

BIDDING DOCUMENTS

PROJECT: OLD BEND – REDMOND HIGHWAY /
TUMALO RD INTERSECTION IMPROVEMENT

PROJECT #: W66087

BID OPENING: JULY 1, 2020

COMPLETION DATE: DECEMBER 31, 2020

CONTRACTING AGENCY:



**ROAD
DEPARTMENT**

**61150 SE 27TH STREET
BEND, OREGON 97702
PHONE: (541) 388-6581
FAX: (541) 388-2719
WEB: www.deschutes.org/road**



ROAD
DEPARTMENT

BIDDING DOCUMENTS

OLD BEND – REDMOND HIGHWAY / TUMALO RD INTERSECTION IMPROVEMENT

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DESCRIPTION OF PARTS OF BIDDING DOCUMENTS WHICH ARE NOT BOUND HEREIN:

PROJECT PLANS, TITLED “OLD BEND–REDMOND HIGHWAY/TUMALO RD INTERSECTION
IMPROVEMENT, APRIL 2020”

OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2018

The Specification that is applicable to the Work on this Project is the 2018 edition of the "Oregon Standard Specifications for Construction". All number references in these Special Provisions shall be understood to refer to the Sections and subsections of the Standard Specifications bearing like numbers and to Sections and subsections contained in these Special Provisions in their entirety.

**DESCHUTES COUNTY, OREGON
ROAD DEPARTMENT**

**INVITATION TO BID
OLD BEND REDMOND HIGHWAY / TUMALO RD INTERSECTION IMPROVEMENT**

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 July 1, 2020** at which time and place all bids for the above-entitled public works project will be publicly opened and read aloud.

The Class of Work of this Project is some combination of 1) Earthwork and Drainage, 2) Aggregate Bases, 3) Asphalt Concrete Paving and Oiling and/or 4) Miscellaneous Highway Appurtenances. The value for this Contract is estimated to be between \$1,300,000 and \$1,500,000. The Work will consists of, but not be limited to, the following:

- Install and maintain temporary traffic control.
- Perform earthwork
- Place aggregate base and shoulders.
- Construct asphalt concrete pavement.
- Construct concrete curbs, median and other surfacing.
- Install illumination system.
- Perform additional and incidental work as called for by the specifications and plans.

Specifications and other bid documents may be inspected and obtained from the Deschutes County Bids and RFPs website at <http://www.deschutes.org/rfps>. Inquiries pertaining to these specifications shall be directed to Cody Smith, County Engineer, in writing at Cody.Smith@deschutes.org or the address above.

Bids shall be made on the forms furnished by the County, 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 OLD BEND REDMOND HIGHWAY / TUMALO RD INTERSECTION IMPROVEMENT" and the name and address of the bidder.

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 July 1, 2020 or in a separate sealed envelope marked "SUBCONTRACTOR DISCLOSURE STATEMENT - OLD BEND REDMOND HIGHWAY / TUMALO RD INTERSECTION IMPROVEMENT" prior to 4:00 p.m. on July 1, 2020 at the above location.

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.840. 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 for the Class of Work stated above in accordance with ORS 279C.430 through 279C.450 and Deschutes County Code 12.52.020. 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
Road Department Director

PUBLISHED:
DAILY JOURNAL OF COMMERCE: June 10, 2020
THE BEND BULLETIN: June 10, 2020

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/her 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

A responsive bid proposal must include the following completed items:

- Bid Proposal Form
- Schedule of Bid Items
- Bid Guaranty Form

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 Cody Smith, County Engineer, in writing at cody.smith@deschutes.org or 61150 SE 27th Street, Bend, Oregon 97702.
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 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.

BID PROPOSAL FORM

OLD BEND – REDMOND HIGHWAY / TUMALO RD INTERSECTION IMPROVEMENT

BIDDER NAME

CCB#

ADDRESS

CITY

STATE

ZIP CODE

CONTACT NAME

CONTACT PHONE NUMBER

CONTACT EMAIL ADDRESS

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 Bidder has carefully examined the contract documents; that Bidder is satisfied 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 declares that (check appropriate box):

Bidder is a resident bidder of the State of Oregon.

Bidder is a nonresident bidder from the State of _____.

Bidder declares that Bidder is not in violation of any tax laws of the State of Oregon and Deschutes County, including but not limited to those programs listed in ORS 305.380(4),

The Bidder further agrees that if this Proposal is accepted, Bidder 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 Bidder's 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 SOLE PROPRIETOR OR PARTNERSHIP)

IN WITNESS HERETO, the undersigned has set hand this _____ day of _____, 2020.

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 _____, 2020.

NAME OF CORPORATION

By: _____

Title: _____

Attest: _____

(SCHEDULE OF BID ITEMS TO FOLLOW)

ITEM NO.	SPEC SECTION	ITEM	UNIT	QTY	UNIT PRICE	AMOUNT
<u>Part 00200 - Temporary Features and Appurtenances</u>						
001	00210	Mobilization	LS	1	\$	\$
002	00225	Temporary Protection And Direction Of Traffic	LS	1	\$	\$
003	00225	Temporary Signs	SQFT	780	\$	\$
004	00225	Temporary Barricades, Type III	EACH	45	\$	\$
005	00225	Temporary Plastic Drums	EACH	140	\$	\$
006	00225	Temporary Flexible Pavement Markers	EACH	700	\$	\$
007	00225	Temporary Striping	FOOT	13600	\$	\$
008	00225	Stripe Removal	FOOT	9600	\$	\$
009	00225	Bar Removal	SQFT	20	\$	\$
010	00225	Temporary Pavement Bars	SQFT	20	\$	\$
011	00225	Portable Changeable Message Signs	EACH	4	\$	\$
012	00225	Flaggers	HOUR	1500	\$	\$
013	00225	Flagger Station Lighting	EACH	3	\$	\$
014	00280	Erosion Control	LS	1	\$	\$
015	00280	Sediment Fence	FOOT	1450	\$	\$
<u>Part 00300 - Roadwork</u>						
016	00305	Construction Survey Work	LS	1	\$	\$
017	00310	Removal Of Pipes	FOOT	240	\$	\$
018	00310	Removal Of Mailbox Supports	LS	1	\$	\$
019	00310	Removal Of Surfacing	SQYD	7300	\$	\$
020	00310	Asphalt Pavement Saw Cutting	FOOT	1900	\$	\$
021	00310	Removal Of Fences	LS	1	\$	\$
022	00320	Clearing And Grubbing	ACRE	2.5	\$	\$
023	00330	General Excavation	CUYD	3413	\$	\$
024	00330	Extra For Selected Topsoil Material	CUYD	320	\$	\$
025	00340	Watering	MGAL	650	\$	\$
026	00370	Finishing Roadbeds	LS	1	\$	\$
027	00390	Loose Riprap, Class 50	CUYD	1.5	\$	\$
<u>Part 00400 - Drainage and Sewers</u>						
028	00445	8 Inch Storm Sewer Pipe, 5 Ft Depth	FOOT	36	\$	\$
029	00470	Concrete Inlets, Type G-2	EACH	1	\$	\$
<u>Part 00600 - Bases</u>						
030	00620	Cold Plane Pavement Removal, 2 Inches Deep	SQYD	1545	\$	\$
031	00641	3/4 Inch - 0 Aggregate Base	TON	4075	\$	\$
032	00641	Aggregate Shoulders	TON	1800	\$	\$

Part 00700 - Wearing Surfaces

033	00744	Level 3, 1/2 Inch ACP Mixture, PG 70-28ER	TON	1167	\$	\$
034	00744	Level 3, 1/2 Inch ACP Mixture, PG 64-28	TON	1950	\$	\$
035	00749	Extra For Asphalt Approaches	EACH	1	\$	\$
036	00759	Concrete Curbs, High Strength, Low Profile Mountable, Truck Apron	FOOT	315	\$	\$
037	00759	Concrete Curbs, High Strength, Low Profile Mountable	FOOT	3035	\$	\$
038	00759	Concrete Curbs, High Strength, Wide Modified	FOOT	220	\$	\$
039	00759	Stamped Concrete, 6 Inches Thick, Concrete Surfacing	SQFT	4870	\$	\$
040	00759	Stamped Concrete, 8 Inches Thick, Concrete Surfacing	SQFT	3700	\$	\$
041	00759	Bicycle Exit Ramp, Concrete Surfacing	SQFT	150	\$	\$
042	00759	Curb Cut, Concrete Surfacing	SQFT	650	\$	\$

