SPECIAL PROVISIONS
FOR HIGHWAY CONSTRUCTION

OREGON DEPARTMENT OF TRANSPORTATION
SALEM, OREGON

GRADING, DRAINAGE, STRUCTURES, PAVING, SIGNING, AND ROADSIDE DEVELOPMENT

I-84 (WESTBOUND): UNION PACIFIC RAILROAD BRIDGE (HOOD RIVER) PROJECT

COLUMBIA RIVER HIGHWAY

HOOD RIVER COUNTY

NOVEMBER 5, 2026

PREFACE

General:

These Specifications, provisions, and Special Provisions are issued for the information of Bidders submitting Bids for the Project or Work described herein at the time and place specifically indicated herein, subject to such revision as may be made in accordance with provisions stated below, and will be incorporated in and made a part of any Contract for said Project or Work that may be awarded on the basis of a Bid received at said specifically indicated time and place.

Revisions Prior to Bid Closing:

All information herein is subject to revision by the Agency at any time prior to the time specified herein for the receiving of Bids. Prospective Bidders for the Work are responsible for checking the Agency website for Addenda. The website should be checked weekly until the week of Bid Closing and daily the week of Bid Closing.

Booklet May Be Retained by Bidder:

This booklet need not be returned to the Agency, either with the Bid or otherwise.

DESCRIPTION OF WORK

and

TIME AND PLACE OF RECEIVING BIDS

The work to which the Specifications, provisions, and Special Provisions contained herein apply, the time and place at which Bids for the Work are to be received, and other information pertinent to the Specifications and provisions, including any statements required to accompany the Bid, and their application are described and stated on the sheet or sheets inserted between printed pages [2] and [3] hereof.

DESCRIPTION OF WORK

Grading, Drainage, Structures, Paving, Signing, and Roadside Development
I-84 (Westbound): Union Pacific Railroad Bridge (Hood River) Project
Columbia River Highway
Hood River County

TIME AND PLACES OF RECEIVING BIDS (BID CLOSING)

Bid Closing for the work described above will be at 9:00:00 a.m. on the 5th day of November, 2026. Bids will be received by BJ McCartney, Construction Contracts Manager.

Submit electronic bids, on-line through Bid Express® (www.bidx.com) before 9:00:00 a.m. on the day of Bid Closing.

Submit paper bids to BJ McCartney, Construction Contracts Manager:

Before 9:00:00 a.m. on the day of Bid Closing.

For Bids submitted by mail or parcel delivery service, send to:

Oregon Department of Transportation
Procurement Construction Contracts, MS #33
355 Capitol Street NE
Salem, Oregon 97301.

For Bids submitted by hand delivery, date stamp the Bid with the provided date stamping device and place into the ODOT Procurement Bid Box located in the 1st floor lobby at the following address:

Oregon Department of Transportation
355 Capitol Street NE
Salem, Oregon 97301.

Bids, Bid modifications, and Bid withdrawals will not be accepted at or after 9:00:00 a.m. on the day of Bid Closing.

PLACE, TIME, AND DATE OF READING BIDS (BID OPENING)

Bid Opening for the work described above will be at the following address: Oregon Department of Transportation, 355 Capitol Street NE, Salem, Oregon, beginning at 9:00:00 a.m. on the day of Bid Closing.

COMPLETION TIME LIMIT

See Subsection 00180.50(h).

CLASS OF PROJECT

This is a Federal-Aid Project.

CLASS OF WORK

The Class of Work for this Project is: Bridges and Structures.

PROJECT INFORMATION

Information pertaining to this Project may be obtained from the following:

Kathryn Hoffburg, Resident Engineer, 3700 SE 92nd Ave., Portland, OR 97266; or Email Crew1819Construction@odot.oregon.gov. All requests for information must be in writing with reference to the Project name.

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BID SCHEDULE

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SPECIFICATIONS and PROVISIONS

Subject to such revision as may be made in accordance with provisions stated in the Preface hereto, the Specifications and provisions stated on the sheets inserted between printed pages [4] and [5] hereof are additional required provisions and supplements, identified by this reference as a part of the Specifications, which will be incorporated in and made a part of any Contract that may be awarded for the Work on the basis of a Bid received at the time and places stated herein under the headings "Description of Work" and "Time and Places of Receiving Bids (Bid Closing)".

