14.44/6.11' LT	3528.66	1/4A	781'
37	42+25.26/6.27' LT	3528.74	1/2A	781'
38	42+36.08/6.27' LT	3528.83	3/4A	781'

PC = POINT OF CURVATURE  
 PRC = POINT OF REVERSE CURVATURE  
 PCC = POINT OF COMPOUND CURVATURE  
 1/2A = MID-POINT  
 PT = POINT OF TANGENCY  
 FOC = FACE OF CURB  
 FL = FLOWLINE  
 \*RADIUS AHEAD IS PROVIDED



**SE CURB PROFILE**  
 HORIZ: 1"=40'  
 VERT: 1"=10'

REVISIONS	DATE	BY

ONE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY.

**Parametrix**  
 ENGINEERING, PLANNING, ENVIRONMENTAL SCIENCES  
 155 SW BUTTE DRIVE, SUITE B | BEND, OR 97702  
 P: 541.528.7710  
 WWW.PARAMETRIX.COM

DESIGNED BY: BARRY C. JOHNSON  
 CHECKED BY: BARRY C. JOHNSON  
 DATE: DECEMBER 2015  
 PROJECT: 2509-001  
 DRAWING: C6.5

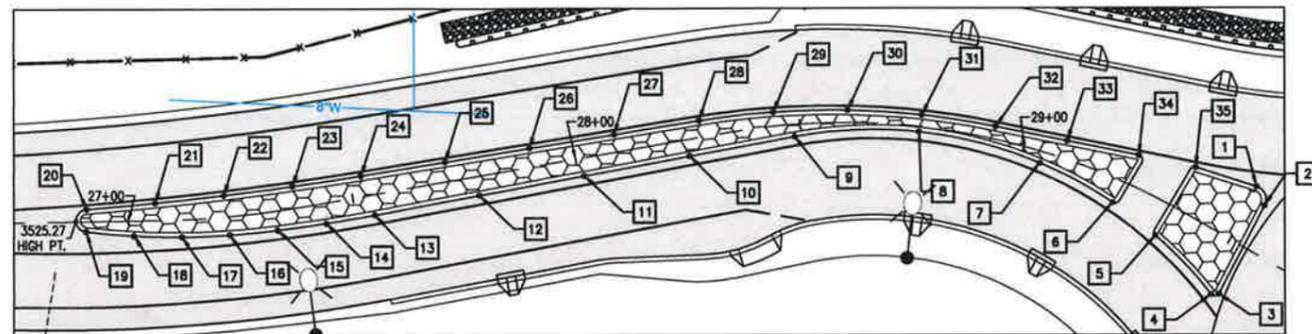
Digitally signed by BARRY C. JOHNSON  
 DN: C=US, E=bjohnson@parametrix.com, O=PARAMETRIX, CN=BARRY C. JOHNSON  
 Reason: I agree to the terms defined by the placement of my signature on this document.  
 Date: 2015.12.08 12:01:14-0800

EXPIRES: 6/30/2017

PROJECT NAME  
 DESCHUTES COUNTY ROAD DEPARTMENT  
 POWELL BUTTE HIGHWAY ROUNDABOUT  
 DESCHUTES COUNTY, OR

**SOUTHEAST CURB PLAN AND PROFILE**

FILE: BE2509001-C6.6-SW CURB-PROF LAYOUT: SW CURB PLAN & PROFILE PATH: U:\Users\jbarry\Projects\2509-Deschutes County\2509-Deschutes County\2509-001 PowellButteRoad\Drawings\CADD\DWG\ PLOTTED BY: kemynor DATE: Monday, December 07, 2015 3:10:47 PM

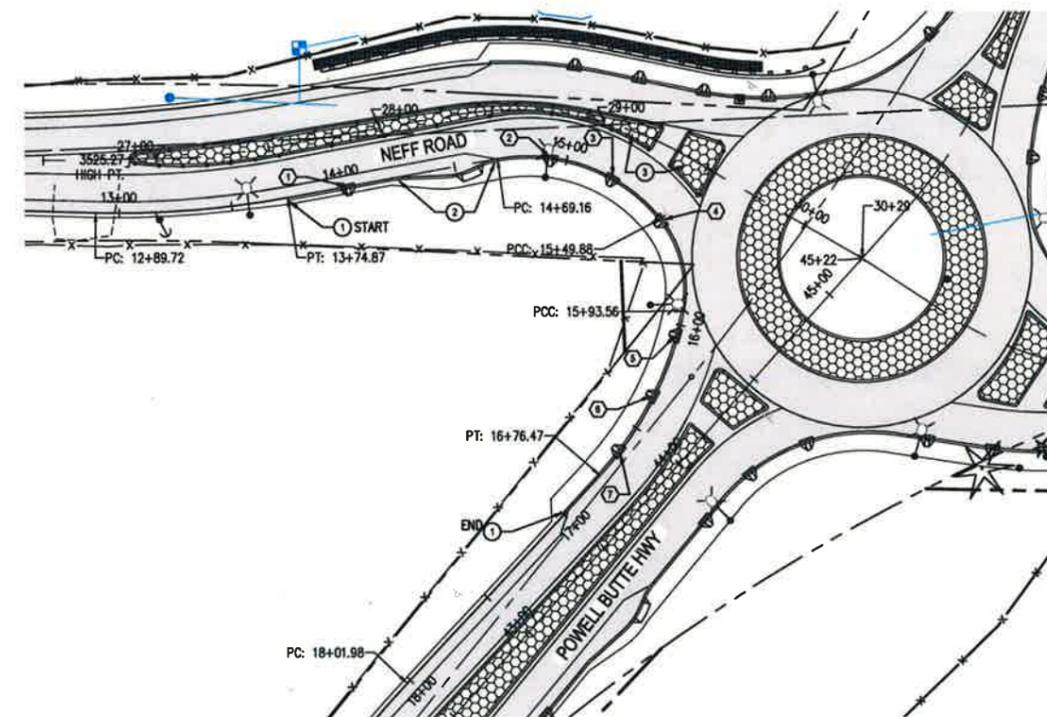


**CENTER ISLAND DETAIL**  
SCALE IN FEET  
0 20 40

POINT	FL @ FOC LOCATION	ELEVATION	DESC	*RADIUS
1	29+49.15/13.04' LT	3527.77	PC	3'
2	29+52.60/10.27' LT	3527.80	PT	
3	29+53.94/11.64' RT	3527.91	PC	1'
4	29+52.57/12.62' RT	3527.91	PRC	94'
5	29+35.26/7.49' RT	3527.58	PRC	94'
6	29+23.01/5.12' RT	3527.33	PRC	94'
7	29+04.36/2.55' RT	3527.05	1/2A	94'
8	28+76.55/1.15' RT	3526.84	3/4A	94'
9	28+48.73/2.72' RT	3526.68	PT	
10	28+24.67/3.71' RT	3526.52	FL	
11	28+01.30/3.98' RT	3526.34	FL	
12	27+77.73/4.24' RT	3526.10	FL	
13	27+54.16/4.51' RT	3525.86	PC	381'
14	27+43.34/4.48' RT	3525.75	1/2A	381'
15	27+32.62/4.25' RT	3525.63	PCC	175'
16	27+22.24/4.08' RT	3525.52	1/4A	175'
17	27+11.79/3.82' RT	3525.42	1/2A	175'
18	27+01.21/3.34' RT	3525.32	3/4A	175'

POINT	FL @ FOC LOCATION	ELEVATION	DESC	*RADIUS
19	26+90.61/2.25' RT	3525.23	PCC	2.5'
20	26+90.80/2.72' LT	3525.23	PRC	719'
21	27+06.06/3.80' LT	3525.23	1/4A	719'
22	27+21.62/4.75' LT	3525.23	1/2A	719'
23	27+37.30/4.85' LT	3525.23	3/4A	719'
24	27+52.64/4.53' LT	3525.23	PT	
25	27+71.53/4.31' LT	3525.23	FL	
26	27+90.42/4.10' LT	3525.23	FL	
27	28+09.31/3.89' LT	3525.23	FL	
28	28+28.20/3.67' LT	3525.26	PC	181'
29	28+44.42/3.12' LT	3525.38	1/4A	181'
30	28+60.57/2.74' LT	3525.59	1/2A	181'
31	28+76.75/2.64' LT	3525.89	3/4A	181'
32	28+92.93/2.81' LT	3525.29	PT	
33	29+08.68/3.96' LT	3526.72	FL	
34	29+24.03/6.77' LT	3527.18	PC	1'
35	29+35.72/10.04' LT	3527.54	PT	

PC = POINT OF CURVATURE  
 PRC = POINT OF REVERSE CURVATURE  
 PCC = POINT OF COMPOUND CURVATURE  
 1/2A = MID-POINT  
 PT = POINT OF TANGENCY  
 FOC = FACE OF CURB  
 FL = FLOWLINE  
 \*RADIUS AHEAD IS PROVIDED



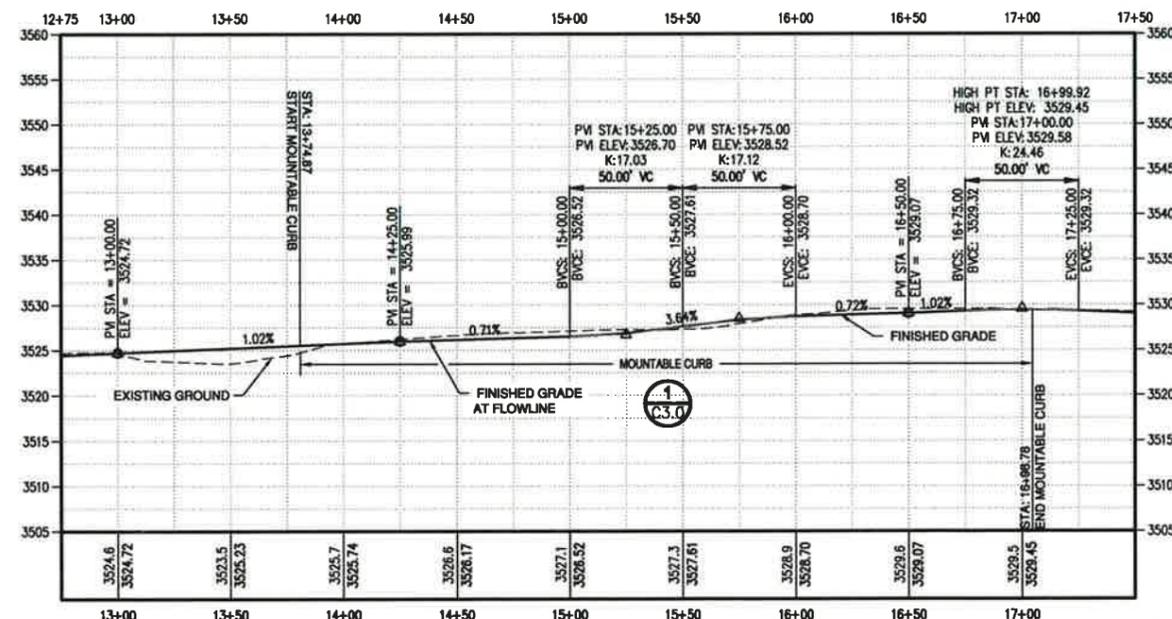
**SOUTHWEST FLOWLINE PLAN**  
SCALE IN FEET  
0 40 80

**CONSTRUCTION NOTES:**

- STA 13+74.87 CONSTRUCT HIGH STRENGTH CONCRETE CURB - 324 LF (SEE DETAIL 1/C3.0)
- STA 14+21.33 INSTALL BIKE EXIT. SEE DETAIL 8/C3.0 FOR DIMENSIONS.
- CONSTRUCT CENTER ISLAND. SEE MOUNTABLE CURB DETAIL 1/C3.0. SEE DETAIL 1/C6.6 (THIS SHEET) FOR DIMENSIONING. SEE CURB RETURN TABLE (THIS SHEET) FOR SPOT ELEVATIONS AND OFFSETS.

**STORM CONSTRUCTION NOTES:**

- STA 14+01.86 OC, INSTALL CURB CUT PER DETAIL X/C3.0
- STA 14+92.86 OC, INSTALL CURB CUT PER DETAIL X/C3.0
- STA 15+21.86 OC, INSTALL CURB CUT PER DETAIL X/C3.0
- STA 15+50.86 OC, INSTALL CURB CUT PER DETAIL X/C3.0
- STA 16+04.86 OC, INSTALL CURB CUT PER DETAIL X/C3.0
- STA 16+33.86 OC, INSTALL CURB CUT PER DETAIL X/C3.0
- STA 16+62.86 OC, INSTALL CURB CUT PER DETAIL X/C3.0



**SW CURB PROFILE**  
HORIZ: 1"=40'  
VERT: 1"=10'

REVISIONS	DATE	BY

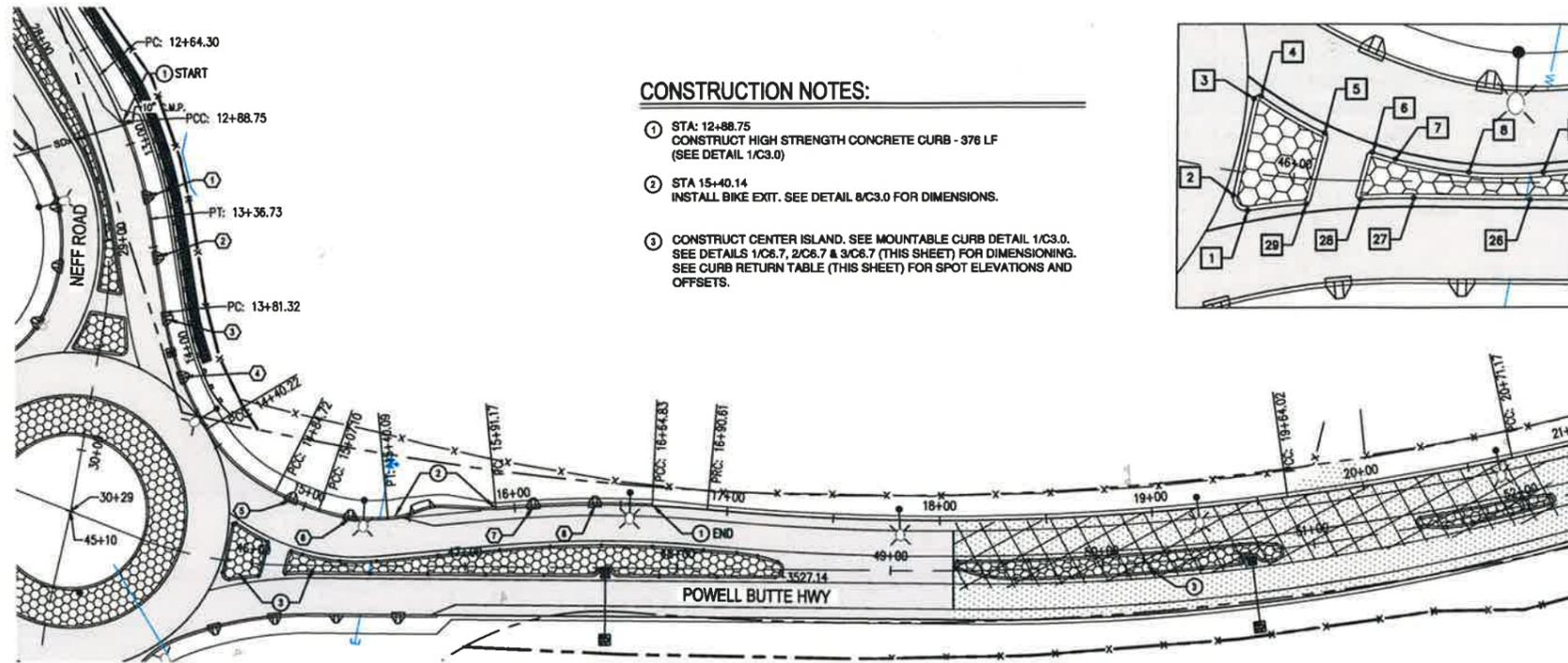
**Parametrix**  
 ENGINEERING, PLANNING, ENVIRONMENTAL SCIENCES  
 595 SW BUTTE DRIVE, SUITE B | BEND, OR 97702  
 WWW.PARAMETRIX.COM  
 DESIGNED BY: BARRY C. JOHNSON  
 CHECKED BY: BARRY C. JOHNSON  
 DATE: DECEMBER 2015 | PLAN NO: 207-2509-001 | DWG NO: 18 OF 46

Digitally signed by BARRY C. JOHNSON  
 DN: C=US, E=bjohnson@parametrix.com, O=PARAMETRIX, CN=BARRY C. JOHNSON  
 Reason: I agree to the terms defined by the placement of my signature on this document  
 Date: 2015.12.08 12:01:35-0800  
 EXPIRES: 6/30/2017

PROJECT NAME  
 DESCHUTES COUNTY ROAD DEPARTMENT  
 POWELL BUTTE HIGHWAY ROUNDABOUT  
 DESCHUTES COUNTY, OR

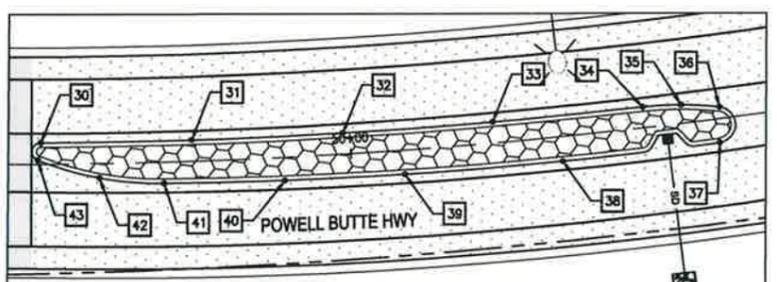
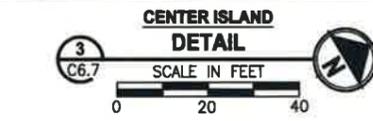
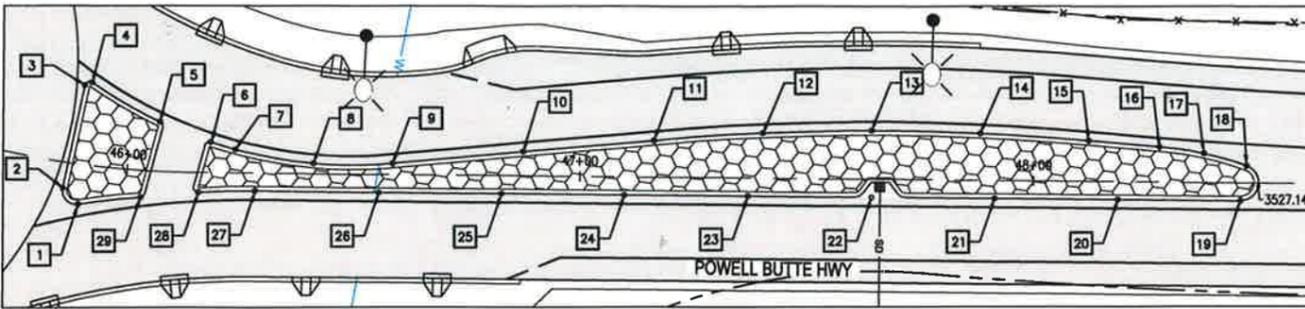
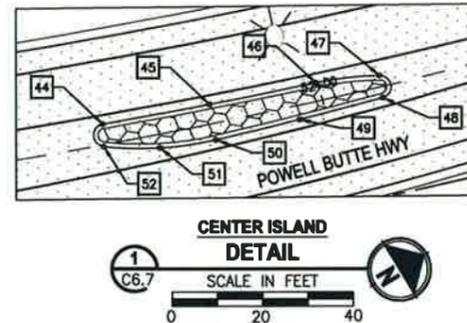
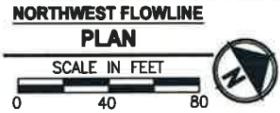
**SOUTHWEST CURB PLAN AND PROFILE**

FILE: BE2509001-C6.7-NW CURB-PP00 LAYOUT: NW CURB PLAN & PROFILE PATH: U:\bent\projects\client\2509-Bentchule County\257-2509-001 PowellButteHwyRdabout\985\swt\CAUD\DWG4 PLOTTED BY: henrymor DATE: Monday, December 07, 2015 3:11:25 PM



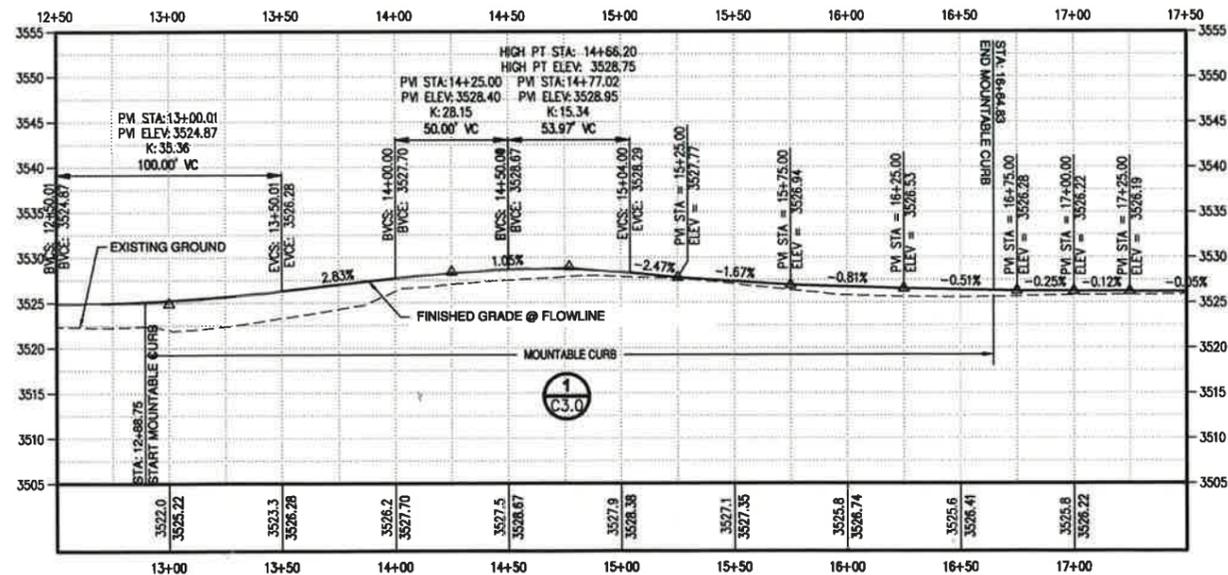
**CONSTRUCTION NOTES:**

- 1 STA: 12+88.75  
CONSTRUCT HIGH STRENGTH CONCRETE CURB - 376 LF  
(SEE DETAIL 1/C3.0)
- 2 STA: 15+40.14  
INSTALL BIKE EXIT. SEE DETAIL 8/C3.0 FOR DIMENSIONS.
- 3 CONSTRUCT CENTER ISLAND. SEE MOUNTABLE CURB DETAIL 1/C3.0.  
SEE DETAILS 1/C6.7, 2/C6.7 & 3/C6.7 (THIS SHEET) FOR DIMENSIONING.  
SEE CURB RETURN TABLE (THIS SHEET) FOR SPOT ELEVATIONS AND OFFSETS.