Part 00800 - Permanent Traffic Safety and Guidance Devices

043	00856	Permanent Surface Mounted Tubular Markers	EACH	50	\$	\$
044	00865	Thermoplastic, Extruded Or Sprayed, Surface, Non-Profiled	FOOT	12920	\$	\$
045	00867	Pavement Bar: Type AB	SQFT	20	\$	\$
046	00867	Pavement Legend, Type AB: Yield Line Triangle	EACH	32	\$	\$

Part 00900 - Permanent traffic Control and Illumination Systems

047	00905	Remove Existing Signs	LS	1	\$	\$
048	00905	Remove And Reinstall Existing Signs	LS	1	\$	\$
049	00920	Sign Support Footings	LS	1	\$	\$
050	00930	Perforated Steel Square Tube Slip Base Sign Supports	LS	1	\$	\$
051	00940	Signs, Standard Sheeting, Sheet Aluminum	SQFT	393	\$	\$
052	00950	Removal Of Electrical Systems	LS	1	\$	\$
053	00970	Pole Foundations	LS	1	\$	\$
054	00970	Switching, Conduit, And Wiring	LS	1	\$	\$

Part 01000 - Right of way Development and Control

055	01012	Water Quality Mixture	CUYD	350	\$	\$
056	01030	Permanent Seeding, Mix No. 1, Native Seeding	ACRE	0.5	\$	\$
057	01030	Permanent Seeding, Mix No. 2, Water Quality Swale Seeding	ACRE	0.2	\$	\$
058	01040	Shrubs, #1 Container	EACH	91	\$	\$
059	01040	Shrubs, #2 Container	EACH	27	\$	\$
060	01040	Shrubs, #5 Container	EACH	9	\$	\$
061	01040	Groundcovers, #1 Container	EACH	105	\$	\$
062	01040	Rock Mulch a	TON	12	\$	\$
063	01040	Rock Mulch b	TON	30	\$	\$
064	01040	Conifer Trees, 6 Ft Height	EACH	3	\$	\$
065	01040	Boulders	EACH	18	\$	\$
066	01050	Removing and Rebuilding Fence, Barbed Wire Fence	FOOT	250	\$	\$
067	01050	Pressure Treated Wood Post Fence	FOOT	512	\$	\$

068 01070 Multiple Mailbox Supports

EACH 2 \$ _____ \$ _____

TOTAL BID: _____

FOR DESCHUTES COUNTY USE ONLY

ADD % FOR NON-RESIDENT BIDDER _____

TOTAL BID _____

The Bidder acknowledges receipt of the following Addenda: (insert addenda numbers)

No. _____ No. _____ No. _____ No. _____ No. _____ No. _____ No. _____ No. _____

FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM

Project Name: OLD BEND – REDMOND HIGHWAY / TUMALO RD
INTERSECTION IMPROVEMENT

Bid #: W66087 Bid Closing Date: July 1, 2020 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).

NAME	DOLLAR VALUE	CATEGORY OF WORK
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: _____

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
County of Deschutes, 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 is submitting a bid proposal for OLD BEND
– REDMOND HIGHWAY / TUMALO RD INTERSECTION IMPROVEMENT project 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 _____, 2020.

SURETY:

CONTRACTOR:

Name

Name

By: _____

By: _____

Title: _____

Title: _____

Bond # _____

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 Deschutes County, Oregon

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 _____, 2020, a copy of which is hereto attached and made a part hereof for the construction of:

OLD BEND – REDMOND HIGHWAY / TUMALO RD INTERSECTION IMPROVEMENT

NOW THEREFORE, if 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 Owner, with or without notice to Surety and during the **two year guaranty period**, and if Principal shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless Owner from all costs and damages which is may suffer by reason of failure to do so, and shall reimburse and repay Owner all outlay and expense which 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 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 Owner and Principal shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in two counterparts, each one of which shall be deemed an original, this the _____ day of _____ 2020.

(SEAL)

PRINCIPAL: _____

By _____
Signature

Official Capacity

Attest: _____
Corporation Secretary

(SEAL)

SURETY: _____
[Add signatures for each surety if using multiple bonds]

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

Name

Signature

Address

City State Zip

Phone Fax

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)

hereinafter called “Surety”, are held and firmly bound unto Deschutes County, Oregon

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 _____, 2020, a copy of which is hereto attached and made a part hereof for the construction of:

OLD BEND – REDMOND HIGHWAY / TUMALO RD INTERSECTION IMPROVEMENT

NOW, THEREFORE, if 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 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 Owner and Principal shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in two counterparts, each one of which shall be deemed an original, this the _____ day of _____, 2020.

(SEAL)

PRINCIPAL: _____

By _____
Signature

Official Capacity

Attest: _____
Corporation Secretary

(SEAL)

SURETY: _____
[Add signatures for each surety if using multiple bonds]

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

Name

Signature

Address

City State Zip

Phone Fax

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

SPECIAL PROVISIONS

PROJECT: OLD BEND – REDMOND HWY / TUMALO RD
INTERSECTION IMPROVEMENT

PROJECT #: W66087


CONTRACTING AGENCY:




**ROAD
DEPARTMENT**

**61150 SE 27TH STREET
BEND, OREGON 97702
PHONE: (541) 388-6581
FAX: (541) 388-2719
WEB: www.deschutes.org/road**

PROFESSIONAL OF RECORD CERTIFICATION:

<p>Seal w/signature</p>  <p>EXPIRES: 6/30/2021</p>	<p>I certify the Special Provision Section(s) listed below are applicable to the design for the subject project. Modified Special Provisions were prepared by me or under my supervision.</p> <p>Sections 00210, 00280, 00305, 00310, 00320, 00330, 00340, 00370, 00390, 00445, 00470, 00620, 00641, 00730, 00744, 00749, 00759, 01012, 01030, 01040, 01050, 01070, 02001, 02010, 02020, 02030, 02035, 02040, 02630, 02045, 02630, 02640, 002690, 03010, 03020</p>
<p>Date Signed: <u>4/3/20</u></p>	

<p>Seal w/signature</p>  <p>EXPIRES 12/31/21</p>	<p>I certify the Special Provision Section(s) listed below are applicable to the design for the subject project. Modified Special Provisions were prepared by me or under my supervision.</p> <p>Sections 00220, 00225, 00850, 00856, 00865, 00867, 00905, 00920, 00930, 00940, 00950, 00960, 00962, 00970, 02560</p>
<p>Date Signed: <u>4/29/2020</u></p>	

SPECIAL PROVISIONS

WORK TO BE DONE

The work to be done under this contract consists of the following on the Old Bend – Redmond Highway Intersection Improvement project:

1. Install and maintain temporary traffic control.
2. Perform earthwork
3. Place aggregate base and shoulders.
4. Construct asphalt concrete pavement.
5. Construct concrete curbs, median and other surfacing.
6. Install illumination system.
7. Perform additional and incidental work as called for by the specifications and plans.

APPLICABLE SPECIFICATIONS

The Specification that is applicable to the Work on this Project is the 2018 edition of the “Oregon Standard Specifications for Construction.”

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

Copies of the Oregon Standard Specifications may be purchased or viewed online at

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

APPLICABLE 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/administration/page/deschutes-county-code>

CONTRACT TIME

The Contractor shall complete all Work to be done under the Contract not later than December 31, 2020.

CLASS OF WORK

The Class of Work for this Project is some combination of 1) Earthwork and Drainage, 2) Aggregate Bases, 3) Asphalt Concrete Paving and Oiling and/or 4) Miscellaneous Highway Appurtenances.

SECTION 00110 - ORGANIZATION, CONVENTIONS, ABBREVIATIONS AND DEFINITIONS

Comply with Section 00110 of the Standard Specifications modified as follows:

00110.20 Abbreviations – Add the following to the list of abbreviations:

OBRH or OBR Highway - Old Bend – Redmond Highway

00110.20 Definitions - Replace the definitions of the words and phrases list below with the following definitions :

Agency – County of Deschutes

Bid Booklet - The version that can be accessed and printed from the Deschutes County Bids and RFPs website, which contains the information identified in 00120.10.

Engineer - The Road Department Director of Deschutes County acting either directly or through his authorized representatives.

SECTION 00120 - BIDDING REQUIREMENTS AND PROCEDURES

Comply with Section 00120 of the Standard Specifications modified as follows:

00120.00 Prequalification of Bidders – Replace the last paragraph with the following:

Deschutes County Road Department will regularly evaluate the performance of Contractors on its projects for purposes of responding to reference checks, future prequalification and determinations of responsibility.

00120.01 General Bidding Requirements - Replace this subsection with the following:

Bidders shall submit bids by paper.

The standard prequalification forms furnished by the ODOT Procurement Office shall be used by the bidder to file authorized signatures with Deschutes County Road Department. Signatures are of personnel authorized to submit Bids, modify Bids, or withdraw Bids.