**CONSTRUCTION NOTES:**

- 1 STA: 13+26.22 OC, INSTALL CURB CUT PER DETAIL X/C3.0
- 2 STA: 13+55.22 OC, INSTALL CURB CUT PER DETAIL X/C3.0
- 3 STA: 13+84.22 OC, INSTALL CURB CUT PER DETAIL X/C3.0
- 4 STA: 14+13.22 OC, INSTALL CURB CUT PER DETAIL X/C3.0
- 5 STA: 14+83.19 OC, INSTALL CURB CUT PER DETAIL X/C3.0
- 6 STA: 15+22.18 OC, INSTALL CURB CUT PER DETAIL X/C3.0
- 7 STA: 16+08.83 OC, INSTALL CURB CUT PER DETAIL X/C3.0
- 8 STA: 16+37.83 OC, INSTALL CURB CUT PER DETAIL X/C3.0



**NW CURB PROFILE**

HORIZ: 1"=40'  
VERT: 1"=10'

POINT	FL @ FOC LOCATION	ELEVATION	DESC	*RADIUS
1	45+90.29/8.84' RT	3529.41	PRC	3'
2	45+86.59/5.74' RT	3529.35	PT	
3	45+88.23/17.56' LT	3529.10	PC	1'
4	45+89.84/18.37' LT	3529.10	PRC	99'
5	46+06.78/10.99' LT	3528.99	PRC	99'
6	46+18.36/6.79' LT	3528.78	PRC	99'
7	46+23.81/5.20' LT	3528.66	1/2Δ	99'
8	46+41.05/2.30' LT	3528.29	3/4Δ	99'
9	46+58.53/2.48' LT	3528.00	PT	
10	46+87.40/5.34' LT	3527.53	FL	
11	47+16.28/8.21' LT	3527.19	PC	529'
12	47+40.20/10.03' LT	3526.99	1/4Δ	529'
13	47+64.19/10.77' LT	3526.83	1/2Δ	529'
14	47+88.18/10.41' LT	3526.71	3/4Δ	529'
15	48+12.14/8.98' LT	3526.72	PT	
16	48+27.84/7.78' LT	3526.78	PC	74'
17	48+37.66/6.43' LT	3526.85	1/2Δ	74'
18	48+47.21/3.77' LT	3526.97	PCC	4'
19	48+45.88/4.00' RT	3527.22	PT	
20	48+18.68/4.00' RT	3527.06	FL	
21	47+91.48/4.00' RT	3526.92	FL	
22	47+64.27/4.00' RT	3526.87	FL	
23	47+37.07/4.00' RT	3526.95	FL	
24	47+09.87/4.00' RT	3527.16	FL	
25	46+82.66/4.00' RT	3527.51	FL	
26	46+55.46/4.00' RT	3527.98	FL	
27	46+28.26/4.00' RT	3528.54	PC	194'
28	46+15.70/4.41' RT	3528.80	PRC	1'
29	46+03.32/6.00' RT	3529.10	PRC	195'

POINT	FL @ FOC LOCATION	ELEVATION	DESC	*RADIUS
30	49+31.61/4.77' LT	3527.28	PRC	1219'
31	49+65.03/4.71' LT	3527.19	1/4Δ	1219'
32	49+98.44/4.67' LT	3527.09	1/2Δ	1219'
33	50+31.85/4.65' LT	3526.98	3/4Δ	1219'
34	50+65.26/4.65' LT	3526.74	PRC	74'
35	50+73.82/4.13' LT	3526.69	1/2Δ	74'
36	50+82.25/2.57' LT	3526.69	PCC	4'
37	50+81.32/5.31' RT	3527.10	PCC	999'
38	50+46.48/5.46' RT	3527.36	1/4Δ	999'
39	50+11.62/5.36' RT	3527.56	1/2Δ	999'
40	49+85.15/5.11' RT	3527.65	3/4Δ	999'
41	49+58.68/4.72' RT	3527.72	PCC	74'
42	49+44.53/3.18' RT	3527.72	1/2Δ	74'
43	49+30.86/0.91' RT	3527.48	PCC	2'
44	51+51.35/4.49' LT	3525.04	PRC	1459'
45	51+75.37/4.30' LT	3524.18	1/2Δ	1459'
46	51+99.39/4.05' LT	3523.27	PCC	74'
47	52+13.50/2.45' LT	3522.78	PCC	2.5'
48	52+13.05/2.49' RT	3523.06	PCC	999'
49	51+94.12/3.12' RT	3523.84	1/2Δ	999'
50	51+75.20/3.67' RT	3524.57	PCC	74'
51	51+62.79/3.02' RT	3524.99	1/2Δ	74'
52	51+50.62/0.40' RT	3525.32	PCC	2.5'

PC = POINT OF CURVATURE  
PRC = POINT OF REVERSE CURVATURE  
PCC = POINT OF COMPOUND CURVATURE  
1/2Δ = MID-POINT  
PT = POINT OF TANGENCY  
FOC = FACE OF CURB  
FL = FLOWLINE

\*RADIUS AHEAD IS PROVIDED

**BID DOCUMENTS**

REVISIONS	DATE	BY

**Parametrix**  
ENGINEERING PLANNING ENVIRONMENTAL SCIENCES  
955 SW BLUFF DRIVE, SUITE B | BEND, OR 97702  
WWW.PARAMETRIX.COM

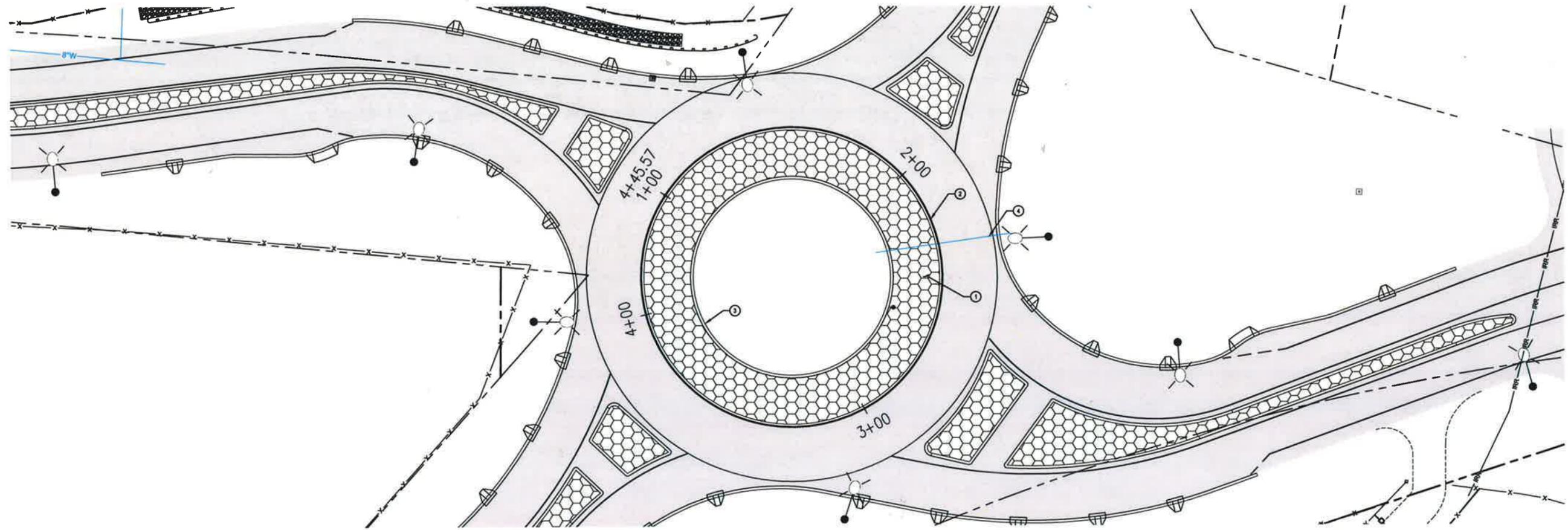
DESIGNED BY: BARRY C. JOHNSON  
CHECKED BY: BARRY C. JOHNSON  
DATE: DECEMBER 2015 | FAX: 503-750-001 | DWG/DR

Digitally signed by BARRY C. JOHNSON  
DN: C=US,  
E=bjohnson@parametrix.com,  
O=PARAMETRIX,  
CN=BARRY C. JOHNSON  
Reason: I agree to the terms defined by the placement of my signature on this document.  
Date: 2015.12.08 13:01:52-0800'

REGISTERED PROFESSIONAL ENGINEER  
14,972  
OREGON  
BARRY C. JOHNSON  
EXPIRES: 6/30/2017

PROJECT NAME  
**DESCHUTES COUNTY ROAD DEPARTMENT  
POWELL BUTTE HIGHWAY ROUNDABOUT**  
DESCHUTES COUNTY, OR

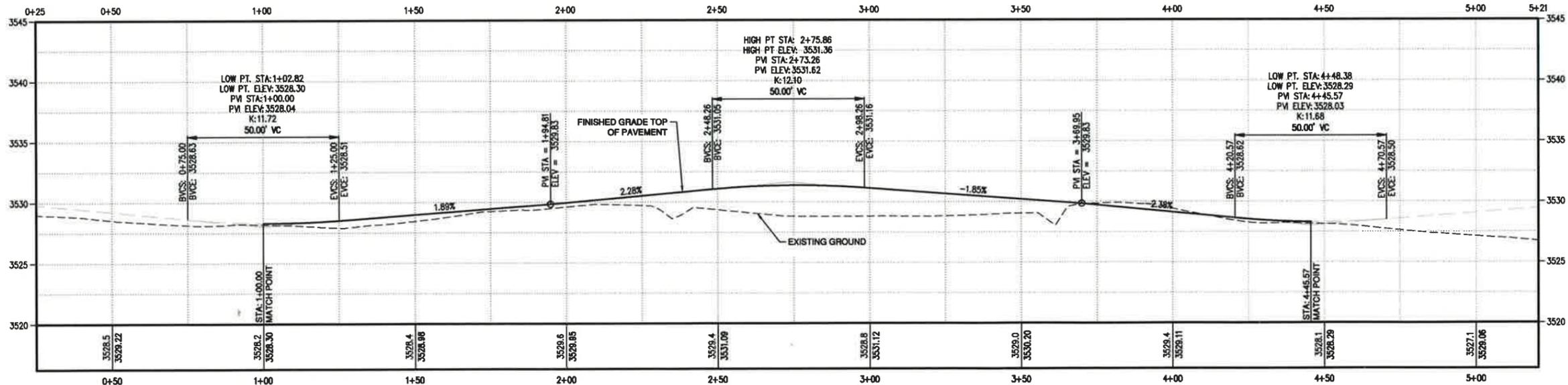
**NORTHWEST CURB  
PLAN AND PROFILE**



INNER CURB (FACE OF MOUNTABLE CURB)  
 PLAN  
 SCALE IN FEET  
 0 20 40

**ROAD CONSTRUCTION NOTES:**

- ① CONSTRUCT STAMPED COLORED CONCRETE TRUCK APRON-4134 SF (SEE DETAILS 5/C3.0 & 6/C3.0).
- ② CONSTRUCT HIGH STRENGTH LOW PROFILE MOUNTABLE CURB- 346 LF (SEE DETAIL 2/C3.0)
- ③ CONSTRUCT HIGH STRENGTH WIDE MODIFIED CURB- 251 LF (SEE DETAIL 6/C3.0)
- ④ INSTALL 4" PVC SLEEVE FOR IRRIGATION ACCESS TO CENTRAL ISLAND - 50LF



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

REVISIONS	DATE	BY

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 595 SW BLUFF DRIVE, SUITE B | BEND, OR 97702  
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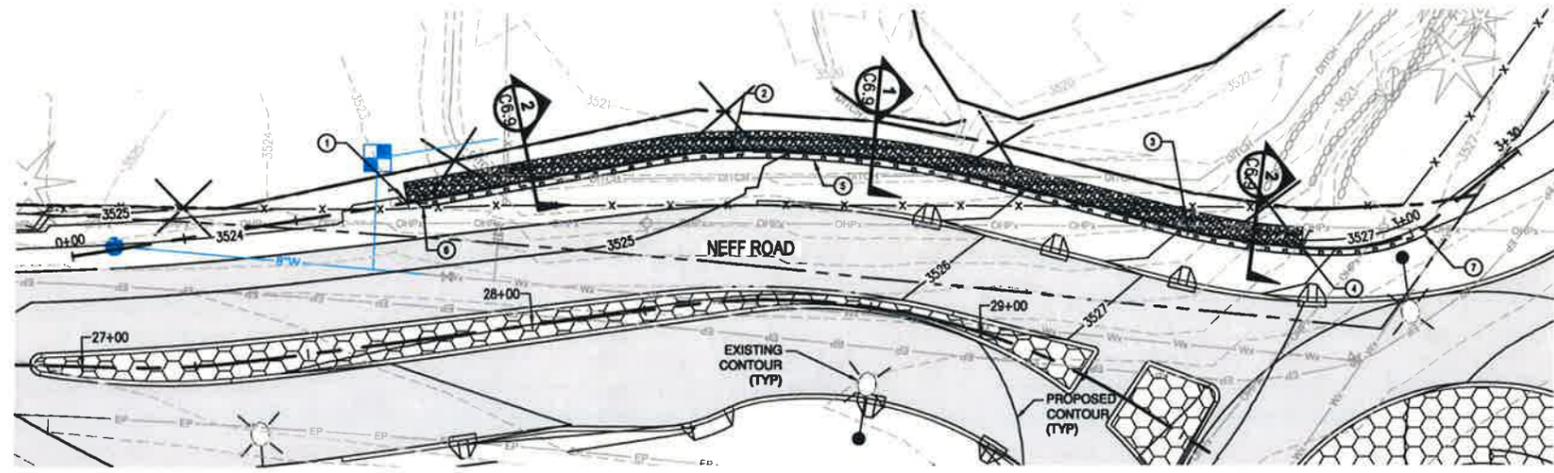
DESIGNED BY: BARRY C. JOHNSON  
 CHECKED BY: [Signature]  
 DATE: DECEMBER 2015  
 DRAWING NO.: 207-2509-001 DW/DR

Digitally signed by BARRY C JOHNSON  
 DN: C=US,  
 E=bjohnson@parametrix.com, 14.972  
 O=PARAMETRIX, CN=BARRY C JOHNSON  
 Reason: I agree to the terms defined by the placement of my signature on this document  
 Date: 2015.12.08 12:02:11-0800

REGISTERED PROFESSIONAL ENGINEER  
 BARRY C. JOHNSON  
 EXPIRES: 6/30/2017

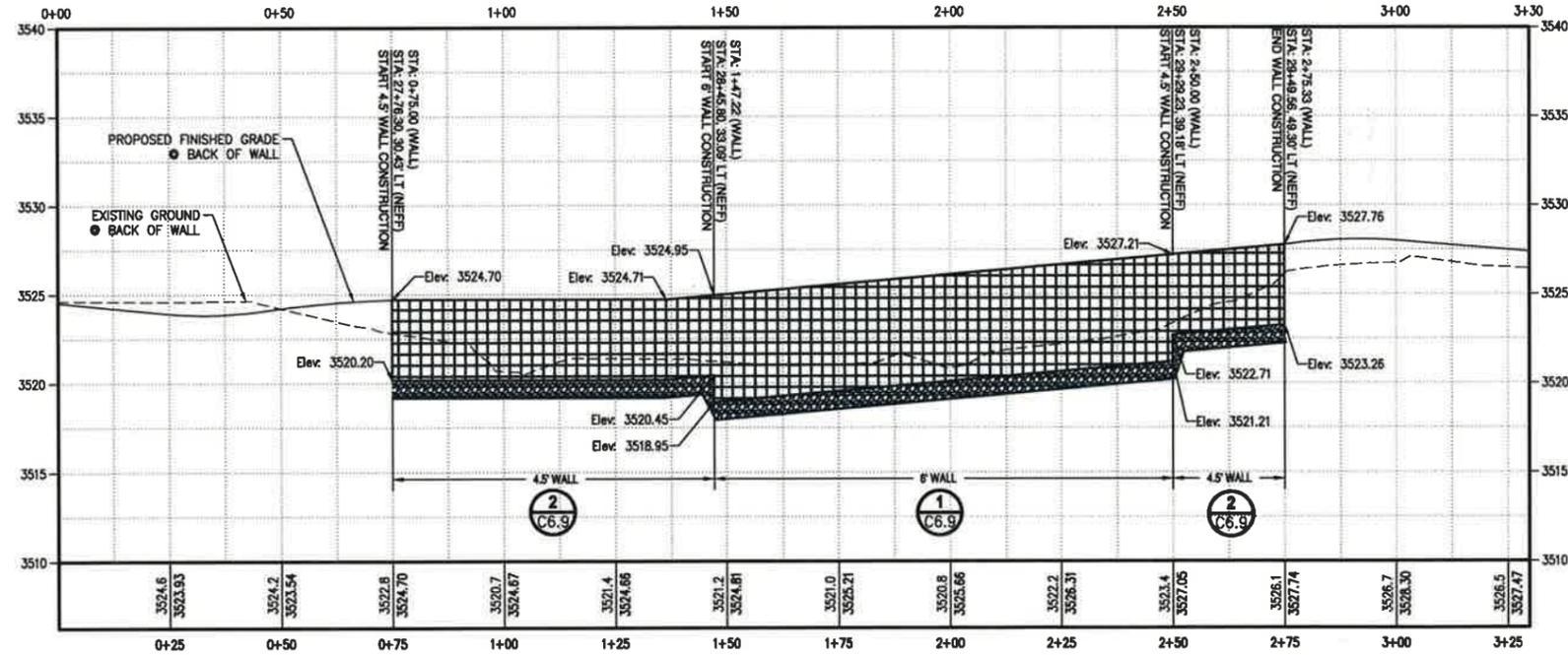
PROJECT NAME  
 DESCHUTES COUNTY ROAD DEPARTMENT  
 POWELL BUTTE HIGHWAY ROUNDABOUT  
 DESCHUTES COUNTY, OR

**CIRCULATORY ROAD  
 PLAN AND PROFILE**



**GABION WALL PLAN**

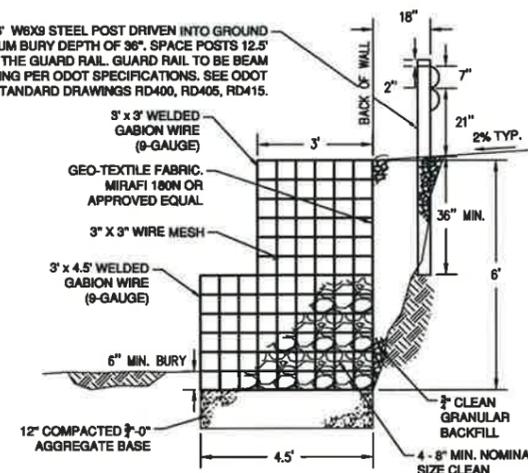
SCALE IN FEET  
0 20 40



**PROFILE**

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

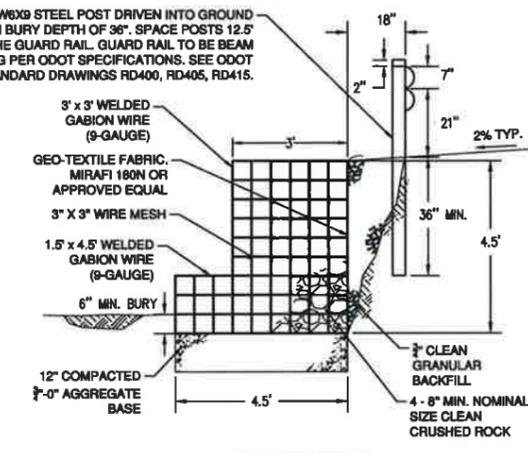
INSTALL 6" W6X9 STEEL POST DRIVEN INTO GROUND AT A MINIMUM BURY DEPTH OF 36". SPACE POSTS 12.5' OC ALONG THE GUARD RAIL. GUARD RAIL TO BE BEAM RAILING PER ODOT SPECIFICATIONS. SEE ODOT STANDARD DRAWINGS RD400, RD405, RD415.



**6' GABION WALL SECTION 1**

NOT TO SCALE C6.9

INSTALL 6" W6X9 STEEL POST DRIVEN INTO GROUND AT A MINIMUM BURY DEPTH OF 36". SPACE POSTS 12.5' OC ALONG THE GUARD RAIL. GUARD RAIL TO BE BEAM RAILING PER ODOT SPECIFICATIONS. SEE ODOT STANDARD DRAWINGS RD400, RD405, RD415.



**4.5' GABION WALL SECTION 2**

NOT TO SCALE C6.9

**WALL CONSTRUCTION NOTES:**

- ① STA: 27+76.30, 30.43' LT (NEFF), BEGIN 4.5' GABION WALL CONSTRUCTION. SEE SECTION DETAIL 2/C6.9 (THIS SHEET).
- ② STA: 28+45.80, 33.09' LT (NEFF), BEGIN 6' GABION WALL CONSTRUCTION. SEE SECTION DETAIL 1/C6.9 (THIS SHEET).
- ③ STA: 29+28.23, 29.18' LT (NEFF), BEGIN 4.5' GABION WALL CONSTRUCTION. SEE SECTION DETAIL 2/C6.9 (THIS SHEET).
- ④ STA: 29+49.56, 49.30' LT (NEFF), END GABION WALL CONSTRUCTION.
- ⑤ INSTALL 225 LF OF TYPE 1 GUARDRAIL
- ⑥ STA: 0+78.12, 1.5' RT (WALL ALIGNMENT) START INSTALLATION OF TYPE 2A GUARD RAIL. INSTALL TYPE-B END PIECE PER ODOT STANDARD DRAWING RD415.
- ⑦ STA: 3+02.57, 1.5' RT (WALL ALIGNMENT) END INSTALLATION OF TYPE 2A GUARD RAIL. INSTALL TYPE-B END PIECE PER ODOT STANDARD DRAWING RD415.

REVISIONS	DATE	BY

**Parametrix**  
ENGINEERING, PLANNING, ENVIRONMENTAL SCIENCES  
595 SW BLUFF DRIVE, SUITE B | BEND, OR 97702  
P 541.508.7710  
WWW.PARAMETRIX.COM

DESIGNED BY: BARRY C. JOHNSON  
CHECKED BY: [Signature]  
DATE: DECEMBER 2015  
JOB NO.: 27-2509-001  
DRAWN BY: [Signature]  
DWG NO.: [Signature]

Digitally signed by BARRY C JOHNSON  
DN: C=US,  
E=bjohnson@parametrix.com,  
O=PARAMETRIX,  
CN=BARRY C JOHNSON  
Reason: I agree to the terms defined by the placement of my signature on this document  
Date: 2015.12.08 12:02:33-0800

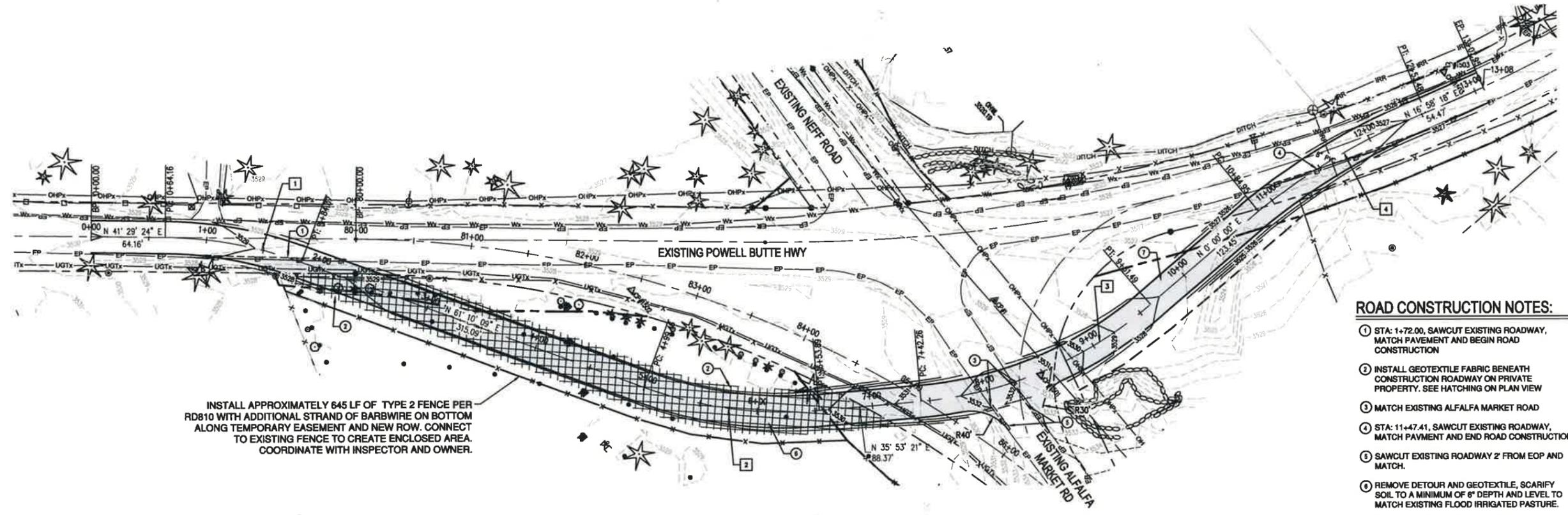
REGISTERED PROFESSIONAL ENGINEER  
14,977  
BARRY C. JOHNSON  
EXPIRES: 6/30/2017

PROJECT NAME  
**DESCHUTES COUNTY ROAD DEPARTMENT POWELL BUTTE HIGHWAY ROUNDABOUT**  
DESCHUTES COUNTY, OR

**GABION WALL PLAN & PROFILE**

DRAWING NO.  
21 OF 29  
**C6.9**

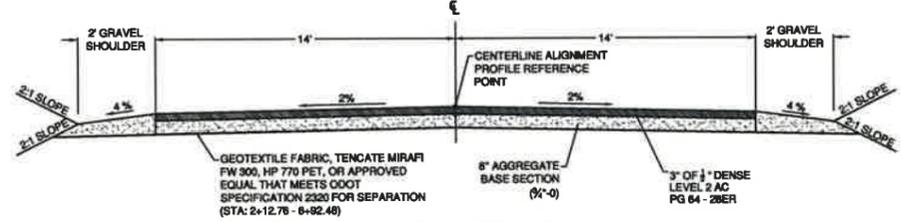
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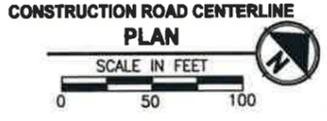
INSTALL APPROXIMATELY 645 LF OF TYPE 2 FENCE PER RD810 WITH ADDITIONAL STRAND OF BARBWIRE ON BOTTOM ALONG TEMPORARY EASEMENT AND NEW ROW. CONNECT TO EXISTING FENCE TO CREATE ENCLOSED AREA. COORDINATE WITH INSPECTOR AND OWNER.

**ROAD CONSTRUCTION NOTES:**

- ① STA: 1+72.00, SAWCUT EXISTING ROADWAY, MATCH PAVEMENT AND BEGIN ROAD CONSTRUCTION
- ② INSTALL GEOTEXTILE FABRIC BENEATH CONSTRUCTION ROADWAY ON PRIVATE PROPERTY. SEE HATCHING ON PLAN VIEW
- ③ MATCH EXISTING ALFALFA MARKET ROAD
- ④ STA: 11+47.41, SAWCUT EXISTING ROADWAY, MATCH PAVEMENT AND END ROAD CONSTRUCTION
- ⑤ SAWCUT EXISTING ROADWAY 2' FROM EOP AND MATCH.
- ⑥ REMOVE DETOUR AND GEOTEXTILE, SCARIFY SOIL TO A MINIMUM OF 6" DEPTH AND LEVEL TO MATCH EXISTING FLOOD IRRIGATED PASTURE.
- ⑦ REMOVE DETOUR PAVING AND AGGREGATE BASE. REFER TO L1.2 FOR LANDSCAPE REQUIREMENTS AND GRADING

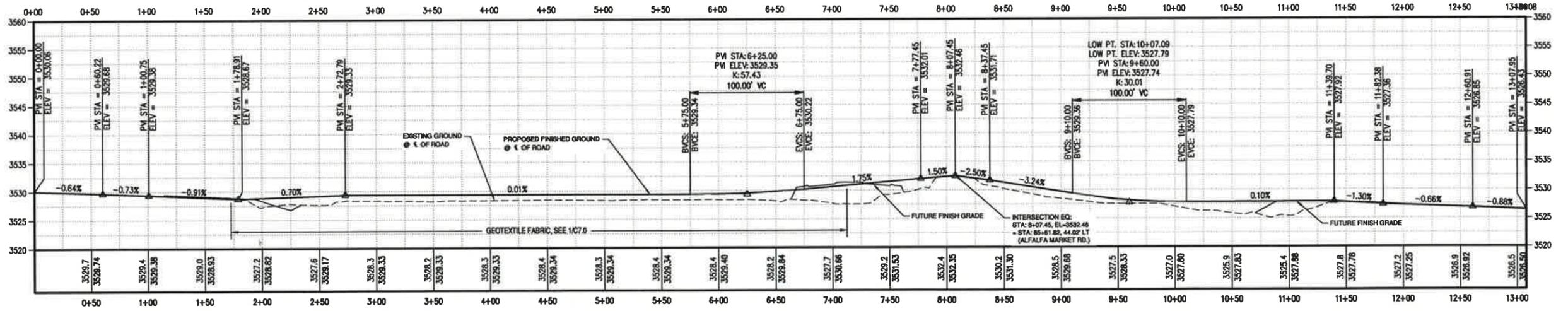


**CONSTRUCTION ROAD SECTION**  
NO SCALE C7.0



**CONSTRUCTION ROAD CENTERLINE PLAN**  
SCALE IN FEET

ROAD CURVE DATA TABLE				
CURVE #	RADIUS	LENGTH	TAN	DELTA (Δ)
1	350	120.21	60.70	19°40'45"
2	350	154.43	78.49	25°16'48"
3	350	219.23	113.35	35°53'21"
4	582	168.54	84.86	16°34'52"



**PROFILE**  
HORIZ: 1"=50'  
VERT: 1"=10'

Digitally signed by BARRY C JOHNSON  
DN: C=US,  
E=bjohnson@parametrix.com,  
O=PARAMETRIX, CN=BARRY C JOHNSON  
Reason: I agree to the terms defined by the placement of the signature on this document.  
Date: 2015.12.08 12:02:52-08'00'



PROJECT NAME  
**CONSTRUCTION ROAD**  
DESCHUTES COUNTY ROAD DEPARTMENT  
POWELL BUTTE HIGHWAY ROUNDABOUT  
DESCHUTES COUNTY, OR

**CONSTRUCTION ROAD**

DRAWING NO.  
22 OF 46  
**C7.0**

REVISIONS	DATE	BY

ONE INCH AT FULL SCALE. IF NOT SCALE ACCORDINGLY.

**Parametrix**  
ENGINEERING PLANNING ENVIRONMENTAL SCIENCES  
595 SW BUTTE DRIVE, SUITE B | BEND, OR 97702  
P 541.508.7710  
WWW.PARAMETRIX.COM

DESIGNED BY: henrym  
CHECKED BY: henrym  
DATE: DECEMBER 2015  
DRAWN BY: henrym  
DWG NO: 257-2509-001

BID DOCUMENTS

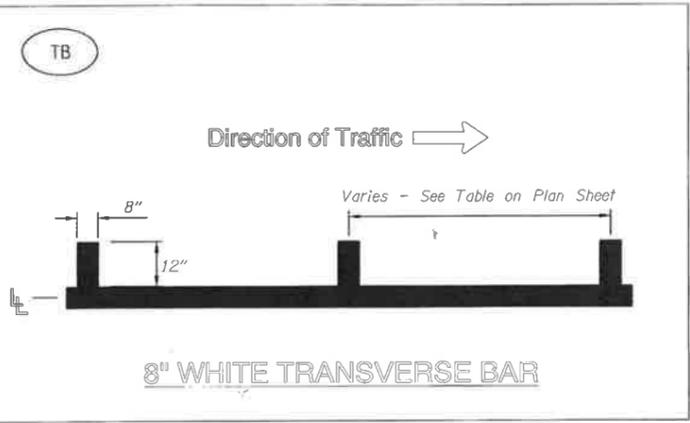
LEGEND

-  Install new sign (N) on new (M) sign support
-  Install new sign (N).
-  Remove and salvage existing sign (N) and (M) sign support.
-  Maintain and protect existing sign (N) and (M) support.
-  Remove and save existing sign (N).
-  Remove and save existing sign (n) and remove (M) sign support.
-  Reinstall existing sign (N).
-  Reinstall existing sign (n) on new (M) sign support.

ABBREVIATIONS

- N = Sign Number
- M = Material
- Material options:
  - W = Wood Post
  - S = Steel Breakaway Support (TBB or MPB)
  - MP = Milepost Marker Post
  - ST = Perforated Steel Square Tube Sign Support

-  Inst. 8" white line
-  Inst. 4" yellow line
-  Inst. 8" white dotted line
-  Inst. narrow double no-pass
-  Inst. double no-pass with reflective recessed pavement markers
-  Inst. narrow double no-pass with reflective recessed pavement markers
-  Inst. transverse speed bars, See detail on this sheet.



GENERAL NOTES

1. All signage and pavement marking shall conform to the requirements and specifications of the Manual on Uniform Traffic Control Devices (M.U.T.C.D.) latest edition, the Oregon supplement to the M.U.T.C.D., the Oregon Standard Specifications for Construction, and the project special provisions.
2. All pre-markings for pavement markings and striping, as well as signs locations shall be approved by the Engineer prior to final placement.
3. All pavement markings, with the exception of transverse bars, shall be "Method A: Methyl Methacrylate, Extruded, Grooved, Non-Profiled".
4. All transverse bar pavement markings shall be "Method AB: Thermoplastic, Extruded or Sprayed, Surface, Non-Profiled".
5. All signs and sign supports removed from the project shall be salvaged to Deschutes County.

SIGNING AND STRIPING LEGEND AND DETAILS  
POWELL BUTTE HWY/NEFF RD/ALFALFA MARKET RD

REVISIONS	DATE	BY

ONE INCH SCALE, IF NOT, SCALE ACCORDINGLY

**KITTELSON & ASSOCIATES, INC.**  
TRANSPORTATION ENGINEERING/PLANNING

DESIGNED BY: SGB  
CHECKED BY: RAM  
DATE: 7/30/2015  
PROJECT NO: 0000581BW

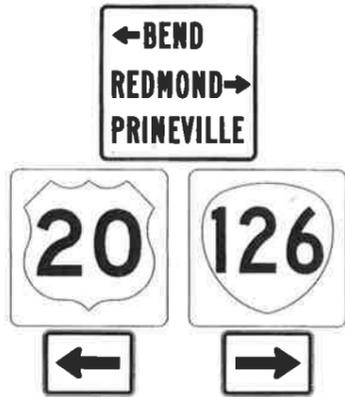


DESCHUTES COUNTY  
ROAD DEPARTMENT  
POWELL BUTTE HWY ROUNDABOUT  
DESCHUTES COUNTY, OR

SIGNING &  
STRIPING DETAILS

ACCOMPANIED BY OREGON STD. DWGS.  
TM200, TM201, TM 500, TM502, TM517,  
TM525, TM600, TM601, TM602, TM635,  
TM670, TM676, TM681, TM687, TM688

EXISTING SIGN DETAILS  
 POWELL BUTTE HWY/NEFF RD/ALFALFA MARKET RD



Sign No. 1



Sign No. 2



Sign No. 3



Sign No. 4



Sign No. 5



Sign No. 6



Sign No. 7



Sign No. 8



Sign No. 9



Sign No. 10



Sign No. 11



Sign No. 12

REVISIONS	DATE	BY

ONE INCH AT FULL SCALE, IF NOT SHOWN OTHERWISE ACCORDINGLY

**KITTELSON & ASSOCIATES, INC.**  
 TRANSPORTATION ENGINEERING/PLANNING

DATE: 11/30/2015  
 JOB NO: 005581BW  
 DRAWN: FJM  
 CHECKED: [Signature]  
 APPROVED: [Signature]



DESCHUTES COUNTY  
 ROAD DEPARTMENT  
 POWELL BUTTE HWY ROUNDABOUT  
 DESCHUTES COUNTY, OR

EXISTING SIGN DETAILS

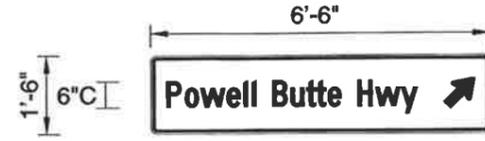
PROPOSED SIGN DETAILS  
 POWELL BUTTE HWY/NEFF RD/ALFALFA MARKET RD



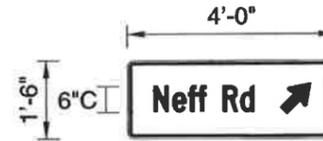
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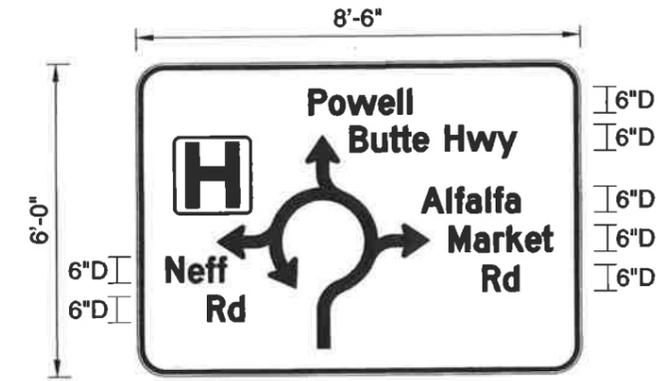
Sign No. 102



Sign No. 103



Sign No. 104



Sign No. 105



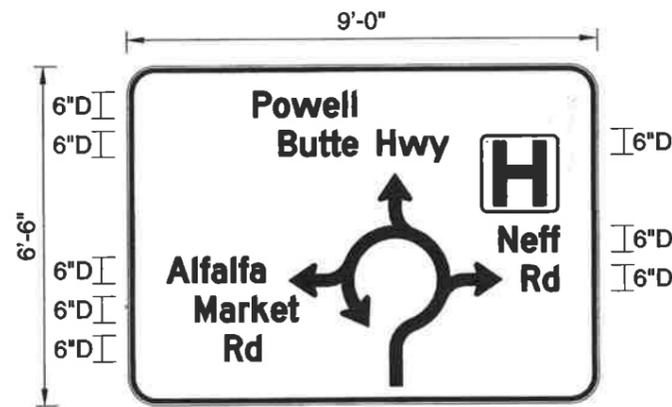
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Sign No. 107



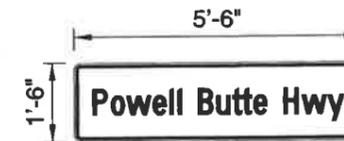
Sign No. 108



Sign No. 109

NOT  
USED

Sign No. 110



Sign No. 111



Sign No. 112



Sign No. 113

REVISIONS	DATE	BY

ONE INCH  
AT FULL  
SCALE, IF  
NOT  
SPECIFIED  
OTHERWISE  
ACCORDINGLY

**KITTELSON & ASSOCIATES, INC.**  
 PROFESSIONAL ENGINEERING & PLANNING  
 1000 N. 10TH ST., SUITE 100, DENVER, CO 80202  
 DATE: 7/30/2015  
 DRAWN: RAM  
 CHECKED: [ ]  
 APPROVED: [ ]



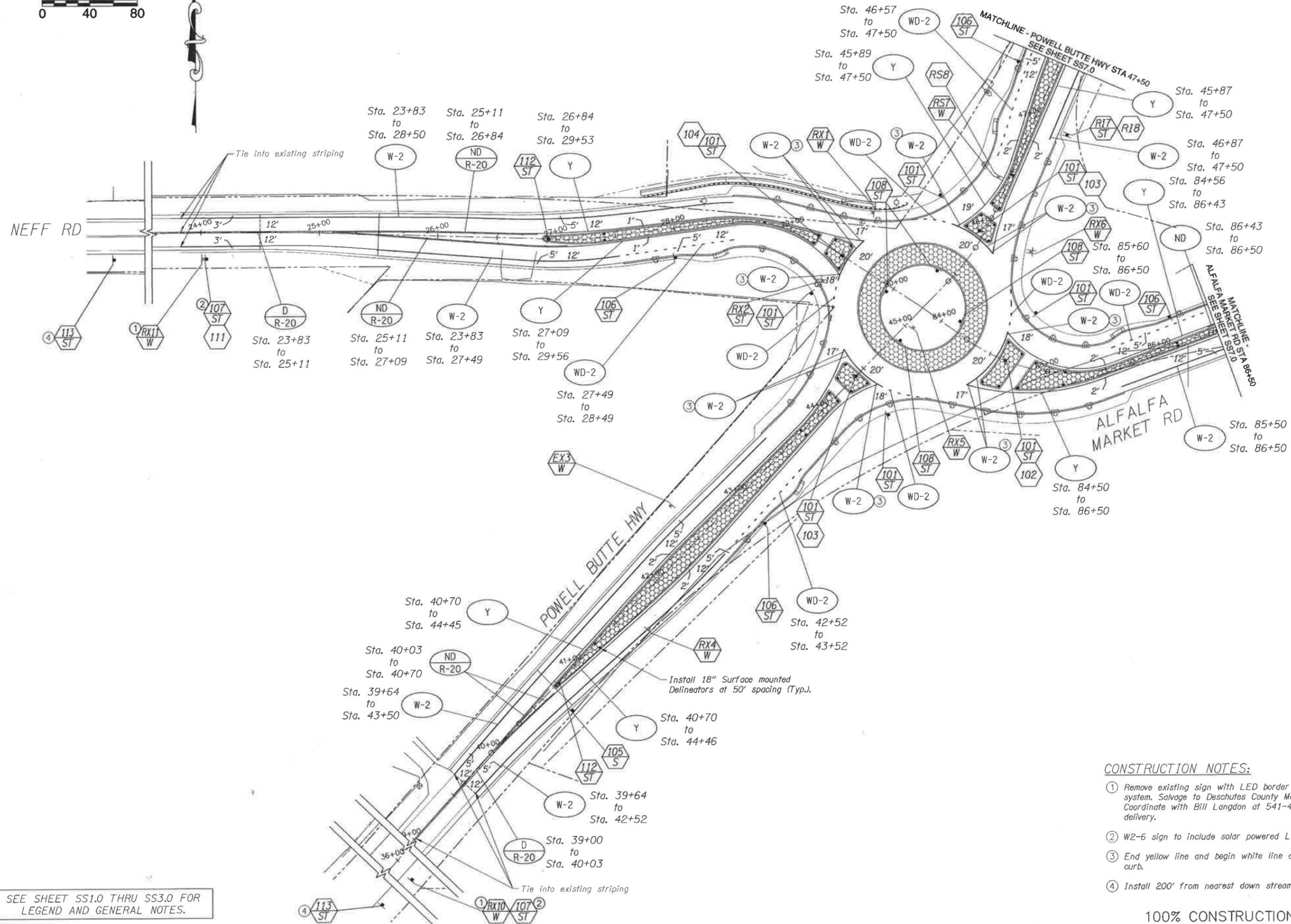
DESCHUTES COUNTY  
 ROAD DEPARTMENT  
 POWELL BUTTE HWY ROUNDABOUT  
 DESCHUTES COUNTY, OR

PROPOSED SIGN DETAILS





SIGNING AND STRIPING PLAN  
POWELL BUTTE HWY/NEFF RD/ALFALFA MARKET RD



SEE SHEET SS1.0 THRU SS3.0 FOR  
LEGEND AND GENERAL NOTES.