00120.05 Request for Solicitation Documents – Replace this subsection with the following:

Bidders shall obtain solicitation documents from the Deschutes County Bids and RFPs website:

<https://www.deschutes.org/rfps>

Each request shall include both the name of the person ordering or obtaining the Solicitation Documents, and the name of the Entity intending to use them. The Agency will add the name of the Entity intending to use the Solicitation Documents to the list of Holders

of Bidding Plans. Bidders are cautioned that only Solicitation Documents obtained properly from the Deschutes County website may be used to submit Bids.

Only paper Bids will be accepted.

Copies of the Oregon Standard Specifications may be purchased or viewed online at

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

The Plans, which are applicable to the Work to be performed under the Contract, bear title and date as follows:

OLD BEND – REDMOND HIGHWAY / TUMALO RD INTERSECTION IMPROVEMENT
APRIL 2020

00120.10 Bid Booklet – Replace this subsection with the following:

The Bidding Documents Booklet may include, but is not limited to:

- Cover Page
- Index
- Invitation to Bid
- Information for Bidders
- Bid Proposal Form
- Schedule of Bid Items
- Subcontractor Disclosure Form
- Bid Guaranty Form
- Contract Form (for review only)
- Payment and Performance Bond Forms (for review only)

Depending on the Class of Project, other certificates or statements may be bound within the Bidding Documents Booklet. Plans, specifications, and other documents referred to in the Bidding Documents Booklet will be considered part of the Bid.

00120.30 Changes to Plans, Specifications, or Quantities before Opening of Bids
– Replace the first paragraph with the following:

The Agency reserves the right to issue Addenda making changes or corrections to the Plans, Specifications, or quantities. The Agency will provide Addenda only by publishing them on the Agency's web site at:

<https://www.deschutes.org/rfps>

00120.40(a) (2) Electronic Bids – Delete this subsection.

00120.40(c) (2) Electronic Bid Schedule Entries – Delete this subsection.

00120.40 (d) Bidder's Address and Signature Pages – Replace this subsection with the following:

Bidders shall include in the Bid the address to which all communication concerning the Bid and Contract should be sent. The Bid shall be signed by a duly authorized representative of the Bidder.

00120.40(e) (2) Bid Guaranty with Electronic Bids – Delete this subsection.

00120.40(f) Disclosure of First-Tier Subcontractors – Under the paragraph “The Subcontractor Disclosure Form may be submitted for a paper Bid either,” replace the second bulleted item with the following:

- By removing it from the paper Bid Booklet, filling it out and submitting it separately to the Deschutes County Public Works Engineering and Construction Division at the address given in the Bid Booklet.

Delete the third bulleted item.

Delete the paragraph which begins “The Subcontractor Disclosure Form may be submitted for an electronic Bid either:”

Replace the paragraph that begins “Subcontractor Disclosure forms submitted by...” with the following:

Subcontractor Disclosure Forms submitted by any method will be considered late if not received by the Agency within two working hours of the time designated for receiving Bids.

00120.45 Submittal of Bids – Replace this subsection with the following:

Bids shall be submitted in the manner and prior to the time listed in the Bidding Documents Booklet. Bids may be submitted by mail, parcel delivery service, or hand delivery. Bids submitted after the time set for receiving Bids will not be opened or considered. The Agency assumes no responsibility for the receipt and return of late Bids.

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

00120.60(a) Paper Bids – Replace all references to “ODOT Procurement Office” with “Agency.”

Delete the third bullet point.

00120.60(b) Electronic Bids – Delete this subsection.

00120.70 Rejection of Nonresponsive Bids – Add the following bullet to the end of the bullet list:

- The Agency determines that any Pay Item is significantly unbalanced to the potential detriment of the Agency.

00120.95 Opportunity for Cooperative Arrangement – Delete this subsection.

SECTION 00130 – AWARD AND EXECUTION

Comply with Section 00130 of the Standard Specifications modified as follows:

00130.10 Award of Contract – Replace the paragraph that begins “The Agency will provide Notice of Intent...” with the following:

The Agency will provide Notice of Intent to Award on the Agency’s website:

<https://www.deschutes.org/rfps>

Delete the paragraph that begins “The Award will not be final until...”

00130.15 Right to Protest Award – Replace this subsection with the following:

Adversely affected or aggrieved Bidders, limited to the three apparent lowest Bidders and any other Bidder directly in line for Contract Award, may submit to the Board of County Commissioners of Deschutes County a written protest of the Agency’s intent to Award within five working days following the Bid Opening. The protest shall specify the grounds upon which it is based.

The Agency is not obligated to consider late protests.

00130.50 Execution of Contract and Bonds:

(a) By the Bidder – In the sentence that begins “The successful Bidder...” replace “ODOT Procurement Office – Construction” with “Agency” and replace “15 Calendar Days” with “the requested amount of time”.

(b) By the Agency – In the sentence that begins “Within 7 Calendar Days...” replace “7” with “21 (twenty-one)”.

SECTION 00140 – SCOPE OF WORK

Comply with Section 00140 of the Standard Specifications.

SECTION 00150 - CONTROL OF WORK

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

00150.05 Cooperative Arrangements – Replace this subsection with the following:

Agency 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.

00150.50(f) Utility Information (No Anticipated Relocations) - Within the Project limits, there are no anticipated relocations 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, Address, Email, and Phone Number
Quantum (LS Networks)	Winfried Vogt wvgot@lsnetworks.net 503-936-8107
Bend Broadband	Jack Bowles Jack.Bowles@tdstelecom.com 541-693-5983
Central Oregon Irrigation District	Dan Downing ddowning@coid.org 541-548-6047
Swalley Irrigation District	Jeremiah Camarata Jer@swalley.com (541) 388-0658

00150.50(g) Utility Information (Anticipated Relocations):

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 and times:

Utility	Contact Person's Name, Address, Email, and Phone Number	Estimated Completion Date
Pacific Power	Ryan Coburn, Distribution Engineer Ryan.Coburn@Pacifcorp.com 541-388-7129	Concurrently with construction.
CenturyLink	Steve Coker, Engineer Stephen.Coker@centurylink.com 863-832-1700	July 15, 2020

SECTION 00160 – SOURCE OF MATERIALS

Comply with Section 00160 of the Standard Specifications modified as follows:

00160.40 Agency-Furnished Sources– Add the following paragraph:

No Agency sources are being offered for use on this project. Contractor shall provide all required materials.

SECTION 00165 - QUALITY OF MATERIALS

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

00165.03 Testing by Agency – Delete this subsection.

00165.04 Costs of Testing – Delete this subsection.

00165.50(b)(1) Specification Materials – Delete the second sentence.

00165.10(a) Field-Tested Materials – Add the following sentence to the end of this subsection:

This is a Type D project.

SECTION 00170 – LEGAL RELATIONS AND RESPONSIBILITIES

Comply with Section 00170 of the Standard Specifications modified as follows:

Add the following subsection:

00170.09 Debt Limitation - This Contract is expressly subject to the debt limitation of Oregon counties set forth in Article XI, Section 10, of the Oregon Constitution, and is contingent upon funds being appropriated therefore. Any provision herein which would conflict with law are deemed inoperative to that extent.

00170.65(a) General: Replace the paragraph that begins " As required by ORS 279C.520, compliance by the ..." with the following paragraphs:

As required by ORS 279C.520, the Contractor shall comply with ORS 652.220 and shall not unlawfully discriminate against any of Contractor's employees in the payment of wages or other compensation for work of comparable character on the basis of an employee's membership in a protected class. "Protected class" means a group of persons distinguished by race, color, religion, sex, sexual orientation, national origin, marital status, veteran status, disability, or age. Contractor's compliance with this provision constitutes a material element of the Contract and failure to comply constitutes a material breach that entitles the Agency to exercise any remedies available under the Contract, including, but not limited to, termination for default.

As required by ORS 279C.520, the Contractor shall not prohibit any of the Contractor's employees from discussing the employee's rate of wage, salary, benefits or other compensation with another employee or another person .and shall not retaliate against an employee who discusses the employee's rate of wage, salary, benefits or other compensation with another employee or another person.

00170.65(b-1) Minimum Wage Rates – Replace the last two paragraphs in this subsection with the following:

The applicable prevailing wage rates for this project are the most recent version published by the Oregon Labor and Industries at the time the Project was initially advertised. The wage rates and can be found at the following website:

https://www.oregon.gov/boli/WHD/PWR/Pages/pwr_state.aspx

00170.70 Insurance - Replace this subsection with the following:

00170.70(a) Insurance Coverages -

Contractor - The Contractor shall obtain the insurance specified below prior to the execution of the Contract. The Contractor shall maintain the insurance in full force at the Contractor's expense throughout the duration of the Contract and all warranty periods that apply.