- CONSTRUCTION NOTES:**
- ① Remove existing sign with LED border and solar power system. Salvage to Deschutes County Maintenance. Coordinate with Bill Langdon at 541-419-3863 for delivery.
  - ② W2-6 sign to include solar powered LED border.
  - ③ End yellow line and begin white line at end of island curb.
  - ④ Install 200' from nearest down stream sign.

REVISIONS	DATE	BY

ONE INCH  
SCALE, IF  
NOT SHOWN  
ACCORDINGLY

**KITTELSON & ASSOCIATES, INC.**  
REGISTERED PROFESSIONAL ENGINEERS/PLANNERS  
11730/2015  
JOB NO. 0005819W  
DRAWN SGB  
CHECKED RAM  
APPROVED



DESCHUTES COUNTY  
ROAD DEPARTMENT  
POWELL BUTTE HWY ROUNDABOUT  
DESCHUTES COUNTY, OR

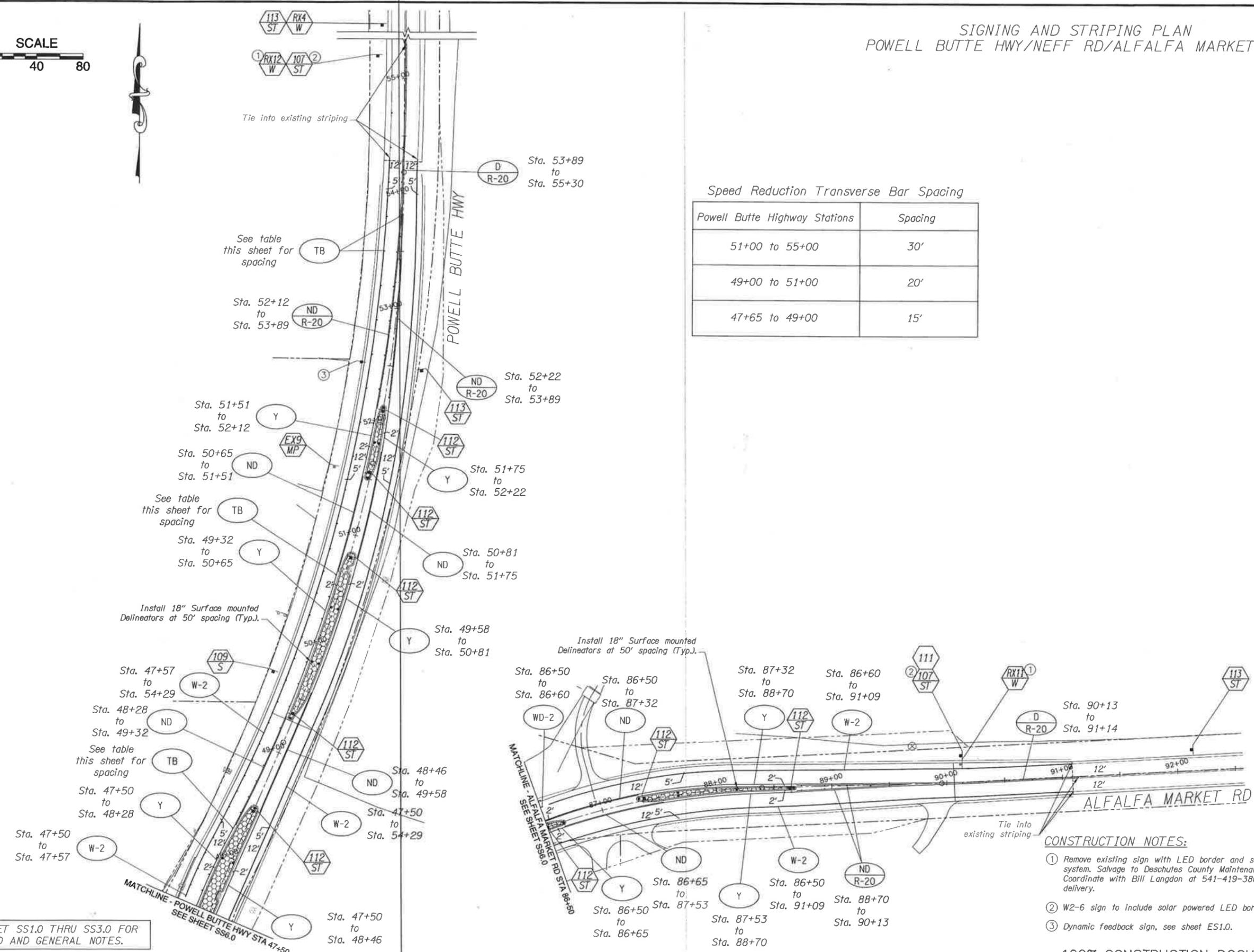
SIGNING &  
STRIPING PLAN

DRAWING NO.  
28 OF 46  
SS6.0

100% CONSTRUCTION DOCUMENTS



SIGNING AND STRIPING PLAN  
POWELL BUTTE HWY/NEFF RD/ALFALFA MARKET RD



Speed Reduction Transverse Bar Spacing

Powell Butte Highway Stations	Spacing
51+00 to 55+00	30'
49+00 to 51+00	20'
47+65 to 49+00	15'

See table this sheet for spacing

See table this sheet for spacing

Install 18" Surface mounted Delineators at 50' spacing (Typ.).

Install 18" Surface mounted Delineators at 50' spacing (Typ.).

SEE SHEET SS1.0 THRU SS3.0 FOR LEGEND AND GENERAL NOTES.

CONSTRUCTION NOTES:

- Remove existing sign with LED border and solar power system. Salvage to Deschutes County Maintenance. Coordinate with Bill Langdon at 541-419-3863 for delivery.
- W2-6 sign to include solar powered LED border.
- Dynamic feedback sign, see sheet ES1.0.

REVISIONS	DATE	BY

ONE INCH AT FULL SCALE NO SCALE ACCORDINGLY

**KITTELSON & ASSOCIATES, INC.**  
TRANSPORTATION ENGINEERING/PLANNING

DATE: 11/30/2015  
JOB NO: 000381BW  
DRAWN: RAM  
CHECKED: [Signature]  
APPROVED: [Signature]



DESCHUTES COUNTY  
ROAD DEPARTMENT  
POWELL BUTTE HWY ROUNDABOUT  
DESCHUTES COUNTY, OR

SIGNING & STRIPING PLAN

ILLUMINATION LEGEND AND DETAILS  
 POWELL BUTTE HWY/NEFF RD/ALFALFA MARKET RD

STREET LIGHT POLE SCHEDULE

POLE NO.	SERVICE NO.	STREET	STATION	OFFSET*	LUMINAIRE ARM LENGTH	LAMP	LUMINAIRE MOUNTING HEIGHT (FT)	TYPE	NOTES**
1	15	Powell Butte	41+19	29.2' Rt	8'	LED	25'	III	Furnished and installed by CEC
2	15	Powell Butte	42+57	36.1' Rt	8'	LED	25'	III	Furnished and installed by CEC
3	15	Powell Butte	43+96	33.8' Rt	8'	LED	25'	III	Furnished and installed by CEC
4	9	Powell Butte	44+44	56.2' Lt	8'	LED	25'	III	Furnished and installed by CEC
5	14	Alfalfa Market	84+42	61.8' Rt	8'	LED	25'	III	Furnished and installed by CEC
6	13	Powell Butte	45+76	60.7' Rt	8'	LED	25'	III	Furnished and installed by CEC
7	11	Powell Butte	46+52	30.6' Lt	8'	LED	25'	III	Furnished and installed by CEC
8	11	Powell Butte	47+78	35.6' Lt	8'	LED	25'	III	Furnished and installed by CEC
9	12	Powell Butte	49+04	29.0' Lt	8'	LED	25'	III	Furnished and installed by CEC
10	12	Powell Butte	50+47	28.6' Lt	8'	LED	25'	III	Furnished and installed by CEC
11	12	Powell Butte	51+93	28.2' Lt	8'	LED	25'	III	Furnished and installed by CEC
12	10	Neff	25+96	24.9' Rt	8'	LED	25'	III	Furnished and installed by CEC
13	10	Neff	27+37	28.3' Rt	8'	LED	25'	III	Furnished and installed by CEC
14	9	Neff	28+77	29.3' Rt	8'	LED	25'	III	Furnished and installed by CEC
15	9	Neff	29+69	59.5' Lt	8'	LED	25'	III	Furnished and installed by CEC
16	13	Alfalfa Market	85+45	30.6' Lt	8'	LED	25'	III	Furnished and installed by CEC
17	14	Alfalfa Market	86+65	26.6' Rt	8'	LED	25'	III	Furnished and installed by CEC
18	13	Alfalfa Market	88+10	25.7' Lt	8'	LED	25'	III	Furnished and installed by CEC

\* - Offset measured from roadway centerline.  
 \*\* - Luminaire shall be Cree XSP1 Version C LED fixture model BXSP C HT 3ME E 40K-UL SV with backlight shield.

LIGHT LEVEL SUMMARY TABLE

ROADWAY/INTERSECTION	CLASSIFICATION	TARGET	LIGHT LEVEL	UNIFORMITY	LIGHT LOSS FACTOR	BUG RATING
Powell Butte Hwy at Alfalfa Mkt Rd/Neff Rd	Rural Arterial/ Rural Arterial	TARGET	$\geq 0.9 fc$	$\leq 6 : 1$	0.85	B1 U0 G1
		DESIGN	0.9 fc	4.3 : 1		
Powell Butte Hwy - North Leg	Rural Arterial	TARGET	$\geq 0.8 fc$	$\leq 6 : 1$	0.85	B1 U0 G1
		DESIGN	0.8 fc	4.0 : 1		
Powell Butte Hwy - South Leg	Rural Arterial	TARGET	$\geq 0.8 fc$	$\leq 6 : 1$	0.85	B1 U0 G1
		DESIGN	0.8 fc	4.0 : 1		
Alfalfa Mkt Rd - East Leg	Rural Arterial	TARGET	$\geq 0.8 fc$	$\leq 6 : 1$	0.85	B1 U0 G1
		DESIGN	0.8 fc	4.1 : 1		
Neff Rd - West Leg	Rural Arterial	TARGET	$\geq 0.8 fc$	$\leq 6 : 1$	0.85	B1 U0 G1
		DESIGN	0.8 fc	4.2 : 1		

LEGEND

- (LP) Central Electric Cooperative to furnish and install new Central Electric Cooperative approved street light. Street light pole shall be HAPCO embedded aluminum alloy light pole (Model No. RTA25C7BEM18) and street light shall be Cree (Model: BXSP C HT 3ME E 40K-UL SV with backlight shield). See "Street Light Pole Schedule".
- (FDW) Install Central Electric Cooperative approved street light sleeve for embedded street light pole. See Central Electric Cooperative drawing number SR.210. Confirm base diameter with Central Electric Cooperative before installation.
- (S) Install (S) inch electrical grade sch 40 pvc conduit.
- (EC) Electrical conduit, see Dynamic Feedback Warning Sign plan.
- (W) Install conduit and wire as required by power company
- (PL) Install poly pull line (500# minimum strength).
- (PS/2) Power source for 120/ 240 volt, single phase (field locate).
- (SC/N) Install 120/240 volt, single phase un-metered service cabinet N (N = number).
- (MS/EC) Metered service, see Dynamic Feedback Warning Sign plan.
- (JB/1A) Install 10"W X 17"L X 12"H precast junction box with concrete apron.
- (JB/2A) Install 12"W X 22"L X 12"H precast junction box with concrete apron.
- (XX) Light pole number (XX), see "Street Light Pole Schedule".

GENERAL NOTES

1. All construction, workmanship, and materials shall be in accordance with Central Electric Cooperative electric service requirements.
2. Foundations, junction boxes, and conduit shall be installed at locations shown on plans. If conflicts arise, foundation, junction box, and conduit locations may be modified in the field per the engineer's approval. All lighting equipment must be placed within the right-of-way. Place conduit in same trench as other conduits whenever possible.
3. Location of existing utilities shall be verified. Coordinate all work with utility companies to eliminate conflicts.
4. All proposed street lighting junction boxes, conduits, pull ropes, and street light sleeves shall be installed by contractor per Central Electric Cooperative requirements.
5. All street light poles, luminaire arms, luminaires, lamps, and wiring shall be furnished and installed by Central Electric Cooperative.
6. Final light pole locations shall be approved in the field by the engineer prior to foundation installation.
7. This illumination plans set is accompanied by Oregon Standard Drawing TM472.
8. All conduit elbows shall be factory made and be long radius 36". For conduit runs longer than 150' or containing more than 270 degrees of bends, elbows shall be fiberglass.
9. Contractor to coordinate with Central Electric Cooperative ten (10) business days in advance of commencing illumination work. Contact Tim Barrans at (541) 312-7721.
10. All conduit runs shall be approved by Central Electric Cooperative before backfill.
11. Cover and protect all new light pole sleeves.

REVISIONS	DATE	BY

ONE INCH SCALE, IF NOT SCALE ACCORDINGLY

**KITTELSON & ASSOCIATES, INC.**  
 TRANSPORTATION ENGINEERING/PLANNING

DATE: 11/25/2015  
 DRAWN: SWB  
 CHECKED: SWB  
 APPROVED: SWB

PROJECT: POWELL BUTTE HWY ROUNDABOUT

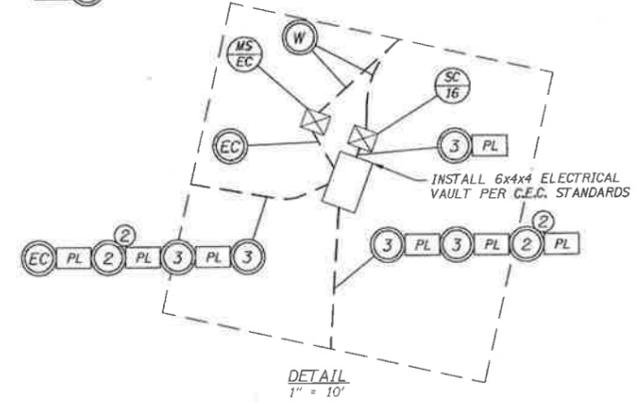
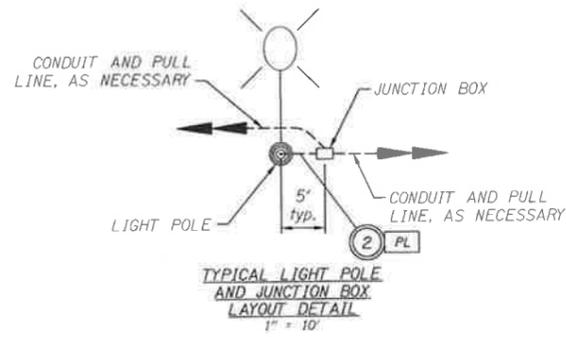
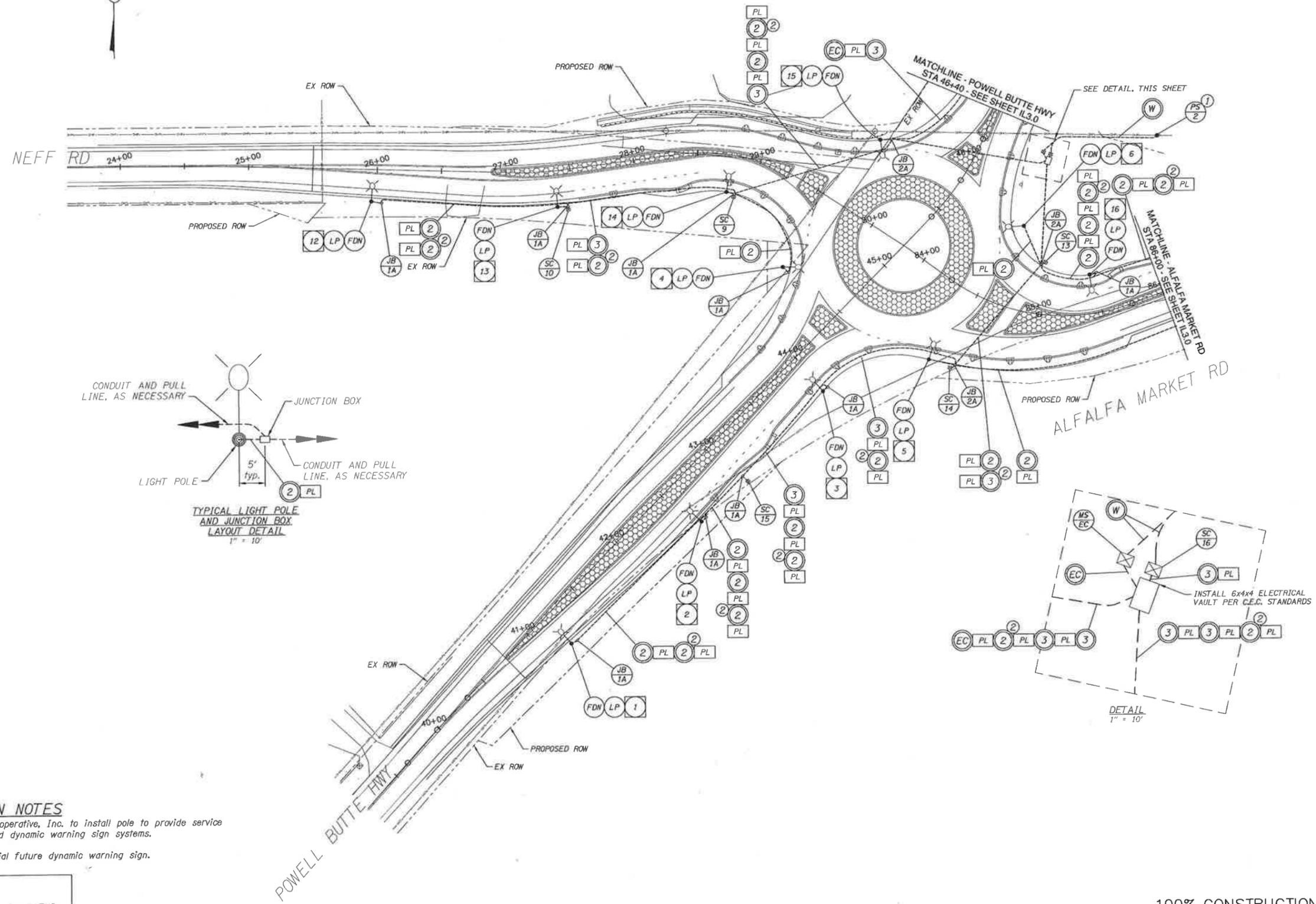


DESCHUTES COUNTY  
 ROAD DEPARTMENT  
 POWELL BUTTE HWY ROUNDABOUT  
 DESCHUTES COUNTY, OR

ILLUMINATION LEGEND AND NOTES



ILLUMINATION PLAN  
POWELL BUTTE HWY/NEFF RD/ALFALFA MARKET RD



**CONSTRUCTION NOTES**

- ① Central Electric Cooperative, Inc. to install pole to provide service for illumination and dynamic warning sign systems.
- ② Conduit for potential future dynamic warning sign.