Subcontracting - If the Contractor specifies prior to the execution of the Contract that a Subcontractor will satisfy an insurance requirement, that is permitted to be satisfied by a Subcontractor, the Contractor shall obtain Agency approval of Subcontractor and Subcontractor's insurance coverage(s), as required by 00180.21, prior to commencement of Subcontracted work. After the Contractor receives Agency approval of the Subcontractor, the Contractor may contractually obligate the Subcontractor to obtain and maintain, at the Subcontractor's expense or at the Contractor's expense, the insurance permitted.

The Contractor shall require that all Subcontractors carry insurance coverage that the Contractor deems appropriate based on the risks of the subcontracted work. The Contractor shall obtain proof of the required insurance coverages, as applicable, from any Subcontractor providing Services related to the Contract.

Neither the insurance provided by Subcontractor(s) nor any agreements Contractor or Subcontractor(s) may enter into shall place any limitation on the liability or indemnification obligations of the Contractor under applicable law or the Contract.

Insurance Provisions - The Contractor and Subcontractor(s), if any, shall obtain insurance from insurance companies or entities that are authorized to transact the business of insurance and issue coverage in the State and that are acceptable to the Agency. Insurance coverage shall be primary and noncontributory with any other insurance and self-insurance, with the exception of Workers' Compensation. The Contractor, or appropriate Subcontractor, but not the Agency, shall pay for all deductibles, self-insurance retentions and self-insurance, if any.

- **Commercial General Liability** - The Contractor shall provide Commercial General Liability Insurance written on an occurrence basis and covering the Contractor's liability for bodily injury and property damage. This insurance shall include personal and advertising injury liability, products and completed operations coverage, and contractual liability coverage. Coverage may be written in combination with Commercial Automobile Liability Insurance with separate limits for Commercial General Liability and Commercial Automobile Liability. Combined single limit per occurrence shall not be less than the dollar amount specified in the Contract. The annual aggregate limit shall not be less than the

dollar amount specified in the Contract. The policy shall be endorsed to state that the annual aggregate limit of liability shall apply separately to the Contract.

When Work to be performed includes operations or activity within 50 feet of any railroad property, bridge, trestle, track, roadbed, tunnel, underpass or crossing, the Contractor shall provide the Contractual Liability – Railroads CG 24 17 endorsement, or equivalent, on the Commercial General Liability policy.

- **Commercial Automobile Liability** - The Contractor shall provide, Commercial Automobile Liability Insurance covering all owned, non-owned, and hired vehicles for bodily injury and property damage. This coverage may be written in combination with the Commercial General Liability Insurance with separate limits for Commercial Automobile Liability and Commercial General Liability. Combined single limit per occurrence shall not be less than the dollar amount specified in the Contract. If this coverage is written in combination with the Commercial General Liability, the policy shall be endorsed to state that the Commercial General Liability annual aggregate limit shall apply separately to the Contract.

The following insurance coverages and dollar amounts are required pursuant to this subsection:

Insurance Coverages	Combined Single Limit per Occurrence	Annual Aggregate Limit
Commercial General Liability	\$1,000,000	\$2,000,000
Commercial Automobile Liability	\$1,000,000	(aggregate limit not required)

(b) Extended Reporting - If any of the required insurance is permitted to be and is on a “claims made” basis, the Contractor or Subcontractor who provided the insurance coverage, shall obtain an extended reporting period on the claims made policy or maintain the claims made policy, for a duration of at least 24 months from the date the applicable work has been completed and accepted by the Agency or the date of Final Acceptance. This extended reporting requirement shall be satisfied with documentation of one of the following:

- Extended Reporting Endorsement;
- Tail Coverage; or
- Maintaining the applicable continuous claims made policy with liability coverage.

The Contractor or Subcontractor shall furnish certification of this extended reporting requirement as a condition to receive Third Notice under 00150.90(b) and 00180.50(g).

(c) Excess/Umbrella Liability - A combination of primary and Excess/Umbrella Insurance may be used to meet the required limits of insurance. Excess/Umbrella coverage must be at least as broad as that provided by the underlying primary insurance policies. In addition, the limits of the underlying primary insurance must be sufficient to prevent any gap between such minimum limits and the attachment point of the coverage provided by the Excess/Umbrella Liability policy.

(d) Additional Insured - The liability insurance coverages of 00170.70(a) shall include an Additional Insured Endorsement specifying the “Deschutes County, and its

respective officers, agents, employees, and volunteers and the Deschutes County Board of Commissioners” as Additional Insureds, but only with respect to the Contractor’s activities to be performed under the Contract. Coverage shall be primary and non-contributory with any other insurance and self-insurance. The liability coverages of 00170.70(a) that are permitted by the Agency to be obtained by an appropriate Subcontractor shall include all of the foregoing as Additional Insureds and shall also include the Contractor and its officers and employees as Additional Insureds.

Additional Insured Endorsements on the Commercial General Liability shall be written on ISO Form CG 20 10 07 04, or equivalent, with respect to liability arising out of ongoing operations and ISO Form CG 20 37 07 04, or equivalent, with respect to liability arising out of completed operations. Additional Insured Endorsements shall be submitted with the Certificate(s) of Insurance and must be acceptable to the Agency.

Add the following as Additional Insureds under the Contract:

- Deschutes County and its officers, agents, employees, and volunteers
- Deschutes County Board of Commissioners

(e) Workers' Compensation - All employers, including the Contractor and Subcontractor(s), if any, that employ subject workers, as defined in ORS 656.027, shall comply with ORS 656.017 and shall provide Workers' Compensation Insurance coverage, unless such employers meet the requirement for an exemption under ORS 656.126(2). The coverage shall include Employer’s Liability Insurance with limits not less than \$500,000 each accident.

The Contractor shall certify in the Contract that the Contractor is registered by the Oregon Workers' Compensation Division either as a carrier-insured employer, a self-insured employer, an exempt employer, or is an independent contractor who will perform the Work without the assistance of others.

The Contractor shall require and verify that its insurance carrier files a guaranty contract with the Oregon Workers' Compensation Division before performing any Work.

All employers, including the Contractor and Subcontractor(s), if any, exempt under ORS 656.126(2) and subject to any other state’s Workers’ Compensation law, shall provide Workers’ Compensation Insurance coverage as required by applicable Workers’ Compensation laws. The coverage shall also include Employer’s Liability Insurance with limits not less than \$500,000 each accident.

If the Contractor’s and Subcontractor’s, if any, operations include use of watercraft on navigable waters and employ persons in applicable positions, a Maritime Coverage Endorsement must be added to the Workers’ Compensation policy, unless coverage for captain and crew is provided in a Protection and Indemnity policy.

If the Contractor and Subcontractor, if any, conducts its operations in proximity to navigable waters and employ persons in applicable positions, United States Longshore and Harbor Workers’ Compensation Act coverage must be endorsed onto the Workers’ Compensation policy.

The Contractor shall require compliance with these requirements in all Subcontractor contracts.

(f) Notice of Cancellation or Change - The Contractor shall provide at least 30 Days' written notice to the Agency before cancellation of, material change to, potential exhaustion of aggregate limits, or non-renewal of the required insurance coverages. If a Subcontractor is providing insurance to meet the contract requirements, the Contractor shall provide at least 30 Days' written notice to the Agency before cancellation of, material change to, potential exhaustion of aggregate limits, or non-renewal of the required insurance coverage(s). Any failure to comply with the reporting provisions of this insurance shall not affect the coverage(s) provided to the State, Agency, County, City, or other applicable political jurisdiction or to the Agency's governing body, board, or Commission and its members, and the Agency's officers, agents, and employees.

(g) Certificate(s) of Insurance - As evidence of the insurance coverages required by the Contract, the Contractor shall furnish Certificate(s) of Insurance to the Agency at the time(s) provided in 00130.50(a). As evidence of insurance coverages required by the Contract but permitted by the Agency under 00170.70(a) to be obtained by an appropriate Subcontractor, the Contractor shall furnish Certificate(s) of Insurance to the Agency for such coverages together with the Contractor's request under 00180.21 for approval of the subcontract with that Subcontractor. The Certificate(s) shall:

- List "Deschutes County and its officers, agents, employees, and volunteers and the Deschutes County Board of Commissioners" as a Certificate holder and as an endorsed Additional Insured;
- Include all required endorsements or copies of the applicable policy language effecting coverage required by the Contract;
- Specify that all liability insurance coverages shall be primary and non-contributory with any other insurance and self-insurance, with exception of Workers' Compensation;
- Include a list of all policies that fall under the Excess/Umbrella Insurance if Excess or Umbrella Insurance is used to meet the minimum insurance requirement.