NOTE:  
SEE SHEET IL1.0 FOR LEGEND

REVISIONS	DATE	BY

ONE INCH AT FULL SCALE IF NOT SCALE ACCORDINGLY

**KITTELSON & ASSOCIATES, INC.**  
TRANSPORTATION ENGINEERS/PLANNERS

DATE: 05/25/2015  
DESIGNED BY: SCB  
CHECKED BY: SWE  
APPROVED BY: SWE



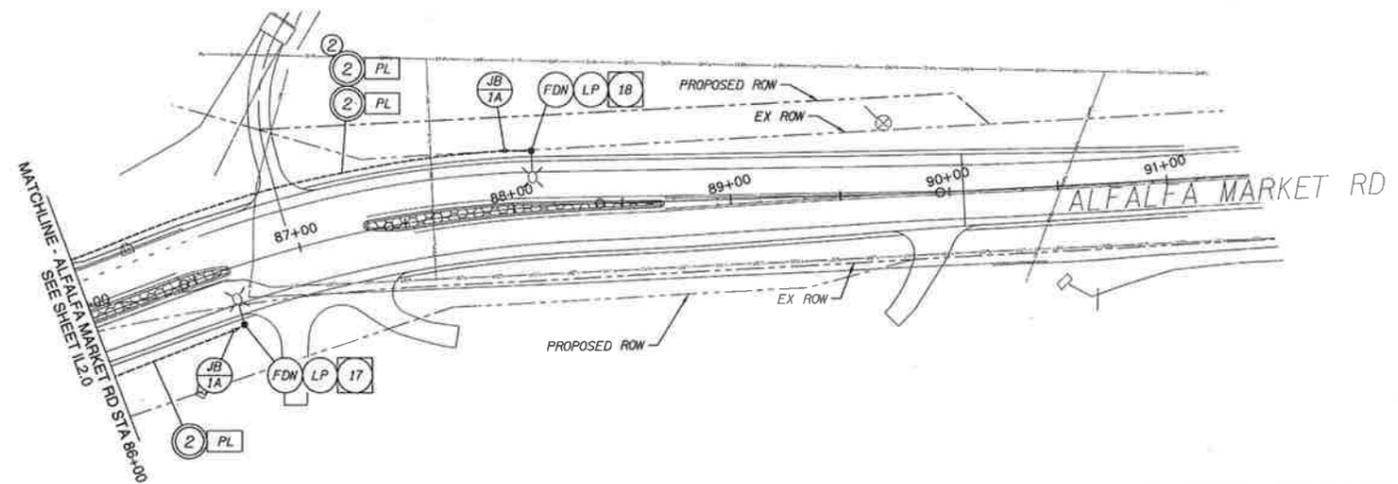
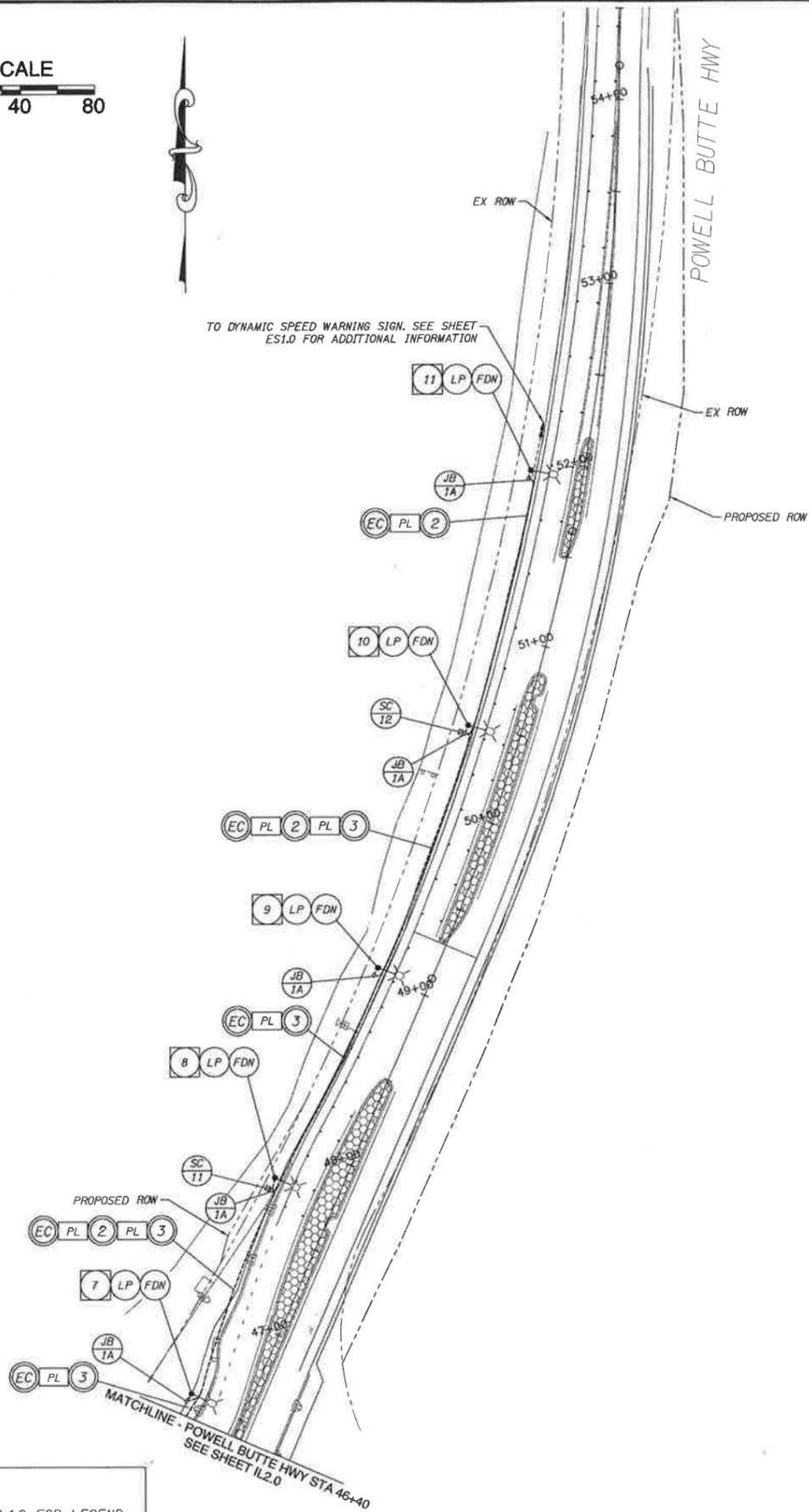
DESCHUTES COUNTY  
ROAD DEPARTMENT  
POWELL BUTTE HWY ROUNDABOUT  
DESCHUTES COUNTY, OR

ILLUMINATION PLAN



ILLUMINATION PLAN  
POWELL BUTTE HWY/NEFF RD/ALFALFA MARKET RD

TO DYNAMIC SPEED WARNING SIGN, SEE SHEET ES1.0 FOR ADDITIONAL INFORMATION



NOTE:  
SEE SHEET IL1.0 FOR LEGEND

REVISIONS	DATE	BY

ONE INCH  
OVERALL  
SCALE, IF  
NOT SCALE  
ACCORDINGLY

**KITTELSON & ASSOCIATES, INC.**  
TRANSPORTATION ENGINEERING/PLANNING

DATE: 11/25/2015  
DESIGNED: SWB  
CHECKED: SGB  
APPROVED: SWB



DESCHUTES COUNTY  
ROAD DEPARTMENT  
POWELL BUTTE HWY ROUNDABOUT  
DESCHUTES COUNTY, OR

ILLUMINATION PLAN

DRAWING NO.  
32 OF 46  
IL3.0

DETOUR SIGN DETAILS  
 POWELL BUTTE HWY/NEFF RD/ALFALFA MARKET RD

REVISIONS	DATE	BY

ONE INCH  
 AT FULL  
 SCALE, IF  
 NOT, SCALE  
 ACCORDINGLY

**KITTELSON & ASSOCIATES, INC.**  
 REGISTERED PROFESSIONAL ENGINEERS  
 1331 N. 10TH AVE., SUITE 100, SPOKANE, IDAHO 83402  
 PROJECT NO. 170/2015  
 DRAWN BY: RAM  
 CHECKED BY: [Signature]  
 APPROVED BY: [Signature]



DESCHUTES COUNTY  
 ROAD DEPARTMENT  
 POWELL BUTTE HWY ROUNDABOUT  
 DESCHUTES COUNTY, OR

DETOUR SIGN DETAILS

**NEFF RD  
 CLOSED  
 2 MILES  
 USE  
 DETOUR**

1 48"x60"  
 TYPE "04"



**Neff Rd**

2 48"x48", TYPE "04"  
 30"x18", TYPE "04"

**DETOUR**

**Neff Rd**



3 24"x12", TYPE "04"  
 30"x18", TYPE "04"  
 21"x15", TYPE "04"

**DETOUR**

**Neff Rd**



4 24"x12", TYPE "04"  
 30"x18", TYPE "04"  
 21"x15", TYPE "04"



**Neff Rd**

5 30"x24", TYPE "04"  
 30"x18", TYPE "04"

**NEFF RD  
 CLOSED  
 1 MILE  
 USE  
 DETOUR**

7 48"x60"  
 TYPE "04"

**DETOUR**  
**Neff Rd**  
  
**DETOUR**  
**EAST**

8 24"x12", TYPE "04"  
 30"x18", TYPE "04"  
 21"x15", TYPE "04"

24"x12", TYPE "04"  
 24"x12", TYPE "W1"  
 24"x24", TYPE "W1"  
 21"x15", TYPE "W1"

**DETOUR**  
**Neff Rd**  
  
**DETOUR**  
**EAST**

9 24"x12", TYPE "04"  
 30"x18", TYPE "04"  
 21"x15", TYPE "04"

24"x12", TYPE "04"  
 24"x12", TYPE "W1"  
 24"x24", TYPE "W1"  
 21"x15", TYPE "W1"

**END  
 DETOUR**

10 30"x24"  
 TYPE "04"

**ROAD CLOSED  
 TO THRU TRAFFIC  
 LOCAL ACCESS ONLY**

11 60"x30"  
 TYPE "W1"

**ROAD  
 CLOSED**

12 48"x30"  
 TYPE "W1"



**Neff Rd**

13 30"x24", TYPE "04"  
 30"x18", TYPE "04"

**DETOUR**

**Neff Rd**



14 24"x12", TYPE "04"  
 30"x18", TYPE "04"  
 21"x15", TYPE "04"

**DETOUR**

**Neff Rd**



15 24"x12", TYPE "04"  
 30"x18", TYPE "04"  
 21"x15", TYPE "04"

**ALFALFA  
 MARKET RD  
 CLOSED  
 1 MILE  
 USE  
 DETOUR**

16 48"x60"  
 TYPE "04"

**ALFALFA  
 MARKET RD  
 CLOSED  
 2 MILES  
 USE  
 DETOUR**

17 48"x60"  
 TYPE "04"

**DETOUR**  
**Alfalfa Mkt Rd**



18 24"x12", TYPE "04"  
 54"x18", TYPE "04"  
 21"x15", TYPE "04"

**DETOUR**  
**Alfalfa Mkt Rd**



19 24"x12", TYPE "04"  
 54"x18", TYPE "04"  
 21"x15", TYPE "04"

**DETOUR**  
**Alfalfa Mkt Rd**



20 24"x12", TYPE "04"  
 54"x18", TYPE "04"  
 21"x15", TYPE "04"

**DETOUR**  
**Alfalfa Mkt Rd**



21 24"x12", TYPE "04"  
 54"x18", TYPE "04"  
 21"x15", TYPE "04"

**DETOUR**  
**Alfalfa Mkt Rd**



22 24"x12", TYPE "04"  
 54"x18", TYPE "04"  
 21"x15", TYPE "04"



**Alfalfa Mkt Rd**

23 48"x48", TYPE "04"  
 54"x18", TYPE "04"



**Alfalfa Mkt Rd**

24 30"x24", TYPE "04"  
 54"x18", TYPE "04"



**Alfalfa Mkt Rd**

25 30"x24", TYPE "04"  
 54"x18", TYPE "04"



**Neff Rd**

26 30"x24", TYPE "04"  
 30"x18", TYPE "04"

SCALE  
0 100 200



STAGE I CONSTRUCTION PLAN  
POWELL BUTTE HWY/NEFF RD/ALFALFA MARKET RD

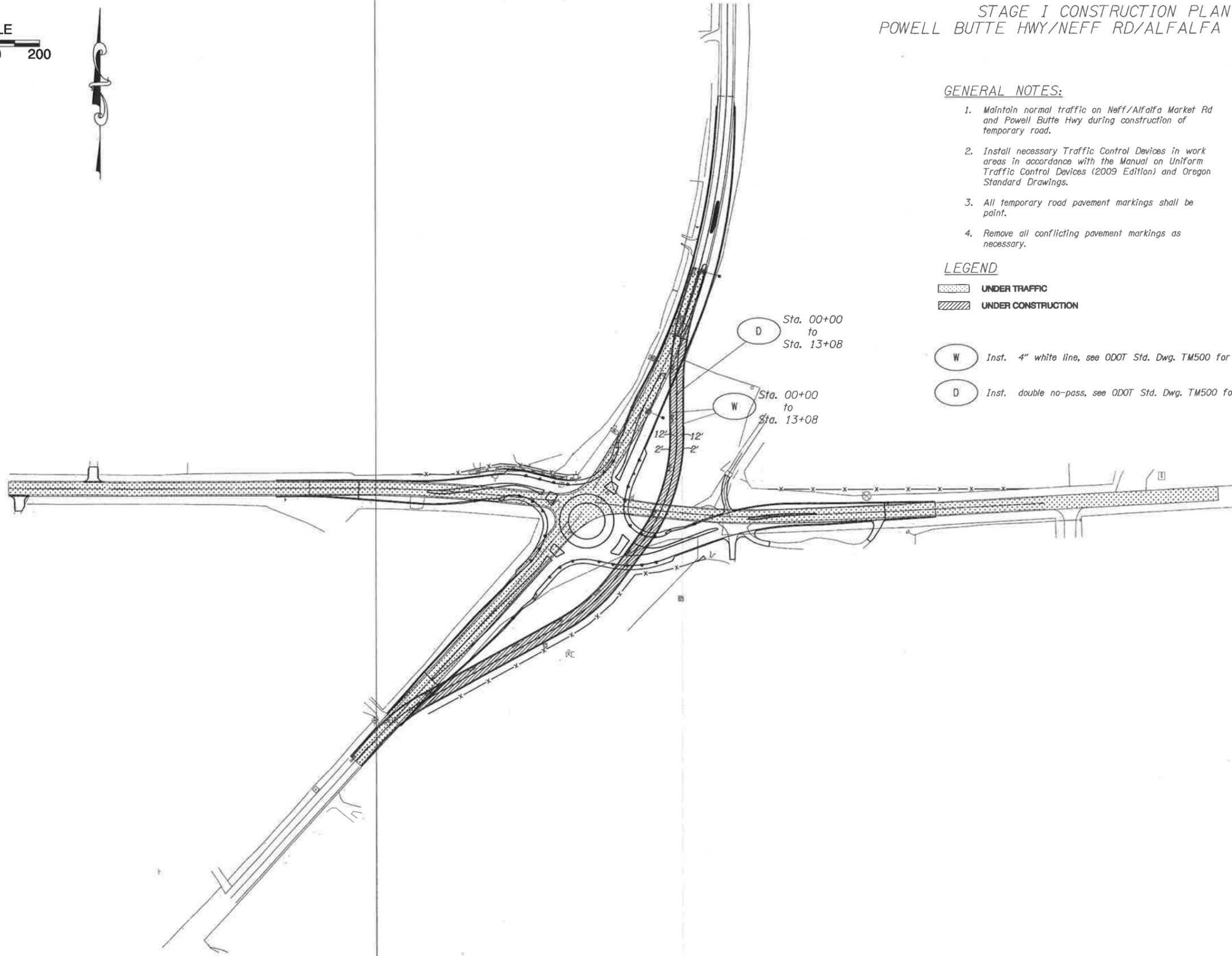
GENERAL NOTES:

1. Maintain normal traffic on Neff/Alfalfa Market Rd and Powell Butte Hwy during construction of temporary road.
2. Install necessary Traffic Control Devices in work areas in accordance with the Manual on Uniform Traffic Control Devices (2009 Edition) and Oregon Standard Drawings.
3. All temporary road pavement markings shall be painted.
4. Remove all conflicting pavement markings as necessary.

LEGEND

- UNDER TRAFFIC
- UNDER CONSTRUCTION

- Inst. 4" white line, see ODOT Std. Dwg. TM500 for details.
- Inst. double no-pass, see ODOT Std. Dwg. TM500 for details.



REVISIONS	DATE	BY

ONE INCH  
AT FULL  
SCALE, IF  
NOT SCALE  
ACCORDINGLY

**KITTELSON & ASSOCIATES, INC.**  
REGISTERED PROFESSIONAL ENGINEERS, ARCHITECTS, PLANNERS, AND SURVEYORS

DATE: 11/30/2015  
DESIGNED: SGB  
DRAWN: PAM  
JOB NO.: 000581BW

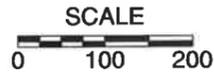
CHECKED: [Signature]  
APPROVED: [Signature]



DESCHUTES COUNTY  
ROAD DEPARTMENT  
POWELL BUTTE HWY ROUNDABOUT  
DESCHUTES COUNTY, OR

STAGE I -  
CONSTRUCTION PLAN

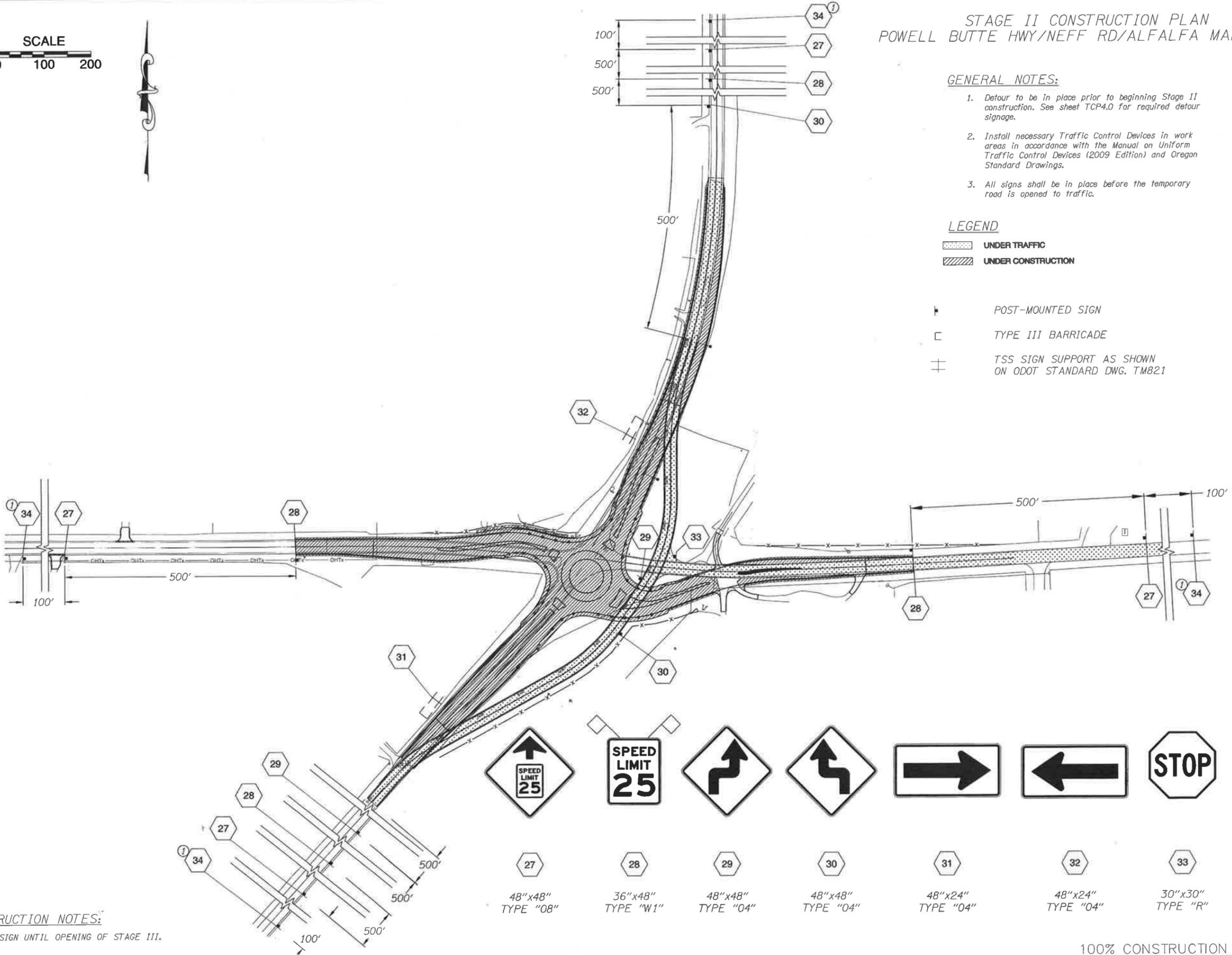
DRAWING NO.  
34 OF 46  
TCP2.0



STAGE II CONSTRUCTION PLAN  
POWELL BUTTE HWY/NEFF RD/ALFALFA MARKET RD

- GENERAL NOTES:**
1. Detour to be in place prior to beginning Stage II construction. See sheet TCP4.0 for required detour signage.
  2. Install necessary Traffic Control Devices in work areas in accordance with the Manual on Uniform Traffic Control Devices (2009 Edition) and Oregon Standard Drawings.
  3. All signs shall be in place before the temporary road is opened to traffic.

- LEGEND**
- UNDER TRAFFIC
  - UNDER CONSTRUCTION
  - POST-MOUNTED SIGN
  - TYPE III BARRICADE
  - TSS SIGN SUPPORT AS SHOWN ON ODOT STANDARD DWG. TM821



**CONSTRUCTION NOTES:**  
① BAG SIGN UNTIL OPENING OF STAGE III.

REVISIONS	DATE	BY

**KITTELSON & ASSOCIATES, INC.**  
REGISTERED PROFESSIONAL ENGINEERS  
1000 NE 11TH AVE, SUITE 200  
PORTLAND, OR 97232  
PHONE: 503.253.8800  
FAX: 503.253.8801  
WWW.KITTELSON-AND-ASSOCIATES.COM

DATE: 7/30/2015  
DRAWN BY: RAM  
CHECKED BY: [Signature]  
APPROVED BY: [Signature]



DESCHUTES COUNTY  
ROAD DEPARTMENT  
POWELL BUTTE HWY ROUNDABOUT  
DESCHUTES COUNTY, OR

STAGE II -  
CONSTRUCTION PLAN





STAGE III CONSTRUCTION PLAN  
 POWELL BUTTE HWY/NEFF RD/ALFALFA MARKET RD

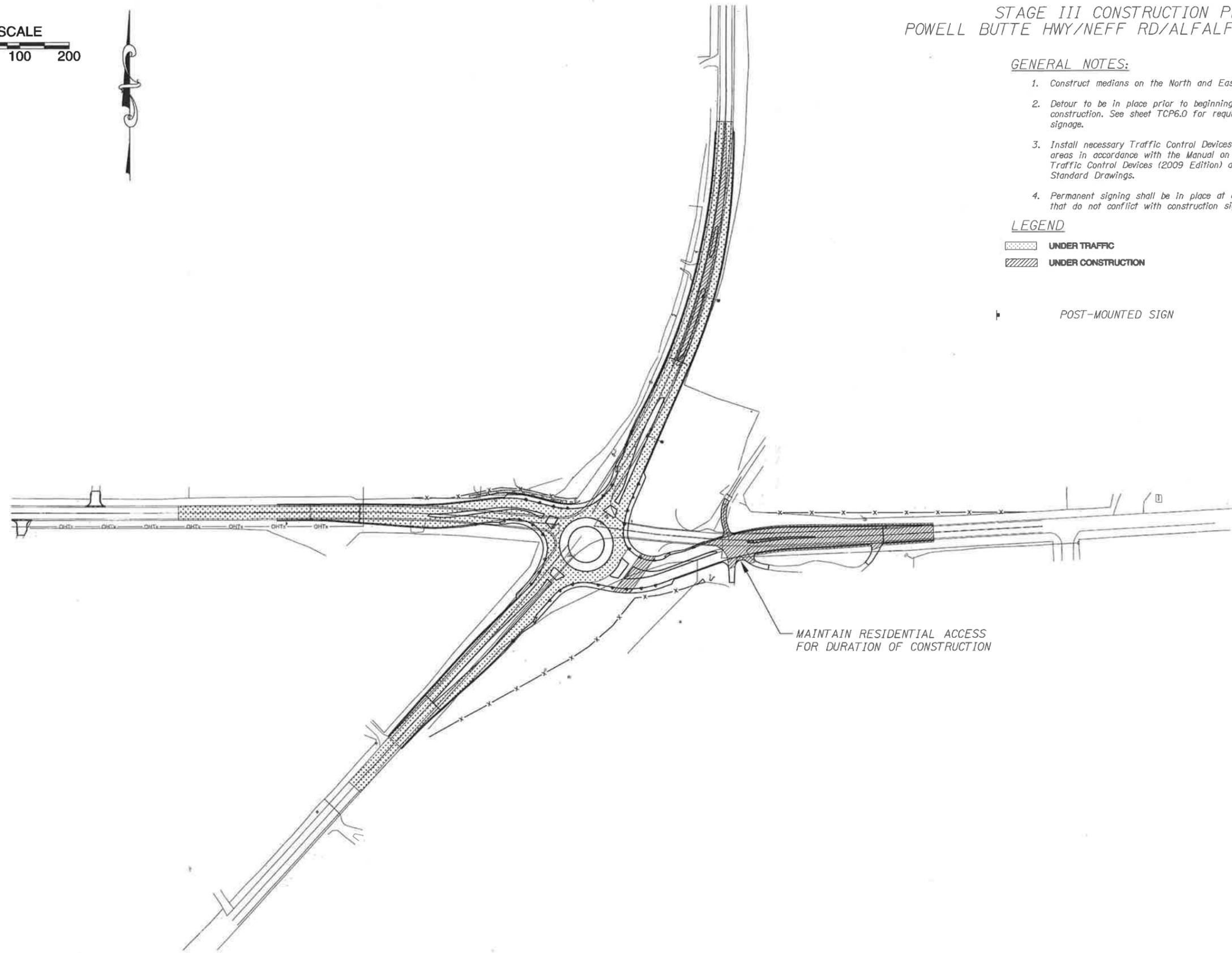
GENERAL NOTES:

1. Construct medians on the North and East legs.
2. Detour to be in place prior to beginning Stage III construction. See sheet TCP6.0 for required detour signage.
3. Install necessary Traffic Control Devices in work areas in accordance with the Manual on Uniform Traffic Control Devices (2009 Edition) and Oregon Standard Drawings.
4. Permanent signing shall be in place at all locations that do not conflict with construction signing.

LEGEND

- UNDER TRAFFIC
- UNDER CONSTRUCTION

POST-MOUNTED SIGN



GENERAL NOTES:

- 1 REMOVE SIGNS 29, 30, 31, 32, and 33 UPON COMPLETION OF STAGE II.

REVISIONS	DATE	BY

ONE INCH  
 AT FULL  
 SCALE IF  
 NOT SHOWN  
 OTHERWISE  
 ACCORDINGLY

**KITTELSON & ASSOCIATES, INC.**  
 TRANSPORTATION ENGINEERING/PLANNING

DATE: 11/30/2015  
 DESIGNED: SCB  
 DRAWN: RAM  
 JOB NO: 0005818W

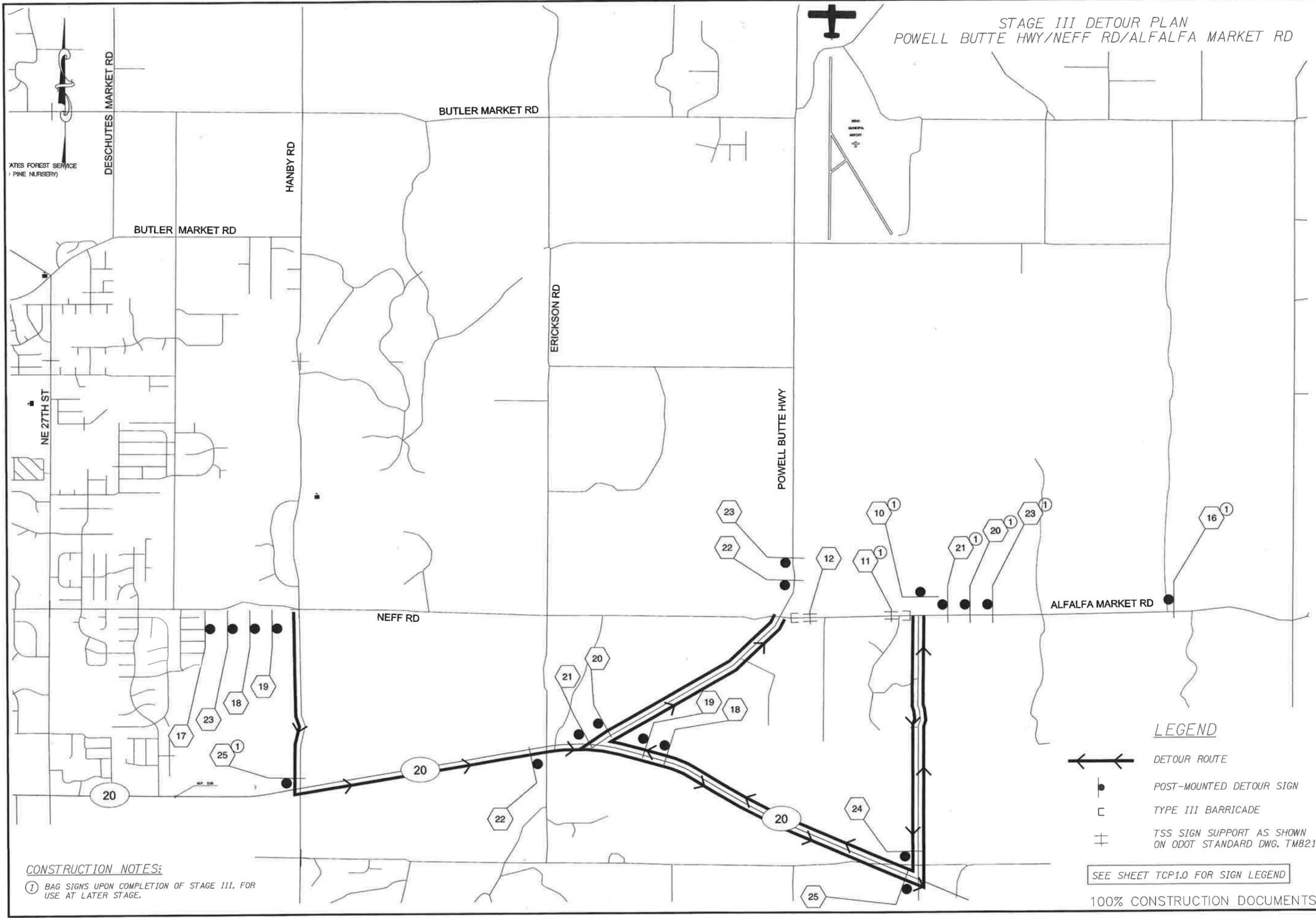
CREATED: [ ]  
 APPROVED: [ ]



DESCHUTES COUNTY  
 ROAD DEPARTMENT  
 POWELL BUTTE HWY ROUNDABOUT  
 DESCHUTES COUNTY, OR

STAGE III -  
 CONSTRUCTION PLAN

DRAWING NO.	37 OF 46
TCP5.0	



STAGE III DETOUR PLAN  
POWELL BUTTE HWY/NEFF RD/ALFALFA MARKET RD

ATES FOREST SERVICE  
PINE NURSERY



**CONSTRUCTION NOTES:**  
① BAG SIGNS UPON COMPLETION OF STAGE III, FOR USE AT LATER STAGE.

- LEGEND**
- DETOUR ROUTE
  - POST-MOUNTED DETOUR SIGN
  - TYPE III BARRICADE
  - TSS SIGN SUPPORT AS SHOWN ON ODOT STANDARD DWG. TM821

SEE SHEET TCP1.0 FOR SIGN LEGEND

100% CONSTRUCTION DOCUMENTS

REVISIONS	DATE	BY
Δ		

ONE INCH  
AS FULL  
SCALE, IF  
NOT SCALE  
ACCORDINGLY

**KITTELSON & ASSOCIATES, INC.**  
REGISTRATION NUMBER: 0005616W

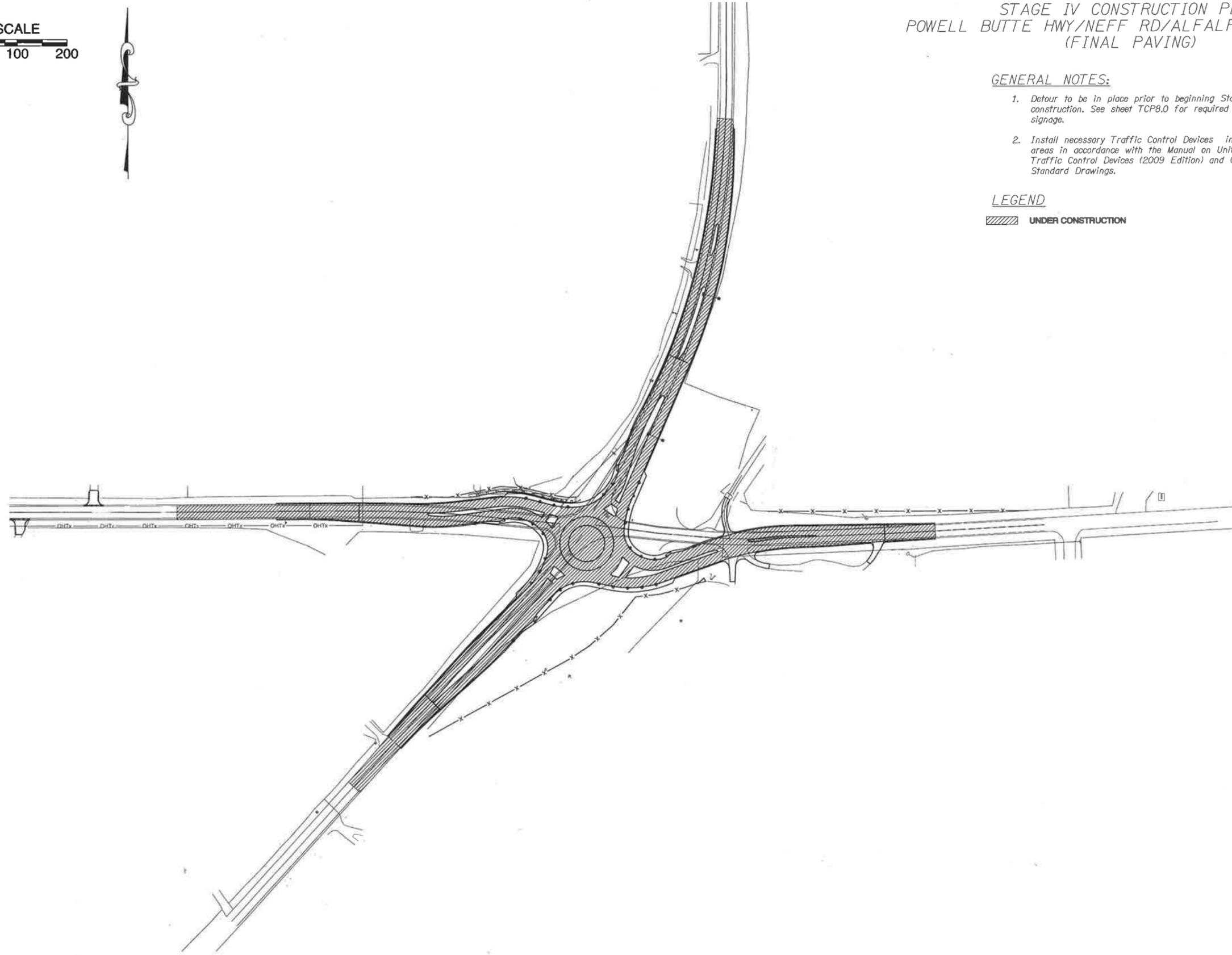
DESIGNED	CHECKED
DATE: 11/26/2015	DATE:
SIGNATURE: RAM	APPROVED:



DESCHUTES COUNTY  
ROAD DEPARTMENT  
POWELL BUTTE HWY ROUNDABOUT  
DESCHUTES COUNTY, OR

**STAGE III -  
DETOUR PLAN**

SCALE  
0 100 200



STAGE IV CONSTRUCTION PLAN  
POWELL BUTTE HWY/NEFF RD/ALFALFA MARKET RD  
(FINAL PAVING)

GENERAL NOTES:

1. Detour to be in place prior to beginning Stage IV construction. See sheet TCP8.0 for required detour signage.
2. Install necessary Traffic Control Devices in work areas in accordance with the Manual on Uniform Traffic Control Devices (2009 Edition) and Oregon Standard Drawings.

LEGEND

UNDER CONSTRUCTION

REVISIONS	DATE	BY
△		

ONE INCH  
SCALE, IF  
NOT, SCALE  
ACCORDINGLY

**KITTELSON & ASSOCIATES, INC.**  
TRANSPORTATION ENGINEERING/PLANNING

DATE: 01/30/2015  
DESIGNED: SGB  
CHECKED: RAM  
PROJECT NO: 0005818W

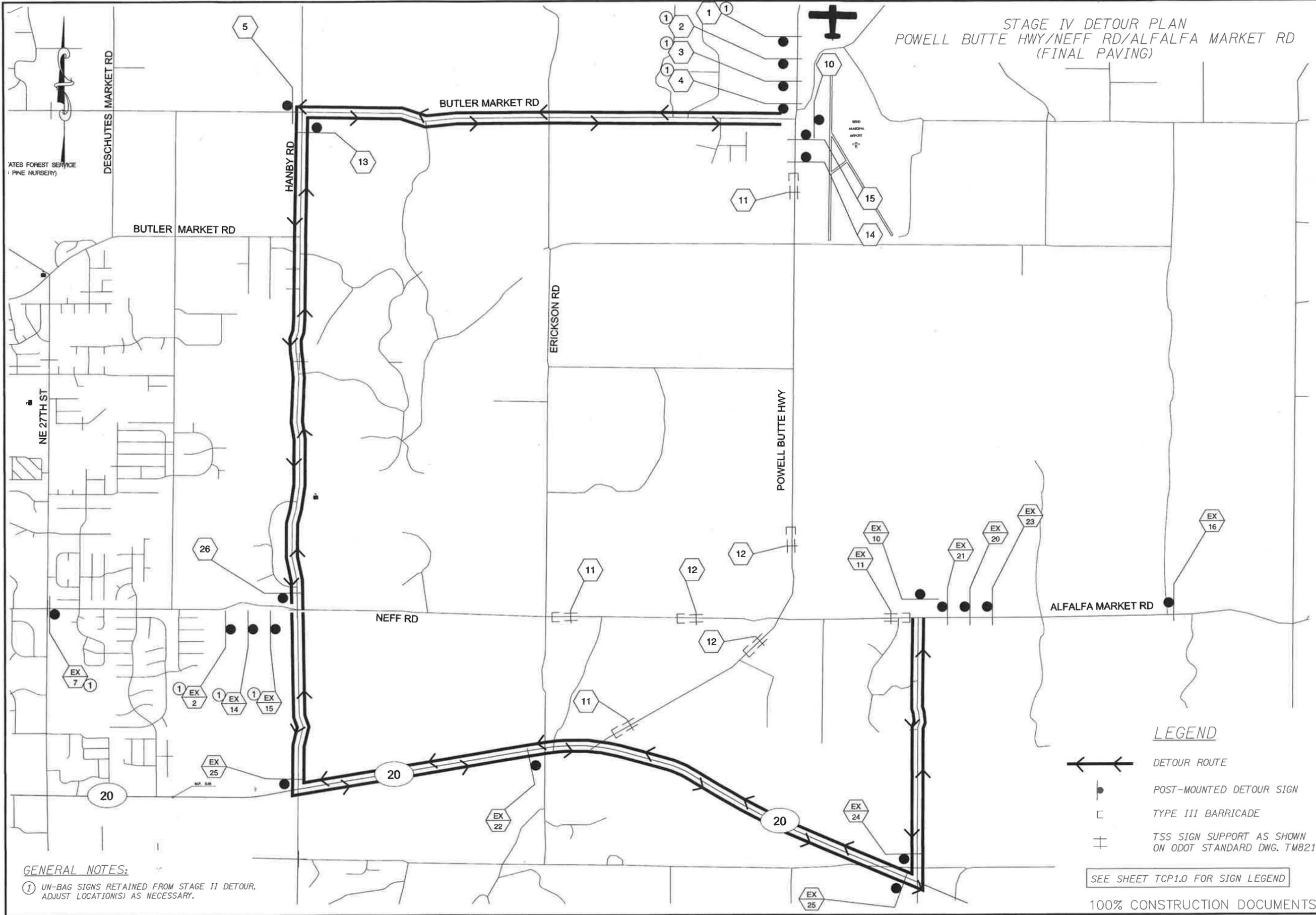


DESCHUTES COUNTY  
ROAD DEPARTMENT  
POWELL BUTTE HWY ROUNDABOUT  
DESCHUTES COUNTY, OR

STAGE IV -  
CONSTRUCTION PLAN

DRAWING NO.  
39 OF 46  
TCP7.0

STAGE IV DETOUR PLAN  
 POWELL BUTTE HWY/NEFF RD/ALFALFA MARKET RD  
 (FINAL PAVING)



GENERAL NOTES:  
 ① UN-BAG SIGNS RETAINED FROM STAGE II DETOUR,  
 ADJUST LOCATION(S) AS NECESSARY.

- LEGEND**
- DETOUR ROUTE
  - POST-MOUNTED DETOUR SIGN
  - TYPE III BARRICADE
  - TSS SIGN SUPPORT AS SHOWN ON ODOT STANDARD DWG. TM821

SEE SHEET TCP1.0 FOR SIGN LEGEND

100% CONSTRUCTION DOCUMENTS

REVISIONS	DATE	BY

ONE INCH SCALE, IF NOT, SCALE ACCORDINGLY

**KITTELSON & ASSOCIATES, INC.**  
 TRANSPORTATION ENGINEERING/PLANNING

DESIGNED: SGB  
 CHECKED: RMM  
 DATE: 03/30/2015  
 PROJECT: 0005618W

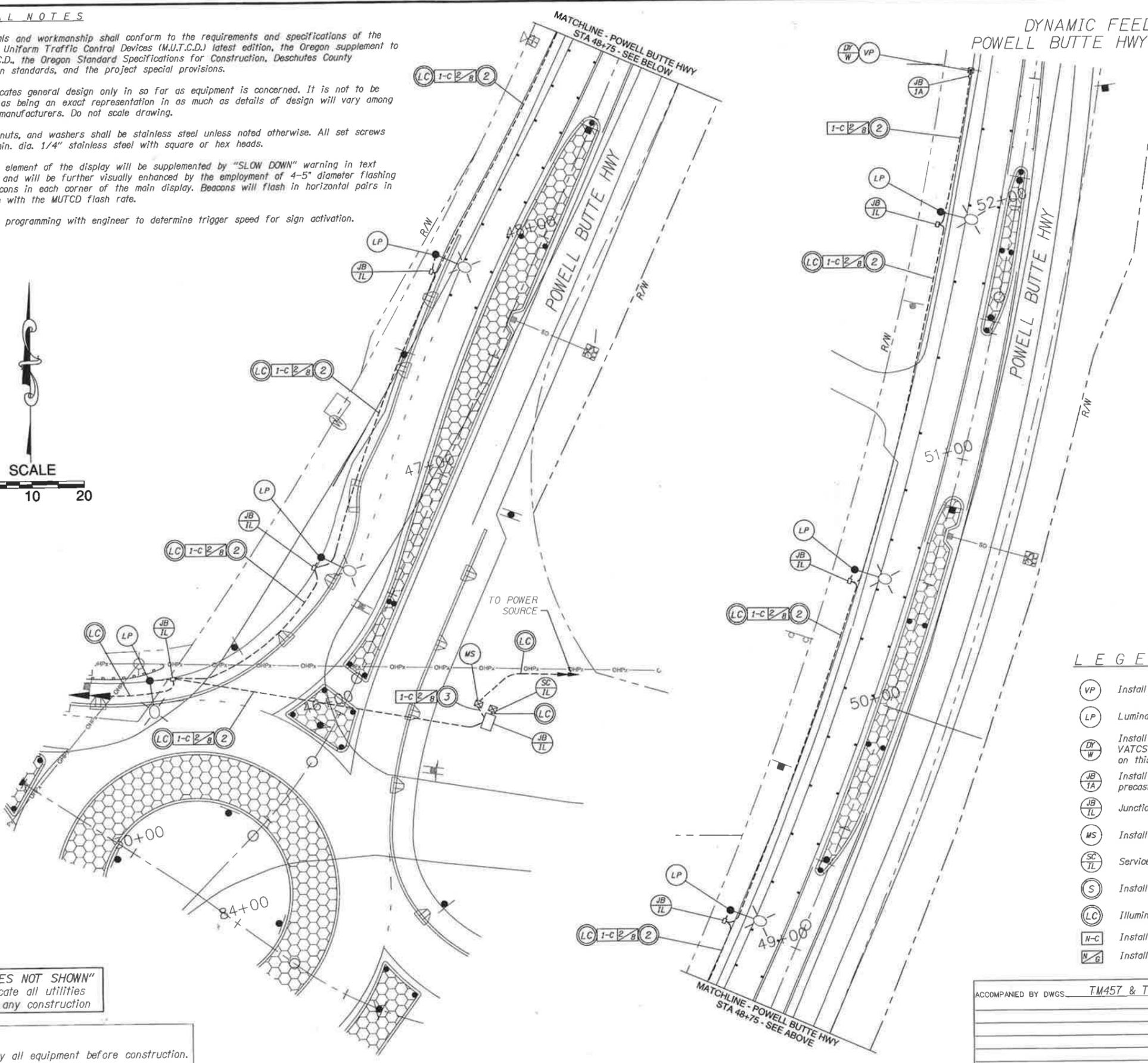
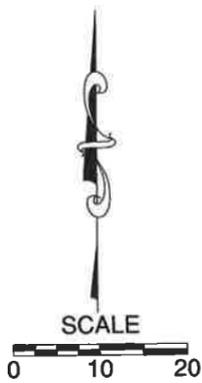


DESCHUTES COUNTY  
 ROAD DEPARTMENT  
 POWELL BUTTE HWY ROUNDABOUT  
 DESCHUTES COUNTY, OR

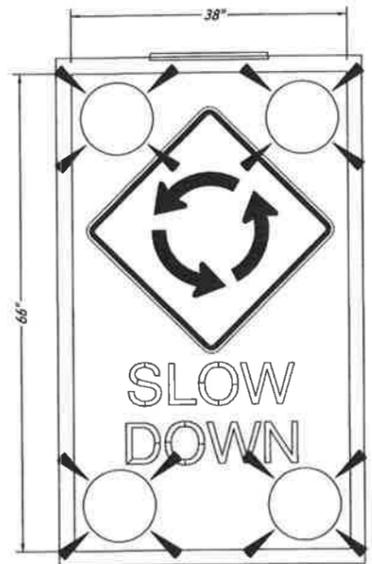
STAGE IV -  
 DETOUR PLAN

**GENERAL NOTES**

- All materials and workmanship shall conform to the requirements and specifications of the Manual on Uniform Traffic Control Devices (M.U.T.C.D.) latest edition, the Oregon supplement to the M.U.T.C.D., the Oregon Standard Specifications for Construction, Deschutes County construction standards, and the project special provisions.
- Detail indicates general design only in so far as equipment is concerned. It is not to be construed as being an exact representation in as much as details of design will vary among different manufacturers. Do not scale drawing.
- All bolts, nuts, and washers shall be stainless steel unless noted otherwise. All set screws shall be min. dia. 1/4" stainless steel with square or hex heads.
- The W2-6 element of the display will be supplemented by "SLOW DOWN" warning in text height 6", and will be further visually enhanced by the employment of 4-5" diameter flashing amber beacons in each corner of the main display. Beacons will flash in horizontal pairs in accordance with the MUTCD flash rate.
- Coordinate programming with engineer to determine trigger speed for sign activation.