(h) Agency Acceptance - All insurance and insurance providers are subject to Agency acceptance. If requested by Agency, the Contractor shall provide complete copies of insurance policies, endorsements, self-insurance documents and related insurance documents to Agency's representatives responsible for verification of the insurance coverages required by the Contract.

(i) Insurance Requirement Review - The Contractor agrees to periodic review of insurance requirements by Agency under the Contract and to provide updated requirements as mutually agreed upon by the Contractor and Agency.

00170.72 Indemnity/Hold Harmless - Add the following paragraph and bullets to the end of this subsection:

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

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

SECTION 00180 – PROSECUTION AND PROGRESS

Comply with Section 00180 of the Standard Specifications modified as follows:

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

Limitations	Subsection
Cooperation with Utilities	00150.50
Contract Time	00180.50(h)
Closed Lanes	00220.40(e)(1)
Road Closure	00220.40(f)

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

00180.41 Project Work Schedules - After the paragraph that begins "One of the following Type..." add the following paragraph:

In addition to the "look ahead" Project Work schedule, a Type A schedule as detailed in the Standard Specifications is required on this Contract.

00180.50(h) Contract Time - The Contractor shall complete all Work to be done under the Contract not later than December 31, 2020.

SECTION 00190 – MEASUREMENT OF PAY QUANTITIES

Comply with Section 00190 of the Standard Specifications.

SECTION 00195 - PAYMENT

Comply with Section 00195 of the Standard Specifications modified as follows:

00195.12(d) Steel Materials Pay Item Selection - Add the following to this subsection:

No Pay Items under this Contract qualify for the steel escalation/de-escalation program for this Project.

00195.50(b) Retainage – Replace the first paragraph of this subsection with the following:

The amount to be retained from progress payments will be 5% of the value of Work accomplished, and will be retained in one of the forms specified in Subsection (c) below. No retainage will be withheld from Work performed as Force Account Work, escalation/de-escalation, bonuses, or other items decided by the Agency.

00195.50(c-2) Cash, Alternate B (Retainage Surety Bond) - Delete this subsection.

00195.50(c-3) Bonds and Securities – Delete this subsection.

00195.50(d) Release of Retainage – Replace this subsection with the following:

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

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

The Contractor shall comply with all applicable legal requirements for withholding and releasing retainage and for prompt payments, including but not limited to those in ORS Chapters 279C and 701, and 49 CFR 26.29.

00195.50(e) Withholding Payments - Replace the bullet that begins “Complied with all orders issued...” with the following two bullets:

- Complied with all orders and directives issued by the Engineer under or pursuant to the Contract;
- Corrected or cured its failure to comply with the Contract; and

00195.50(f) Prompt Payment Policy - Replace the paragraph that begins "Payments shall be made promptly ..." with the following paragraph:

Payments shall be made promptly according to ORS 279C.570, ORS 279C.580 and other applicable legal requirements.

SECTION 00196 – PAYMENT FOR EXTRA WORK

Comply with Section 00196 of the Standard Specifications.

SECTION 00197 – PAYMENT FOR FORCE ACCOUNT WORK

Comply with Section 00197 of the Standard Specifications.

SECTION 00199 - DISAGREEMENTS, PROTESTS, AND CLAIMS

Comply with Section 00199 of the Standard Specifications modified as follows:

00199.40 Claim Decision; Review; Exhaustion of Administrative Remedies –
Replace the second and third paragraphs with the following:

If the Engineer denies the claim for additional compensation or a combination of additional compensation and Contract Time, in full or in part, according to 00199.40(a), the Contractor may request review of the denial. 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.

If the Engineer has denied a claim, in full or in part, for Contract Time only according to 00180.80, or has denied a claim, in full or in part, for correction of final compensation according to 00195.95, those disputed claims may then be resolved, in full or in part, at any of the three progressive steps of claim review procedure as specified in (b) through (d) of this Subsection.

Delete the fifth paragraph.

00199.40(b-e) - Replace these subsections in their entirety with the following:

00199.40(b) Step 1: Board of Commissioners Review – The Contractor shall request that the Engineer arrange for a hearing during a regularly scheduled Board of Commissioners Meeting in order to present the denied or partially denied claim for formal review and discussion. The meeting will take place within 21 Calendar Days of the Agency’s receipt of the request, or as otherwise agreed by the parties.

If the Board of Commissioners determines that the Contractor must furnish additional information or documentation to allow proper analysis of the claim, the Engineer will prepare a Board meeting agenda item for a second hearing within 14 Calendar Days, or as otherwise agreed by the parties, at which the Contractor shall present the requested information or documentation.

If the Contractor does not accept the Step 1 decision, the Contractor may, within 10 Calendar Days of receipt of the written decision, request in writing through the Engineer that the claim be advanced to Step 3 or 4 (see (c) and (d) below).

00199(c) Step 2: Arbitration - At this step, the claim will be resolved by binding arbitration before a single arbitrator according to the Construction Industry Arbitration Rules of the American Arbitration Association or such other arbitration service and rules as agreed by the parties.

Arbitration filing costs and any arbitrator's fees will be divided equally between the Agency and the Contractor.

00199(d) Step 3: Litigation – This step applies to appeals of arbitration awards issued in Step 2 at 00199.40(c) above, according to ORS 36.600 through ORS 36.740.

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 within 6 months from the date of the final decision that exhausted the Contractor's available administrative remedies under this Section 00199.

The Contractor shall comply with 00170.00.

SECTION 00210 - MOBILIZATION

Comply with Section 00210 of the Standard Specifications.

SECTION 00220 - ACCOMMODATIONS FOR PUBLIC TRAFFIC

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

Add the following subsection:

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

- When performing trench excavation or other excavation across or adjacent to a Traffic Lane on a roadway having a pre-construction posted speed greater than 35 mph, backfill the excavation, install surfacing, and open the roadway to traffic by the end of each work shift. Install a "BUMP" (W8-1-48) sign approximately 100 feet before the backfilled area and a "ROUGH ROAD" (W8-8-48) sign approximately 500 feet ahead of the "BUMP" sign. If this requirement is not met, maintain all necessary lane or shoulder closures and provide additional TCM, including flagging, at no additional cost to the Agency. Do not use temporary steel plating to reopen the roadway.
- During Stage 3 and Stage 4 construction, provide continuous 24-hour flagger operation, with a minimum of three flaggers. Occupy advanced flagger stations, as directed.
- Before activating a modified traffic signal, revising lane usage, implementing new roadway geometry, or removing a "STOP" sign, protect traffic by installing "NEW TRAFFIC PATTERN AHEAD" (W23-2) signing according to 00225.02. Keep the signs in place for 30 Calendar Days after completing the modifications.
- When an abrupt edge is created by excavation, protect traffic according to the "Excavation Abrupt Edge" and the "Typical Abrupt Edge Delineation" configurations shown on the Standard Drawings.
- When paving operations create an abrupt edge, protect traffic by installing a "DO NOT PASS" (R4-1) sign before the work area at sign spacing "A" from the TCD Spacing Table" shown on the standard drawings. Alternate "ABRUPT EDGE" (CW21-7) signs with appropriate (CW21-8) rider and "DO NOT PASS" (R4-1) signs at 1/2 mile spacings. Install a "BUMP" (W8-1) sign 100 feet prior to the transverse paving edge.
- Protect pedestrians in pole base excavation areas by placing approved covers over all pole base excavations. Place a minimum of two B(II)LR barricades adjacent to and on either side of the excavated area, facing pedestrian traffic, or place covers and barricades as directed.

00220.40(e)(1) Closed Lanes – Replace this subsection with the following:

One traffic lane may be closed when allowed, shown, or directed during the following periods of time except as indicated in 00220.40(e)(2):

- Daily, Monday through Friday, between 7:00 a.m. and 6:00 p.m.

One lane on Old Bend-Redmond Highway may be closed using 24-hour flagging for the durations indicated as follows:

- Stage 3: Up to seven (7) consecutive days.
- Stage 4: Up to seven (7) consecutive days.

Add the following subsection:

00220.40(f) Road Closure - The Contractor will be permitted to close all Traffic Lanes on the following roadways, non-concurrently, for up to the indicated durations:

- Tumalo Road west of Old Bend-Redmond Highway for up to forty-two (42) consecutive days.
- Tumalo Road east of Old Bend-Redmond Highway for up to twenty-one (21) consecutive days.