**DYNAMIC FEEDBACK WARNING SIGN PLAN  
POWELL BUTTE HWY/NEFF RD/ALFALFA MARKET RD**



W2-6  
LED  
SIGN

**FRONT VIEW**

**LEGEND**

- Install vehicle signal pedestal with transformer base
- Luminaire Pole (See Illumination Plans for details)
- Install (38"x66") "ROUNDABOUT AHEAD" Unipart Dorman VATCS dynamic feedback sign, or approved equal, see details on this sheet. See Special Provisions for additional information.
- Install 17"x10"x12" (min. dimension) precast concrete junction box with concrete apron
- Junction box (See Illumination Plan)
- Install 120/240 volt, single phase metered service.
- Service Cabinet (See Illumination Plan)
- Install (S=size) inch electrical grade sch 40 pvc conduit.
- Illumination conduit (See Illumination Plan)
- Install (N=number) No. 8 AWG THWN (Signal system common)
- Install (N=number) No. (G=AWG wire size) THWN wires

ACCOMPANIED BY DWGS. TM457 & TM472

"UTILITIES NOT SHOWN"  
Field locate all utilities  
prior to any construction

NOTE:  
Field verify all equipment before construction.

BY	
DATE	
REVISIONS	
<b>KITTELSON &amp; ASSOCIATES, INC.</b> PROFESSIONAL ENGINEERS/PLANNERS	
DESIGNED	SCB
CHECKED	RAM
DATE	11/30/2015
DRAWN	RAM
APPROVED	
DRAWING NO.	000581BW

**DESCHUTES COUNTY  
ROAD DEPARTMENT  
POWELL BUTTE HWY ROUNDABOUT**  
 DESCHUTES COUNTY, OR

**DYNAMIC FEEDBACK  
WARNING SIGN PLAN**

**GENERAL NOTES**

- COORDINATE PROTECTION OF EXISTING VEGETATION WITH ENGINEER PRIOR TO CONSTRUCTION.
- SEE SPECIFICATIONS FOR LANDSCAPE WORK REQUIREMENTS.
- ALL DISTURBED AREAS (SHOWN OR NOT SHOWN) TO BE SEEDED WITH PERMANENT SEED MIX #1. SEE PLANS AND SPECIFICATIONS.
- SEE SHEET L1.1 FOR PLANTING DETAILS.
- SEE SHEET L1.1 FOR PLANT MATERIALS SCHEDULE.
- PROVIDE AND PLACE PLANTING SOIL INTO BACKFILL FOR TREE AND SHRUB PLANTING. INTERMIX PLANTING SOIL THOROUGHLY WITH NATIVE SOIL PRIOR TO PLACING AROUND ROOT BALL AS BACKFILL.
- ENSURE THAT TREES ARE PLANTED BEYOND 'CLEAR ZONE'. VERIFY WITH ENGINEER PRIOR TO PLANTING.
- ADJUST PLANT LOCATIONS TO AVOID CONFLICT WITH TRAFFIC SIGHT LINES AND SIGNS OR OTHER APPURTENANCES.
- SEE 'AMERICAN STANDARD FOR NURSERY STOCK' FOR PLANT QUALITY MINIMUM STANDARDS SUCH AS SIZE OF ROOT BALL OR CALIPER OF TRUNK.
- ALL PLANTING INSTALLATION SHALL BE IN ACCORDANCE WITH LOCAL APPLICABLE CODES AND REGULATIONS.

**PLANTING NOTES:**

- PLANT THE FOLLOWING 6 FT. HEIGHT EVERGREEN TREE WHERE SHOWN.  
JUNIPERUS OCCIDENTALIS - 12
- PLANT THE FOLLOWING 12 FT. HEIGHT EVERGREEN TREE WHERE SHOWN.  
JUNIPERUS OCCIDENTALIS - 14
- PLANT THE FOLLOWING #1 CONT. SHRUB WHERE SHOWN.  
CHRYSOTHAMNUS VISCIDIFLORUS - 79
- PLANT THE FOLLOWING #1 CONT. SHRUB WHERE SHOWN.  
ARTEMESIA ARBUSCULA - 42
- SEED AND MULCH DISTURBED AREAS WITH PERMANENT SEEDING MIX #1.  
PERMANENT SEEDING MIX #1 - 73,619 SF
- SEED AND MULCH WITH PERMANENT SEED MIX #2 WHERE SHOWN.  
PERMANENT SEEDING MIX #2 - 21,174 SF
- PROVIDE AND PLACE LANDSCAPE BOULDERS WHERE SHOWN AND AS NOTED:
- PROVIDE AND PLACE TOPSOIL IN TREE AND SHRUB BACKFILL MIX. SEE MATERIALS TABLE THIS SHEET.
- PROVIDE AND PLACE SOIL CONDITIONER IN TREE AND SHRUB BACKFILL MIX. SEE MATERIALS TABLE THIS SHEET.



REVISIONS	DATE	BY
ONE INCH AT FULL SCALE NOT SCALE ACCORDINGLY		

**Parametrix**  
ENGINEERING, PLANNING, ENVIRONMENTAL SCIENCES  
595 SW BLUFF DRIVE, SUITE B | BEND, OR 97702  
P 541.508.7710  
WWW.PARAMETRIX.COM

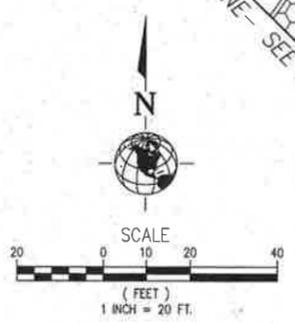
DATE: SETP. 2015  
DESIGNED: MS/RAI  
CHECKED: MS/RAI  
DRAWN: MS/RAI  
PROJECT NO: 0000817W

**REGISTERED**  
317  
MICHAEL D. SMITH  
OREGON  
LANDSCAPE ARCHITECT

PROJECT NAME  
DESCHUTES COUNTY ROAD DEPARTMENT  
POWELL BUTTE HIGHWAY ROUNDABOUT  
DESCHUTES COUNTY, OR

**LANDSCAPE PLAN  
ROUNDABOUT ISLAND  
& INTERSECTION**

DRAWING NO. OF  
**L1.0**



**MATERIALS TABLE**

NOTE #	PLANTING SOIL (CU. YDS.)	SOIL CONDITIONER (CU. YDS.)
1	6.14	1.54
2	31.36	7.84
3	24	6
4	12.8	3.2
TOTAL	74.3	18.58

- LEGEND**
- RIGHT OF WAY
  - ⊗ EXISTING TREES TO REMAIN
  - ⊗ EXISTING TREES TO BE REMOVED
  - ▨ GRAVEL SHOULDER SEE ROADWAY PLANS
  - ⊗ BOULDERS - 3'-4' DIA.

FILE: 0000817W-C-LP01 LAYOUT: L1.0 Landscape Plan PATH: N:\Parametrix\0000817W\Design\Drawings\DWG PLOTTED BY: rhanaki DATE: Friday, November 13, 2015 9:02:38 AM

GENERAL NOTES

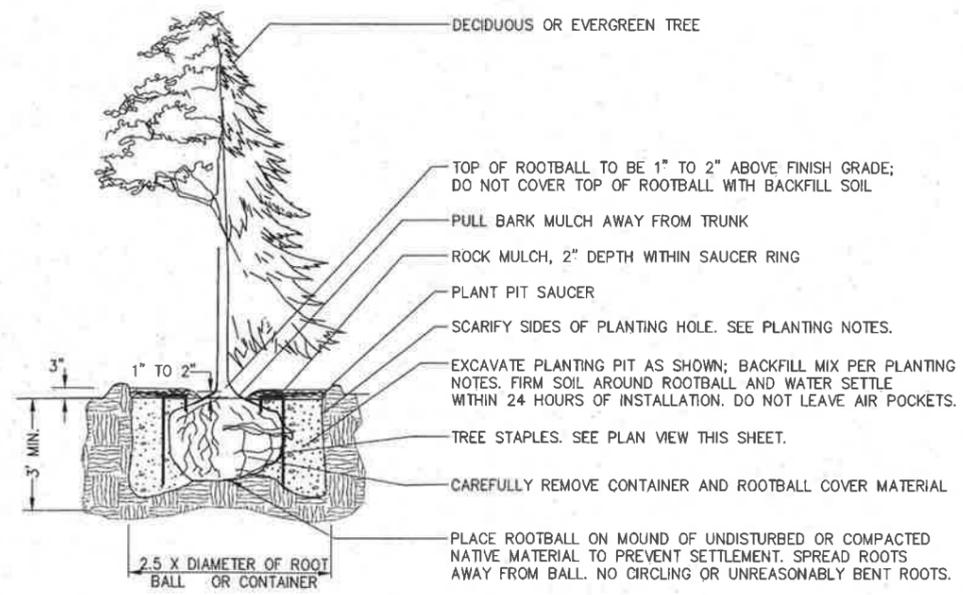
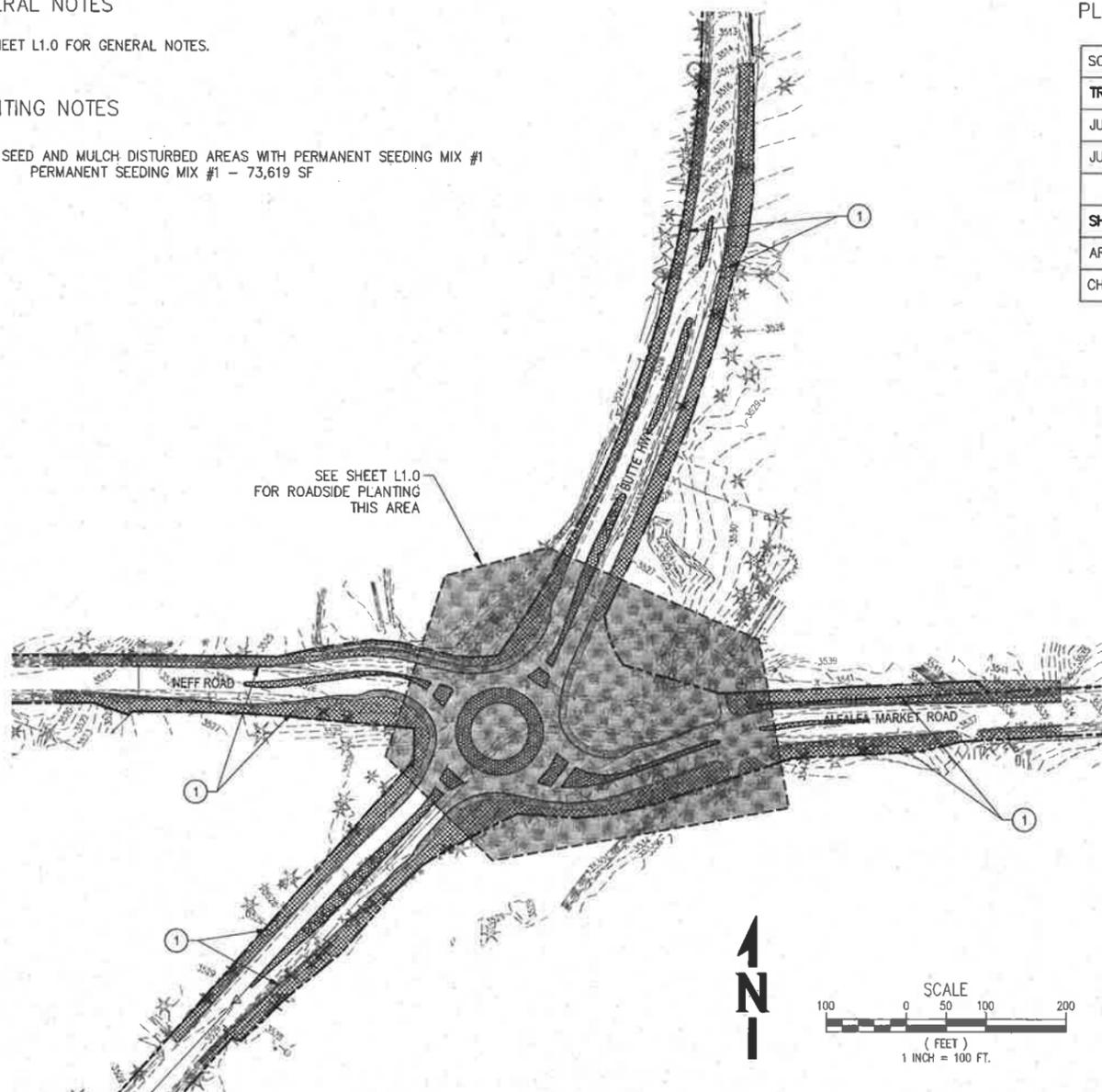
SEE SHEET L1.0 FOR GENERAL NOTES.

PLANTING NOTES

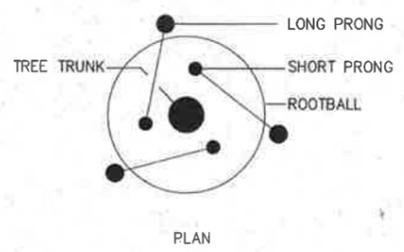
- 1 SEED AND MULCH DISTURBED AREAS WITH PERMANENT SEEDING MIX #1  
PERMANENT SEEDING MIX #1 - 73,619 SF

PLANT MATERIALS SCHEDULE

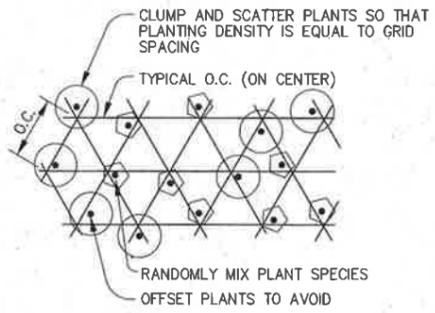
SCIENTIFIC NAME	COMMON NAME	SIZE	ROOT TYPE	A.S.N.S.	SPACING	PLANT DESCRIPTION	TOTAL
<b>TREES</b>							
JUNIPERUS OCCIDENTALIS	WESTERN JUNIPER	6'	B & B	4.6.2 TYPE 4	AS SHOWN	6' HT. STRAIGHT	12
JUNIPERUS OCCIDENTALIS	WESTERN JUNIPER	12'	B & B	4.6.2 TYPE 4	AS SHOWN	12' HT. STRAIGHT	14
<b>SHRUBS</b>							
ARTEMESIA ARBUSCULA	LITTLE SAGEBRUSH	#1 CONT.	CONT.	5.4.2 TYPE 1	AS SHOWN	FULL IN CONT.	79
CHRYSOTHAMNUS VISCIDIFLORUS	YELLOW RABBITBUSH	#1 CONT.	CONT.	3.2.2 TYPE 1	AS SHOWN	FULL IN CONT.	42



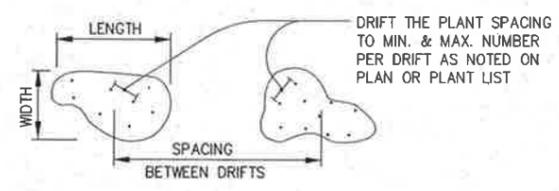
**TREE PLANTING**  
SCALE: N.T.S. 1 L1.1



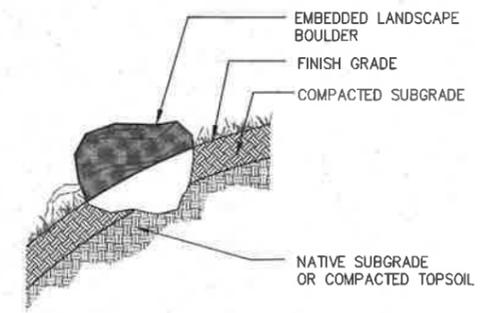
**TREE STAPLES**  
SCALE: N.T.S. 2 L1.1



**RANDOM SHRUB/GROUNDCOVER PLANTING PATTERN**  
SCALE: N.T.S. 3 L1.1



**SHRUB DRIFT PATTERN**  
SCALE: N.T.S. 4 L1.1



**BOULDER EMBEDMENT DETAIL**  
SCALE: N.T.S. 5 L1.1

REVISIONS	DATE	BY

ONE INCH AT FULL SCALE, IF NOT SHOWN ACCORDINGLY

**Parametrix**  
ENGINEERING, PLANNING, ENVIRONMENTAL SCIENCES  
595 SW BLUFF DRIVE, SUITE B | BEND, OR 97702  
P 541.508.7710  
WWW.PARAMETRIX.COM

DATE: SET.P. 2015  
JOB NO.: 0008917W  
DESIGNED: MS/RAI  
DRAWN: RAI  
CHECKED: MS  
APPROVED: MS

**REGISTERED**  
MICHAEL D. BUNYH  
LANDSCAPE ARCHITECT  
OREGON  
12/31/2015

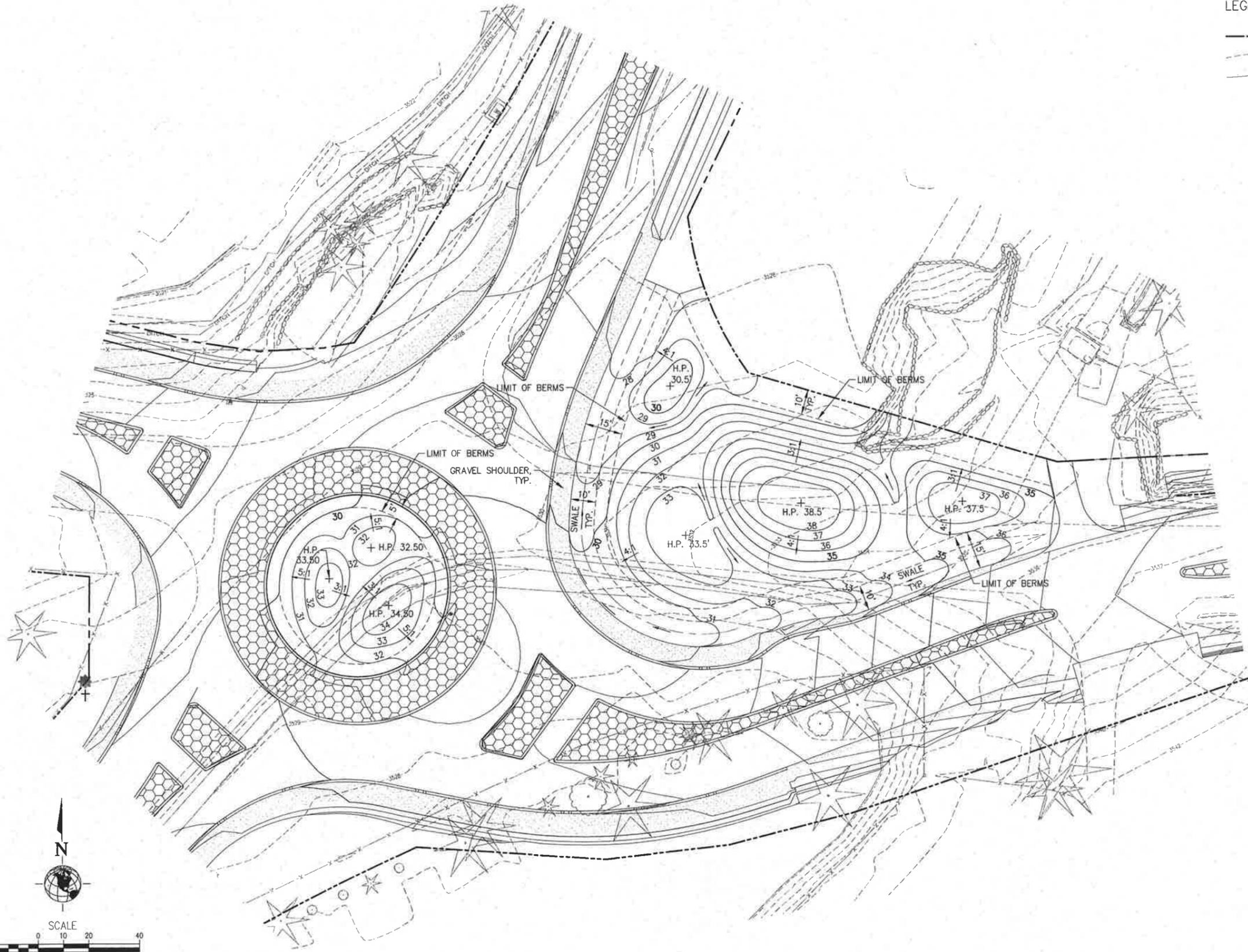
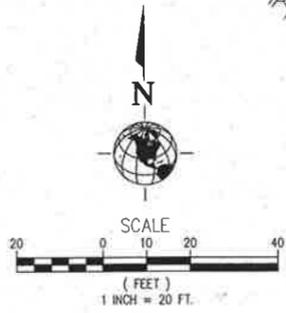
PROJECT NAME: DESCHUTES COUNTY ROAD DEPARTMENT POWELL BUTTE HIGHWAY ROUNDABOUT  
DESCHUTES COUNTY, OR

**LANDSCAPE PLAN  
PLANT LIST & DETAILS**

DRAWING NO. OF  
**L1.1**

FILE: 0008917W-C-LP01 LAYOUT: L1.1 Landscape Plan PATH: P:\Parametrix\0008917W\Design\Drawings\Civil\ PLOTTED BY: rinasaki DATE: Friday, November 13, 2015 9:02:43 AM