SECTION 00225 - WORK ZONE TRAFFIC CONTROL

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

00225.01(b) Definitions – Add the following to the end of the subsection:

Temporary Walk – Temporary Surfacing for a sidewalk or Multi-Use Path designated to be used by pedestrians, bicyclists, or other non-motorized users.

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

- Install a 54-inch "TRUCKS LEAVING HIGHWAY XXXX FT" sign in advance of each entrance point to the Work Area at sign spacing "A" from the "TCD Spacing Table" shown on the Standard Drawings. Install a 54-inch "TRUCKS ENTERING HIGHWAY XXXX FT" sign in advance of each exit point from the Work Area at sign spacing "A" from the "TCD Spacing Table" shown on the Standard Drawings.
- Install "ROAD WORK AHEAD" (W20-1-48) signs with a 36 by 24-inch "FINES DOUBLE" (R2-6aP) rider on the Old Bend-Redmond Highway and Tumalo Rd, according to the "TCD Spacing Table" shown on the Standard Drawings or as modified by the Plans except do not install the "FINES DOUBLE" rider on concrete barrier mounted signs.
- Install beyond each end of the Project, facing outgoing traffic, an "END ROAD WORK" (CG20-2A-24) sign a distance of $(A \div 2)$ according to the "TCD Spacing Table" shown on the Standard Drawings or as modified by the Plans.

- Install two sign flag boards, as shown on the Standard Drawings, above the following detour and road closed advance warning signs, where applicable:
 - "DETOUR AHEAD", "DETOUR XXXX FT", "DETOUR X/X MILE" (W20-2) signs.
 - "ROAD CLOSED AHEAD", "ROAD CLOSED XXXX FT", "ROAD CLOSED X/X MILE" (W20-3) signs.
- Install a "24 HR FLAGGING AHEAD" (CW20-9) sign in each direction approximately 250 feet prior to the "BE PREPARED TO STOP" sign. Remove the temporary signs when 24-hour flagging is no longer required, or as directed.
- Install a "NEW TRAFFIC PATTERN AHEAD" (W23-2) sign approximately 1,500 feet in advance of Tumalo Road, facing northbound incoming traffic.
- Install a "NEW TRAFFIC PATTERN AHEAD" (W23-2) sign approximately 1,500 feet in advance of Tumalo Road, facing southbound incoming traffic.
- Install a "NEW TRAFFIC PATTERN AHEAD" (W23-2) sign approximately 500 feet in advance of Old Bend-Redmond Highway, facing eastbound incoming traffic.
- Install a "NEW TRAFFIC PATTERN AHEAD" (W23-2) sign approximately 500 feet in advance of Old Bend-Redmond Highway, facing westbound incoming traffic.
- Keep the "NEW TRAFFIC PATTERN AHEAD" signs in place 30 Calendar Days after final paving and striping are complete.

00225.14(a) Flagger Station Lighting - Add the following bullet to the end of the bullet list:

- 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.

Add the following subsection:

00225.19 Pole Base Excavation Covers - Use pole base excavation covers meeting the following requirements:

- Utility grade plywood
- 3/4-inch minimum thickness
- New or in like new condition

00225.32(b) Traffic Control Inspection Without TCS - Add the following bullet to the end of the bullet list:

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

00225.46(b) Portable Changeable Message Signs (PCMS) - Add the following bullets to the end of the bullet list:

- Type B, Mini PCMS use is limited to locations where the preconstruction posted speed is 40 mph or less.
- Seven Calendar Days before the Tumalo Road closure, place one or more PCMS displaying a message per plan, or as directed.

00225.90(a)(2) Temporary Protection and Direction of Traffic – Replace the bullet that begins “Providing, Surfacing, maintaining, removing...” with the following bullet:

- Providing, Surfacing, maintaining, removing, and restoring the TPAR.

Delete the bullet that begins “Providing, moving, reinstalling, and removing guardrail.....”.

Add the following bullet to the end of the bullet list:

- Furnishing, placing, maintaining, moving, and removing pole base excavation covers.

SECTION 00280 - EROSION AND SEDIMENT CONTROL

Comply with Section 00280 of the Standard Specifications.

00280.06 Erosion and Sediment Control Manager - Delete this subsection.

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

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

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

SECTION 00305 - CONSTRUCTION SURVEY WORK

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

Description

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

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

In addition to the requirements of the ODOT "*Construction Surveying Manual for Contractors*", establish Engineering Stationing at 100-foot intervals for the length of the

project along the shoulder of the highway. Maintain the stationing so it is visible throughout construction of the project.

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

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

Measurement

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

Payment

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

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

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

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

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

SECTION 00310 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

Comply with Section 00310 of the Standard Specifications.

SECTION 00320 - CLEARING AND GRUBBING

Comply with Section 00320 of the Standard Specifications.

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.

SECTION 00340 - WATERING

Comply with Section 00340 of the Standard Specifications.

SECTION 00370 - FINISHING ROADBEDS

Comply with Section 00370 of the Standard Specifications.

SECTION 00390 - RIPRAP PROTECTION

Comply with Section 00390 of the Standard Specifications.

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

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

00445.01 Definitions and Descriptive Terms – Delete the definitions for **Plain** and **Steel**.

SECTION 00470 - MANHOLES, CATCH BASINS, AND INLETS

Comply with Section 00470 of the Standard Specifications.

SECTION 00620 - COLD PLANE PAVEMENT REMOVAL

Comply with Section 00620 of the Standard Specifications.

SECTION 00641 - AGGREGATE SUBBASE, BASE, AND SHOULDERS

Comply with Section 00641 of the Standard Specifications.

SECTION 00730 - EMULSIFIED ASPHALT TACK COAT

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

No separate or additional payment will be made for Emulsified Asphalt tack coat. Approximately 15 tons of Emulsified Asphalt in tack coat will be required on this Project.

SECTION 00744 - ASPHALT CONCRETE PAVEMENT

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

00744.10(a) New Coarse and Fine Aggregates – Replace the last paragraph in this subsection with the following:

Test Aggregates for soundness, durability, and harmful substances at no additional cost to the Agency.

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

Provide PG 70-28ER & PG 64-28 grade asphalt cement for this Project.

SECTION 00749 - MISCELLANEOUS ASPHALT CONCRETE STRUCTURES

Comply with Section 00749 of the Standard Specifications.

SECTION 00759 - MISCELLANEOUS PORTLAND CEMENT CONCRETE STRUCTURES

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

00759.02 Required Submittals - Add the following to the end of this section:

(c) Stamped Concrete- Provide a 4 ft x 4ft x 4 in thick sample pad for the agency acceptance of color and pattern.

- Integral color: Sequoia Sand (#641)
- Release color: Kailua (#677).
- Pattern: Random Stone (FM-700)

00759.10 Materials-Replace this subsection, except for the subsection number and title, with the following:

Furnish Materials meeting the following requirements:

Bar Reinforcement.....	02510
Concrete Materials.....	02001
Curing Materials.....	02050
Epoxy and non-epoxy Bonding Agents.....	02070
Epoxy and non-epoxy Grouts.....	02080
Galvanizing.....	02530.70
Poured Joint fillers.....	02440.30
Preformed Expansion Joint Filler.....	02440.10
Welded Wire Fabric.....	02510.40

Add the following subsection:

00759.13 Concrete Mix Designs - Prepare and submit either new mix designs or current mix designs for each class of concrete required according to Section 02001.

00759.90 Payment – Add the following sentence to the end of this subsection:

No separate or additional payment will be made for sample pads.

SECTION 00850 - COMMON PROVISIONS FOR PAVEMENT MARKINGS

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

00850.45 Installation - Add the following bullet before the bullet that begins “Place material according to...”:

- Place material between May 1 and October 15.

Replace the bullet that begins “Place material according to...” with the following bullet:

- Place material according to the manufacturer’s installation instructions.

SECTION 00856 - SURFACE MOUNTED TUBULAR MARKERS

Comply with Section 00856 of the Standard Specifications.

SECTION 00865 - LONGITUDINAL PAVEMENT MARKINGS - DURABLE

Comply with Section 0865 of the Standard Specifications.

SECTION 00867 - TRANSVERSE PAVEMENT MARKINGS - LEGENDS AND BARS

Comply with Section 00867 of the Standard Specifications.

SECTION 00905 - REMOVAL AND REINSTALLATION OF EXISTING SIGNS

Comply with Section 00905 of the Standard Specifications.

SECTION 00920 - SIGN SUPPORT FOOTINGS

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

00920.10 Materials – Delete “Conduit” from the list of materials.

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

The estimated quantities of concrete for minor sign supports are:

Support Type	Quantity
Perforated Steel Square Tube Slip Base Sign Supports	7.8 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 “Furnish structural steel materials...” with the following paragraph:

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

00930.40(e)(1) General – Add the following sentence to the end of the paragraph:

The installation will be rejected if the geometry does not satisfy the requirements of 02560.05.

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

The estimated quantities of structural steel are as follows:

Item	Estimated Quantity (Pound)
Minor Sign Supports	
Perforated Steel Square Tube Slip Base Sign Supports	1,115

SECTION 00940 - SIGNS

Comply with Section 00940 of the Standard Specifications modified as follows:

00940.90 Payment –

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

Items (a), (b), and (c) include payment for signs constructed with only ASTM Type III, ASTM Type IV, or non-reflective sheeting.

SECTION 00950 - REMOVAL OF ELECTRICAL SYSTEMS

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

00950.02 Definitions - Add the following after the electrical systems definition:

The electrical system to be removed under this Contract include:

Flashing beacon system including beacon, mast arm, pole, foundation, and associated electrical connections.

00950.42 Salvaging and Stockpiling Materials – Replace this subsection with the following:

00950.42 Disposal of Material - Dispose of materials according to 00290.20(c).

SECTION 00960 - COMMON PROVISIONS FOR ELECTRICAL SYSTEMS

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

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

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

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

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

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

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

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

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

Add the following subsection:

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

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

Furnish Materials meeting the following requirements:

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

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

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

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

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

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

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

Use commercially available galvanized steel weatherproof compression fittings where shown.

00960.40 General – Replace this subsection with the following subsection:

00960.40 Excavation:

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

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

Dispose of all excavated Materials according to 00290.20.

00960.41 Excavation - Replace this subsection with the following subsection:

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

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

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

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

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

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

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

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

Maintain rebar clearances during concrete pour.

Make no adjustments of anchor rods after concrete has set.

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

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

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

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

00960.44 Junction Boxes - Delete this subsection.

00960.45 Cable and Wire - Delete this subsection.

00960.46 Wiring Practices - Delete this subsection

00960.47 Wood Poles - Delete this subsection.

00960.48 Coating - Delete this subsection.

00960.49 Electrical Service - Delete this subsection.

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

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

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

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

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

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

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

Add the following subsection:

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

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

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

The following table contains Utility contact information to arrange for the Utility to make electrical hookups:

Location	Utility	Utility Contact Person's Name, Email and Phone Number	Utility Job Number
OBRH/Tumalo Road	Pacific Power	Ryan Coburn, Ryan.Coburn@pacificcorp.com , 541-388-7156	6764493

Electrical energy is flat-rated. Meter base is not required.

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

Add the following subsection:

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

SECTION 00962 - METAL ILLUMINATION AND TRAFFIC SIGNAL SUPPORTS

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

00962.46(j)(2)(d) Final Tightening - In the table, replace the words "ASTM A325" with the words "ASTM F3125, Grade A325"

00962.46(j)(3) Bolt Inspection - Replace the sentence that begins "The installation will be rejected if..." with the following sentence:

The installation will be rejected if the geometry does not satisfy the requirements of 02560.05.

SECTION 00970 - HIGHWAY ILLUMINATION

Comply with Section 00970 of the Standard Specifications.

SECTION 01012 - STORMWATER CONTROL, WATER QUALITY BIOFILTRATION SWALE

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

Description

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

Materials

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

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

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

Blend the medium compost and soil so that the mixture:

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

Construction

01012.40 General - Construct water quality biofiltration swale facility as shown. Perform excavation, fine grading, and placement work only when the facility area is dry and only from the top of the swale area. Do not stockpile excavated material in the facility area. Scarify the subsoil area a minimum 12 inches deep. After scarification, place the water quality mixture in maximum 12 inch lifts. Compact each lift with a water filled landscape roller.

Maintenance

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

Measurement

01012.80 Measurement – The quantities of Water Quality Mixture will be measured on the volume basis.

Payment

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

Payment for water quality biofiltration swale exaction will be made according to 00330.93.

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

SECTION 01030 - SEEDING

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

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

Provide the following seed mix formula:

- Native Seeding:**

Botanical Name (Common Name)	PLS (lb/acre)	÷ (% Purity minimum)	x (% Germination minimum)	= Amount (lb/acre)
Lolium perenne 'Banfield' (Banfield Perennial Ryegrass)	16	_____	_____	_____
Festuca trachyphylla (Eureka II Hard Fescue)	8	_____	_____	_____
Festuca ovina 'Quatro' (Quatro Tetraploid Sheep Fescue)	8	_____	_____	_____
Achillea millefolium (White Yarrow)	1.6	_____	_____	_____
Trifolium repens ssp. Microclover (Microclover)	1.6	_____	_____	_____
Nemophila menziesii (Baby Blue Eyes)	1.6	_____	_____	_____
Lobularia maritima (Sweet Alyssum)	1.6	_____	_____	_____
Trifolium fragiferum (Strawberry Clover)	0.8	_____	_____	_____

Bellis perennis (English Daisy)	0.8	_____	_____	_____
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• **Water Quality Swale Seeding:**

Botanical Name (Common Name)	PLS (lb/acre)	÷ (% Purity (minimum)	x % Germination) (minimum)	= Amount (lb/acre)
Pseudoroegneria spicata (Bluebunch Wheatgrass)	16	_____	_____	_____
Leymus cinereus (Great Basin Wild Rye)	8	_____	_____	_____
Deschampsia caespitosa (Tufted Hair Grass)	8	_____	_____	_____
Festuca idahoensis (Idaho fescue)	1.6	_____	_____	_____
Koeleria macrantha (Prairie Junegrass)	1.6	_____	_____	_____
Poa sandbergii (Sandberg’s Bluegrass)	1.6	_____	_____	_____

SECTION 01040 – PLANTING

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

01040.2 (d) Rock Mulch - Replace this subsection, except for the subsection number and title, with the following:

- Rock Mulch a -Decomposed granite: to meet the following gradations
 - Retained by 5/8” Sieve 0%
 - Retained by 3/8” Sieve 15%-20%
 - Retained by #4 Sieve 40%-60%
 - Retained by #10 Sieve 60%-85%
- Rock Mulch b - 2”-3” river rock cobbles

Provide material that is free of fines and other non-gravel material. Rock colors may vary.

01040.49 General Planting - Add the following to the end of this subsection:

Perform initial watering and continue with the watering frequencies according to 01040.71.

01040.71 Plant Care and Success Criteria - Add the following to the end of this subsection:

The following watering frequencies are required:

- Deciduous Trees that are 1 1/2 inch and larger, water at a frequency of:
 - 2.50 gallons daily for 2 weeks
 - 2.5 gallons every 3 days for 12 weeks
 - 2.50 gallons weekly for the remainder of 1-year establishment period
- All shrubs, water at a frequency of:
 - 0.25 gallons daily for 2 weeks
 - 0.25 every 3 days for 12 weeks
 - 0.25 gallons weekly for remainder of 1 year establishment period

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

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

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

Partial payments for plant Materials will be made as follows:

At the time of the original planting	60%
After the first plant establishment inspection	10%
After the second plant establishment inspection.....	10%
After the third plant establishment inspection	10%
At completion of the establishment period	10%

SECTION 01050 - FENCES

Comply with Section 01050 of the Standard Specifications.

SECTION 01070 - MAILBOX SUPPORTS

Comply with Section 01070 of the Standard Specifications.

SECTION 02001 - CONCRETE

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

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

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

02001.01 General - Delete this subsection.

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

- ASTV** - Actual Strength Test Value
- f'_c - Minimum Specified Compressive Strength at 28 days
- f'_{cr} - Required Average Compressive Strength
- GGBFS** - Ground Granulated Blast Furnace Slag
- HPC** - High Performance Concrete
- HRWRA** - High-Range Water-Reducing Admixture (super-plasticizer)
- IC** - Internally Cured
- LWFA** - Lightweight Fine Aggregate
- PPCM** - Precast prestressed concrete member
- SCM** - Supplementary Cementitious Materials
- SSD** - Saturated Surface-Dry
- w/cm Ratio** - Water-Cementitious Material Ratio
- WRA** - Water Reducing Admixture

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

Cementitious Materials - Portland cement and supplementary cementitious materials.

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

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

Moderate Exposure - Elevations below 1,000 feet.

Pozzolans - Fly ash, silica fume, and metakaolin.

Severe Exposure - Elevations 1,000 feet and above.