FILE: 0008917W-C-LP01 LAYOUT: L1.2 Landscape Grading Plan PATH: P:\Parametrix\0008917W\Design\Drawings\Civil\ PLOTTED BY: rhesa61 DATE: Friday, November 13, 2015 9:01:40 AM



LEGEND

	RIGHT OF WAY
	EXISTING CONTOURS
	PROPOSED CONTOURS

REVISIONS	DATE	BY
△		

ONE INCH AT FULL SCALE NOT TO SCALE ACCORDINGLY

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DATE	DESIGNED	CHECKED
SEP. 2015	MS/RAI	MS
DWG. NO.	0008917W	RAI
		APPROVED
		MS

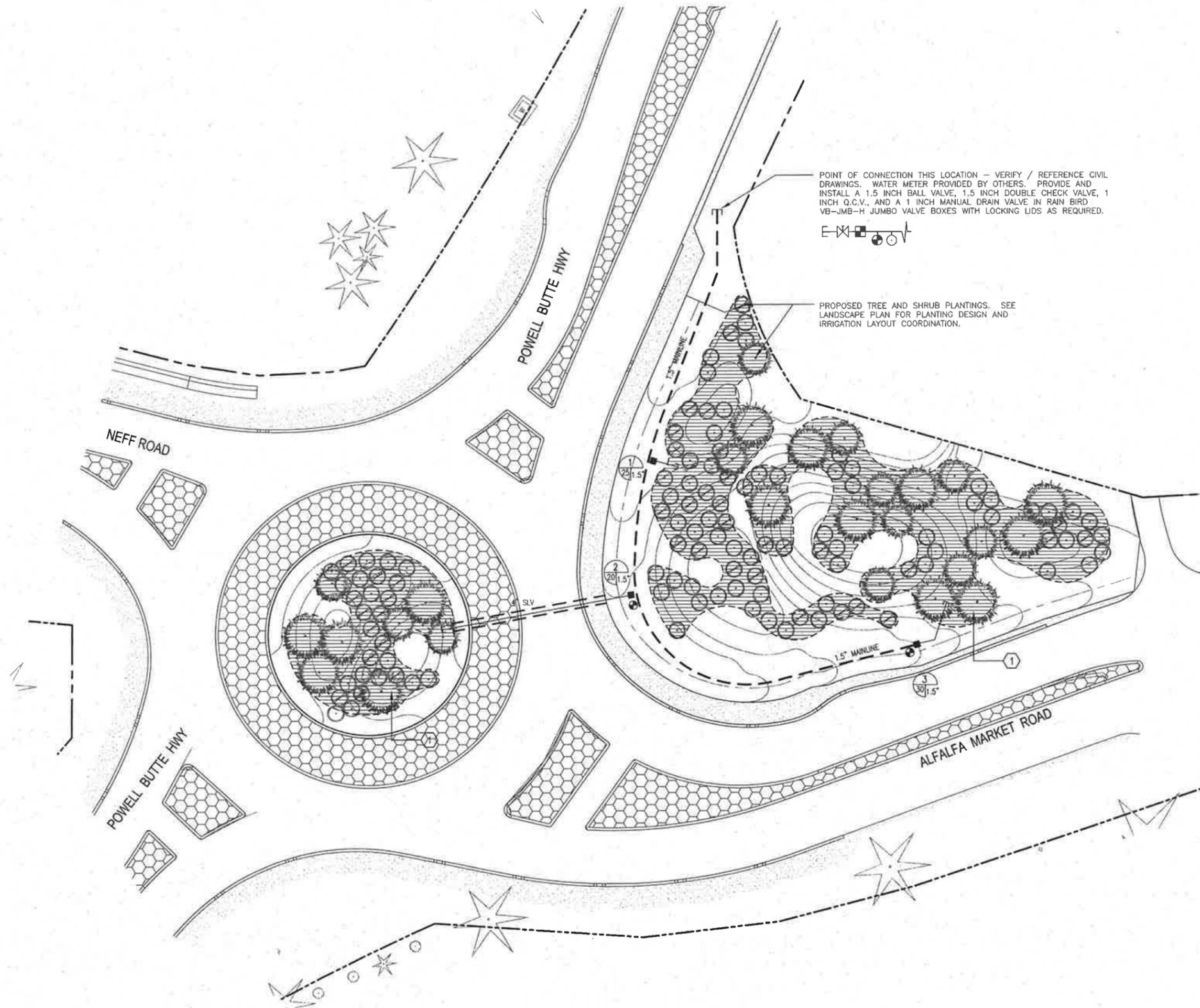
REGISTERED  
 317  
 MICHAEL D. SMYTH  
 OREGON  
 LANDSCAPE ARCHITECT

PROJECT NAME  
 DESCHUTES COUNTY ROAD DEPARTMENT  
 POWELL BUTTE HIGHWAY ROUNDABOUT  
 DESCHUTES COUNTY, OR

LANDSCAPE  
 GRADING PLAN

DRAWING NO.  
 OF  
**L1.2**

FILE: 0008917W-C-R01 LAYOUT: IR1.0 Irrigation Plan PATH: P:\Parametric\0008917W\Design\Drawings\Civil\ PLOTTED BY: r.wasaki DATE: Friday, November 13, 2015 9:01:52 AM



POINT OF CONNECTION THIS LOCATION - VERIFY / REFERENCE CIVIL DRAWINGS. WATER METER PROVIDED BY OTHERS. PROVIDE AND INSTALL A 1.5 INCH BALL VALVE, 1.5 INCH DOUBLE CHECK VALVE, 1 INCH Q.C.V., AND A 1 INCH MANUAL DRAIN VALVE IN RAIN BIRD VB-JMB-H JUMBO VALVE BOXES WITH LOCKING LIDS AS REQUIRED.

PROPOSED TREE AND SHRUB PLANTINGS. SEE LANDSCAPE PLAN FOR PLANTING DESIGN AND IRRIGATION LAYOUT COORDINATION.

**GENERAL KEY**

- SCHEDULE 40 SLEEVES - SIZES AS NOTED
- PROPOSED LATERAL LINES - CLASS 200 PVC PIPE - TYPICAL
- PROPOSED MAINLINE - CLASS 200 PVC PIPE - TYPICAL
- RAIN BIRD XCZ-150-PRB-COM DRIP CONTROL VALVE KIT ALONG WITH A RAIN BIRD TB055ZCM1 BATTERY OPERATED CONTROL MODULE. PROVIDE AND INSTALL THE FOLLOWING ADDITIONAL RAIN BIRD TB05-II CONTROL COMPONENTS PER THE MANUFACTURER'S RECOMMENDATIONS:
  - RAIN BIRD TB052FTUS FIELD PROGRAMMER
  - RAIN BIRD TB05-II POTTED LATCHING SOLENOID
- POINT OF CONNECTION WITH 1.5" BALL VALVE
- 1.5" DOUBLE CHECK VALVE - SEE DETAIL
- 1" RAIN BIRD 44-LRC QUICK COUPLING VALVE W/ LOCKING LID
- 1" MANUAL DRAIN VALVE
- ⊕ DRIP ZONE CONTROL VALVE NUMBER, G.P.M., AND VALVE SIZE:

**DRIPLINE ZONE LIMITS LEGEND**

- ▨ RAIN BIRD XFS-09-18 SUB SURFACE DRIP LINE TUBING ZONES. REFER TO DETAILS FOR ADDITIONAL MATERIALS AND INSTALLATION REQUIRED FOR A COMPLETE AND OPERABLE DRIP IRRIGATION ZONE.

**GENERAL IRRIGATION NOTES**

THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ETC. SHOWN WITHIN PAVED AREAS IS FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS WHERE POSSIBLE. AVOID ANY CONFLICTS BETWEEN THE SPRINKLER SYSTEM, PLANTING AND ARCHITECTURAL FEATURES.

DO NOT WILLFULLY INSTALL THE SPRINKLER SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS, GRADE DIFFERENCES OR DIFFERENCES IN THE AREA DIMENSIONS EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. SUCH OBSTRUCTIONS OR DIFFERENCES SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY.

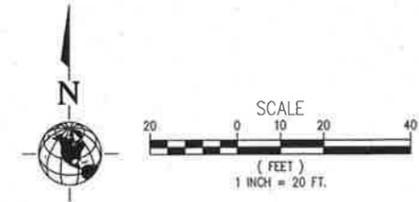
IN THE HYDRAULIC DESIGN AND PIPE SIZING, DO NOT EXCEED THE FOLLOWING G.P.M. OF WATER USAGE PER SCHEDULED PIPE SIZE.

FLOW	PIPE SIZE	
1 - 12 Gal.	3/4"	Class 200 PVC
12 - 20 Gal.	1"	Class 200 PVC
20 - 30 Gal.	1 1/4"	Class 200 PVC
30 - 45 Gal.	1 1/2"	Class 200 PVC
45 - 60 Gal.	2"	Class 200 PVC
60 - 90 Gal.	2-1/2"	Class 200 PVC
90 - 140 Gal.	3"	Class 200 PVC
140 - 275 Gal.	4"	Class 200 PVC

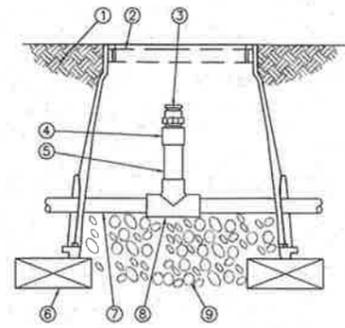


SEE IRRIGATION SHEET IR1.1 FOR IRRIGATION DETAILS.

① PROVIDE AND INSTALL FULLY AUTOMATIC IRRIGATION SYSTEM - LS

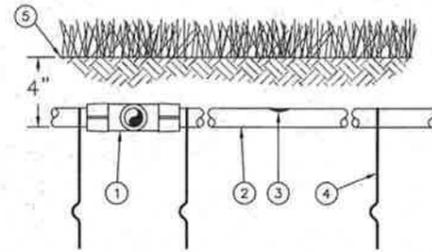


REVISIONS		DATE		BY	
Δ					
ONE INCH SCALE FOR ALL DIMENSIONS UNLESS NOTED OTHERWISE					
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DATE	DESIGNED	CHECKED	DATE	DESIGNED	CHECKED
OCT. 2015	MPS	MS	OCT. 2015	MPS	MS
0008917W	0008917W	0008917W	0008917W	0008917W	0008917W
REGISTERED LANDSCAPE ARCHITECT MICHAEL D. SMYTH OREGON					
PROJECT NAME DESCHUTES COUNTY ROAD DEPARTMENT POWELL BUTTE HIGHWAY ROUNDABOUT					
DESCHUTES COUNTY, OR					
IRRIGATION PLAN ROUNDABOUT ISLAND & INTERSECTION					
DRAWING NO. OF					
IR1.0					



- ① FINISH GRADE
- ② SUBTERRANEAN EMITTER BOX: RAIN BIRD SEB 7XB
- ③ 1/2" AIR RELIEF VALVE: RAIN BIRD ARV050 TO BE INSTALLED AT HIGH POINTS IN DRIP ZONE
- ④ PVC SCH 40 FEMALE ADAPTER
- ⑤ PVC SCH 80 RISER
- ⑥ BRICK (1 OF 2)
- ⑦ PVC HEADER PIPE
- ⑧ PVC SCH 40 TEE
- ⑨ 3" MINIMUM DEPTH OF 3/4" WASHED GRAVEL

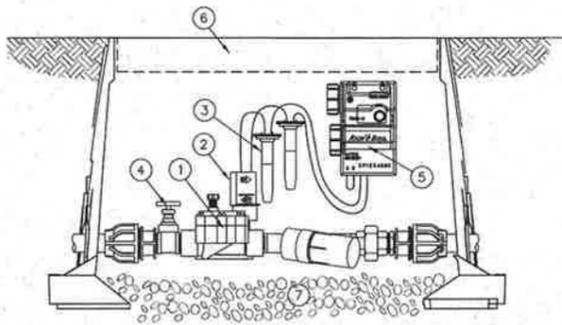
XFS SUB-SURFACE DRIPLINE - 1/2" AIR RELIEF VALVE DETAIL NTS



- ① EASY FIT COMPRESSION TEE: RAIN BIRD MDCFTEE
- ② SUB-SURFACE DRIPLINE: RAIN BIRD XFS-09-18 DRIPLINE
- ③ INLINE DRIP EMITTER
- ④ TIE DOWN STAKE: RAIN BIRD TDS-050 WITH BEND (TYPICAL)
- ⑤ FINISH GRADE OR SHRUB BED WITH MULCH

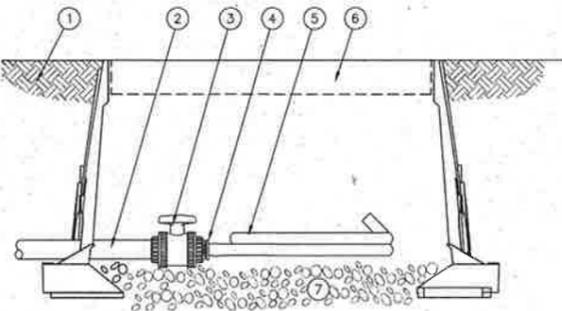
NOTES:  
1. AT FITTINGS WHERE THERE IS A CHANGE OF DIRECTION SUCH AS TEES OR ELBOWS, USE TIE-DOWN STAKES ON EACH LEG OF THE CHANGE OF DIRECTION.

XFS SUB-SURFACE DRIPLINE BURIAL DETAIL NTS



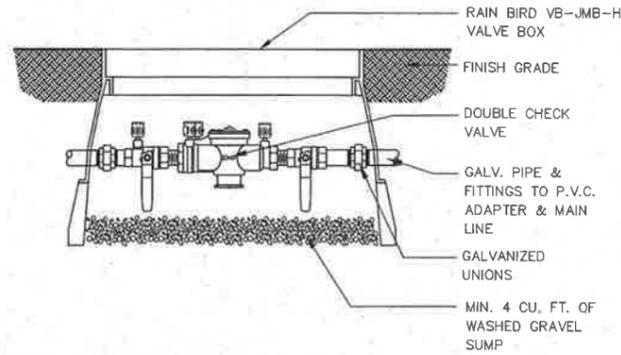
- ① RAIN BIRD CONTROL ZONE DRIP MANIFOLD ASSEMBLY: XCZ-150-PRB-COM
- ② TBOS-II 9V DC POTTED LATCHING SOLENOID
- ③ RAIN BIRD WATERPROOF WIRE CONNECTOR
- ④ PVC BALL VALVE - SAME SIZE AS CONTROL VALVE
- ⑤ RAIN BIRD TBOS-II TBOS2CM1 BATTERY OPERATED CONTROL MODULE. NOTE: PROVIDE ONE (1) RAIN BIRD TBOS2FTUS FIELD TRANSMITTER FOR CONTROL MODULE SCHEDULING.
- ⑥ STANDARD VALVE BOX WITH TAN COVER: RAIN BIRD PVB-STDT
- ⑦ 3-INCH MINIMUM DEPTH OF 3/4" WASHED GRAVEL

DRIP CONTROL VALVE MANIFOLD AND TBOS-II CONTROL DETAIL NTS



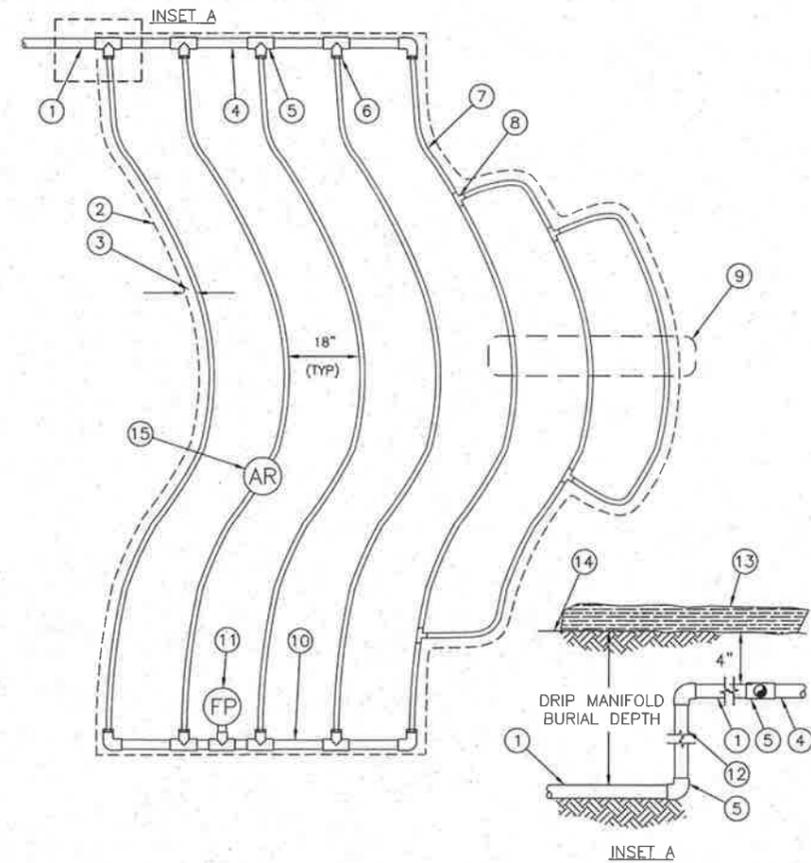
- ① FINISH GRADE
- ② PVC DRIP MANIFOLD PIPE
- ③ PVC 1" X 3/4" TRUE UNION BALL VALVE
- ④ EASY FIT MALE X BARB ADAPTER: RAIN BIRD XFF-MA-075
- ⑤ SUB-SURFACE DRIPLINE: RAIN BIRD XF SERIES BLANK TUBING
- ⑥ STANDARD VALVE BOX WITH TAN COVER: RAIN BIRD VB-STDT
- ⑦ 3-INCH MINIMUM DEPTH OF 3/4" WASHED GRAVEL

XFS SUB-SURFACE DRIPLINE - FLUSH POINT DETAIL NTS



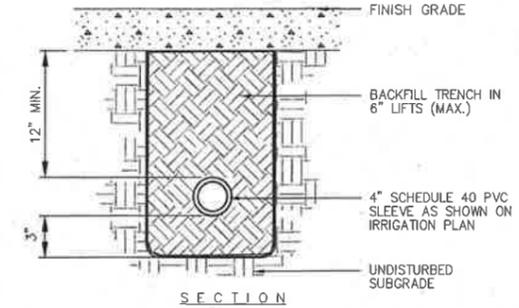
- RAIN BIRD VB-JMB-H VALVE BOX
- FINISH GRADE
- DOUBLE CHECK VALVE
- GALV. PIPE & FITTINGS TO P.V.C. ADAPTER & MAIN LINE
- GALVANIZED UNIONS
- MIN. 4 CU. FT. OF WASHED GRAVEL SUMP

DOUBLE CHECK VALVE DETAIL NTS



NOTES:  
1. LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM LENGTH SHOWN IN THE ACCOMPANYING TABLE.  
2. AIR RELIEF VALVE TO BE INSTALLED AT HIGH POINT OF AREA.  
3. WHEN USING 17MM INSERT FITTINGS WITH DESIGN PRESSURE OVER 50PSI, IT IS RECOMMENDED THAT STAINLESS STEEL CLAMPS BE INSTALLED ON EACH FITTING.

XFS SUB-SURFACE DRIPLINE - GENERAL 'ODD CURVES' DRIPLINE LAYOUT DETAIL NTS  
INSTALL SUB SURFACE DRIPLINE WITHIN APPROXIMATE IRRIGATION ZONE LIMITS AS SHOWN ON IRRIGATION PLAN. REFERENCE PLANTING DESIGN FOR TREE / SHRUB LAYOUT.



1. NOTES:  
BACKFILL MATERIAL SHALL BE CLEAN AND FRIABLE, FREE OF ROCKS AND FOREIGN MATERIAL 2" & LARGER. FIELD VERIFY BURIAL DEPTH OF CONDUIT.  
2. CAP ENDS OF PIPE.

TRENCHING AND BACKFILL DETAIL NTS

- ① PVC SUPPLY PIPE FROM RAIN BIRD CONTROL ZONE KIT (SIZED TO MEET LATERAL FLOW DEMAND)
- ② PERIMETER OF APPROX. DRIPLINE ZONE LIMITS
- ③ PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"-4" FROM ZONE LIMITS
- ④ RAIN BIRD QF DRIPLINE HEADER
- ⑤ PVC SCH 40 TEE OR EL (TYPICAL)
- ⑥ BARB X MALE FITTING: RAIN BIRD XFF-MA FITTING (TYPICAL)
- ⑦ SUB-SURFACE DRIPLINE: RAIN BIRD XF SERIES DRIPLINE (TYPICAL) XFS-09-18 DRIPLINE
- ⑧ BARB X BARB INSERT TEE: RAIN BIRD XFF-TEE (TYPICAL)
- ⑨ TOTAL LENGTH OF SELECTED DRIPLINE SHOULD NOT EXCEED LENGTH SHOWN IN TABLE
- ⑩ PVC FLUSH HEADER
- ⑪ FLUSH POINT: SEE XFS FLUSH POINT DETAIL
- ⑫ PVC RISER PIPE
- ⑬ TURF OR MULCH
- ⑭ FINISH GRADE
- ⑮ 1/2" AIR RELIEF VALVE: RAIN BIRD MODEL: ARV050. SEE DETAIL FOR AIR RELIEF INSTALLATION

XFS Dripline Maximum Lateral Lengths (Feet)						
Inlet Pressure psi	12" Spacing		18" Spacing		24" Spacing	
	Nominal Flow (gph)					
15	0.6	0.9	0.6	0.9	0.6	0.9
20	273	155	314	250	424	322
30	318	169	353	294	508	368
40	360	230	413	350	586	414
50	395	255	465	402	652	474
60	417	285	528	420	720	488
60	460	290	596	455	780	514

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CHECKED: [ ]  
DATE: OCT. 2015  
JOB NO.: 0008917W  
DRAWN: [ ]  
APPROVED: [ ]

REGISTERED  
MICHAEL D. BRYTH  
LANDSCAPE ARCHITECT  
DESCHUTES COUNTY ROAD DEPARTMENT  
POWELL BUTTE HIGHWAY ROUNDABOUT  
DESCHUTES COUNTY, OR

IRRIGATION DETAILS  
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