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

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

Furnish Materials meeting the requirements of the following:

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

Add the following subsection:

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

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

(b) New Mix Designs - Make at least one trial batch for each concrete mix design. Notify the Engineer at least 48 hours before making each trial batch. The Engineer may witness preparation and testing. Prepare and test trial batches using the same materials, at the same proportions, and having the same plastic properties of concrete that will be used in the Project. Simulate haul time, batching sequence and mixing conditions to ensure the trial batch is representative of the mixture that will be delivered to the Project. Furnish all Materials, Equipment, testing and Work required for designing the mixes at no additional cost to the Agency.

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

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

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

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

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

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

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

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

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

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

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

(2) Mix Design Constituent Proportions:

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

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

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

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

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

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

- Manufacturer
- Brand name
- Source
- Class
- QPL product number

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

- Manufacturer
- Brand name

- QPL product number

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

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

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

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

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

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

For drilled shaft concrete, report the following additional information:

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

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

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

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

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

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

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

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

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

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

Table 02001-1

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

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

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

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

Table 02001-2

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

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

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

Table 02001-3

Concrete Slump	
Condition	Slump
Concrete without WRA	4" max.
Concrete with WRA	5" max.
Concrete with HRWRA	6" ± 2"
Precast Prestressed Concrete with HRWRA	10" max.
Seal Concrete	8" ± 2"
Drilled Shaft Concrete	8 1/2" ± 1 1/2" ¹
¹ Maintain a minimum slump of 4 inches throughout drilled shaft placement, including temporary casing extraction.	

Add the following subsection:

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

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

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

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

02001.30 Concrete Constituents:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Table 02001-4

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

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

(f) Synthetic Fiber Reinforcing for Concrete - Use synthetic fiber reinforcing from the QPL and according to Section 02045 in all high performance concrete. Use synthetic fiber reinforcing according to the manufacturer's recommendations at the rate designated on the QPL. Fiber packaging is not allowed in the mixed concrete.

02001.31 Concrete Constituents - Delete this subsection.

02001.32 New Mix Designs - Delete this subsection.

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

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

02001.34(b) Permeability Tests – Delete this subsection.

02001.35 Required Submittals for Mix Designs - Delete this subsection.

02001.37 Trial Batch Costs – Delete this subsection.

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

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

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

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

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

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

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

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

- Decreases in cementitious material content.

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

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

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

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

Certified Technician duties:

(a) Certified Aggregate Technician (CAgT) -

- Sample and test Aggregates.
- Sample and test each stockpiled size according to the test procedures and at the frequencies shown in the Field Tested Materials Acceptance Guide section of the MFTP.
- Record and evaluate test results according to Section 00165.
- Provide Stat-Spec results to the Engineer.
- Notify the CCT whenever a fine aggregate fineness modulus varies by more than ± 0.20 from the mix design it is to be used in.
- Test the fine and coarse aggregates for total moisture content according to AASHTO T 255.

(b) Quality Control Technician (QCT) -

- Attend pre-placement meetings for bridge deck pours and paving.
- Be at the concrete placement site when concrete placement is in progress.

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

(c) Concrete Control Technician (CCT) –

- Prepare new concrete mix designs.
- Notify the Engineer 48 hours prior to trial batching.
- Control the quality of concrete during production.
- Submit proposed adjustments of the mix design, in writing, to the Engineer for approval by the middle of the following work shift.
- Ensure approved adjustments are implemented prior to proceeding with production.
- Before batching is started and when there is a significant change in the slump of the concrete ensure moisture contents of the coarse and fine aggregate are verified by the CAgT. Make necessary adjustments to maintain consistent concrete properties. Provide moisture content test results to the Engineer upon request.
- Monitor concrete properties and compressive strength tests throughout the duration of the Project.
- Make adjustments to loads that fail to meet the air content or slump criteria of these Specifications prior to the 90-minute time limit. Adjustments shall comply with the provisions of ASTM C94.
- Make adjustments to maintain a satisfactory over-design f'_{cr} .
- Perform an analysis and verify the accuracy of coarse and fine aggregate moistures whenever the w/cm Ratio varies from the mix design target by more than ± 0.03 .

- Perform an analysis and make necessary adjustments whenever the unit weight of the plastic concrete varies from the mix design by more than ± 3.0 pounds per cubic foot.
- Perform an analysis whenever the fineness modulus of the fine aggregate varies by more than ± 0.20 from the established mix design. If necessary to maintain proper workability, ability to pump or ability to finish, make an adjustment to the coarse/fine aggregate ratio and submit to the Engineer by the middle of the following work shift.

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

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

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

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

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

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

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

SECTION 02010 – PORTLAND CEMENT

Comply with Section 02010 of the Standard Specifications.

SECTION 02020 - WATER

Comply with Section 02020 of the Standard Specifications.

SECTION 02030 – SUPPLEMENTARY CEMENTITIOUS MATERIALS

Comply with Section 02030 of the Standard Specifications.

SECTION 02035 – CONCRETE MODIFIERS

Comply with Section 02035 of the Standard Specifications.

SECTION 02040 – CHEMICAL ADMIXTURES

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

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

Furnish admixtures from the QPL.

SECTION 02045 – SYNTHETIC FIBER REINFORCING

Comply with Section 02045 of the Standard Specifications.

SECTION 02560 - FASTENERS

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

Add the following subsection:

02560.05 Geometry - Bolt or rod length used shall be such that the end of the bolt or rod extends beyond or is at least flush with the outer face of the nut when properly installed.

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

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

Plain (Noncoated) Bolts:

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

Galvanized Bolts:

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

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

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

Heavy Hex Head:

- ASTM F3125, Grade A325

Twist-Off:

- ASTM F3125, Grade F1852

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

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

Type 1 Plain (Noncoated) Bolts:

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

Type 1 Galvanized Bolts:

- All - Heavy hex ASTM A563, Grade DH

Type 3 Bolts:

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

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

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

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

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

- All - Heavy hex ASTM A563, Grade A

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

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

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

- All - Heavy hex ASTM A563, Grade DH

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

02560.40 Galvanizing and Coating:

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

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

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

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

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

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

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

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

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

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

Protect fasteners from dirt and moisture at the Project site.

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

Relubrication of Twist-Off fasteners is not permitted.

SECTION 02630 – BASE AGGREGATE

Comply with Section 02630 of the Standard Specifications modified as follows:

SECTION 02640 – SHOULDER AGGREGATE

Comply with Section 02640 of the Standard Specifications.

SECTION 02690 - PCC AGGREGATES

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

SECTION 02690 - PCC AGGREGATES

Description

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

02690.01 Definitions:

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

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

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

Materials

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

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

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

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

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

(b) Non-specification Aggregate Gradation - Stockpiled aggregates that contain non-specification aggregate gradation will be rejected by the Engineer unless non specification material is removed from the stockpile. Do not add additional material to the stockpile until enough non-specification material is removed so that the quality level for each constituent is equal to or greater than the quality level in Table 00165-2 for a 1.00 PF.

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

02690.20 Coarse Aggregate:

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

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

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

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

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

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

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

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

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

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

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

Table 02690-1

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

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

Table 02690-2

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

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

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

Table 02690-3

Gradation of Coarse Aggregates

Sieve Size	Combined*	Separated	Separated	Separated
	Sizes 1 1/2" - No. 4	Sizes 1 1/2" - 3/4"	Sizes 1" - No. 4	Sizes 3/4" - 1/2"
	Percent Passing (by Weight)			
2"	100	100	–	–
1 1/2"	90 - 100	90 - 100	100	–
1"	70 - 89	20 - 55	90 - 100	100
3/4"	35 - 70	0 - 15	–	85 - 100
1/2"	–	–	25 - 60	0 - 15
3/8"	10 - 30	0 - 5	–	–
No. 4	0 - 5	–	0 - 10	–
No. 8	–	–	0 - 5	–
No. 200	**	**	**	**

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

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

Table 02690-4

Gradation of Coarse Aggregates

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

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

02690.30 Fine Aggregates:

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

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

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

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

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

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

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

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

Table 02690-5
Gradation of Fine Aggregate*

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

* Determine the fineness modulus according to AASHTO T 27 and AASHTO T 11. Maintain the fine aggregate fineness modulus within plus or minus 0.20 from the fineness modulus used in the Contractor's mix design. Fine aggregates in which the fineness modulus varies by more than 0.20 from the mix design target shall not be incorporated until an assessment is done to determine whether an adjustment in the aggregate proportions is

necessary. Proportion changes must be performed by a CCT according to the provisions of ACI 211. Submit analysis of FM and mix design adjustments to the Engineer for approval.

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

SECTION 03010 – FENCING MATERIALS

Comply with Section 03010 of the Standard Specifications modified as follows:

SECTION 03020 – EROSION MATERIALS

Comply with Section 03020 of the Standard Specifications modified as follows:

03020.90 Acceptance – Delete the bullet that begins “Quality compliance certification...”.

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