CONTRACT PROVISIONS FOR FEDERAL-AID CONSTRUCTION CONTRACTS

I. General
II. Nondiscrimination
III. Davis-Bacon and Related Act Provisions
IV. Contract Work Hours and Safety Standards Act Provisions
V. Subletting or Assigning the Contract
VI. Safety: Accident Prevention
VII. False Statements Concerning Highway Projects
VIII. Implementation of Clean Air Act and Federal Water Pollution Control Act
IX. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
X. Certification Regarding Use of Contract Funds for Lobbying
XI. Use of United States-Flag Vessels

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only).

I. GENERAL

1. Historically, contracting agencies using Federal-aid highway funds were required to ensure Form FHWA-1273 was physically incorporated into all contracts and subcontracts. Effective June 10, 2026, this requirement was eliminated [91 FR 25492]. Future use of Form FHWA-1273 is now optional on the part of the contracting agency using Federal-aid highway funds. FHWA continues to make Form FHWA-1273 available as a convenience to contracting agencies. Contracting agencies must continue to ensure compliance with the provisions cited in Form FHWA-1273 in accordance with the provisions regardless of the use of Form FHWA-1273. Accordingly, the contracting agency retains the authority to determine whether the contractor must use Form FHWA-1273 to physically incorporate required contract provisions in each subcontract and in lower tier contracts. Where permitted by the contracting agency, the contractor may choose other ways to include required contract provisions in each subcontract, besides incorporating Form FHWA-1273. Contract provisions in Form FHWA-1273 are not required to be physically included in subcontracts for design services on Federal-aid design-build contracts, or in purchase orders, rental agreements and other agreements for supplies or services.

The applicable provisions of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor or design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents.

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION

The contractor and all subcontractors must comply with the following policies: 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27, including any amendments thereto.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27, including any amendments thereto.

The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 1630 are incorporated by reference in this contract.

1. Assurances Required:

a. The requirements of 49 CFR Part 26, including any amendments thereto, and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26, including any amendments thereto, in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

(1) Withholding monthly progress payments;
(2) Assessing sanctions;
(3) Liquidated damages; and/or
(4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E, including any amendments thereto, are incorporated by reference. 49 CFR Part 21.

III. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act (40 U.S.C. 3141(2)(B)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided,* That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH–1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in 29 CFR part 1, a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

(ii) The classification is used in the area by the construction industry; and

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is used in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the

classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to *DBAconformance@dol.gov*. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

(4) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer will, by email to *DBAconformance@dol.gov*, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

d. *Fringe benefits not expressed as an hourly rate.* Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. *Unfunded plans.* If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided,* That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in § 5.28, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with paragraph 2.a. of this section or Section IV, paragraph 3.a., or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its reprocurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

3. Records and certified payrolls (29 CFR 5.5)

a. *Basic record requirements* (1) *Length of record retention.* All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(2) *Information required.* Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act); daily and weekly number

of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) *Additional records relating to fringe benefits.* Whenever the Secretary of Labor has found under paragraph 1.e. of this section that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

(4) *Additional records relating to apprenticeship.* Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

b. *Certified payroll requirements* (1) *Frequency and method of submission.* The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(2) *Information required.* The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (*e.g.,* the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH–347 or in any other format desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division website at *https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347/.pdf* or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

(3) *Statement of Compliance.* Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR part 3; and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(4) *Use of Optional Form WH–347.* The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 3729.

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access* (1) *Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under 29 CFR part 6 any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. Apprentices and equal employment opportunity (29 CFR 5.5)

a. *Apprentices* (1) *Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with 29 CFR part 30, including any amendments thereto.

c. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section III. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeyworkers shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs (1) through (11) of this section, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the

contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility. a. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of 40 U.S.C. 3144(b) or § 5.12(a).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of 40 U.S.C. 3144(b) or § 5.12(a).

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, 18 U.S.C. 1001.

11. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or 29 CFR part 1 or 3; or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or 29 CFR part 1 or 3.

IV. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchpersons and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph 1. of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1. of this section.

* $33 as of January 15, 2025 (See 90 FR 1859) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section III paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its reprocurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

4. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or

d. Informing any other person about their rights under CWHSSA or this part.

V. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” in paragraph 1. of this section refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
(2) the prime contractor remains responsible for the quality of the work of the leased employees;
(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph 1. of this section is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however,

contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

VI. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. 23 CFR 635.108.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

VII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

VIII. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of $150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

IX. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

1**. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this

covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. “First Tier Covered Transactions” refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 180.300.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property, 2 CFR 180.800;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

* * * * *

3. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. “First Tier Covered Transactions” refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 1200.220.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

* * * * *

4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

* * * * *

X. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000. 49 CFR Part 20, App. A.

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

XI. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS (40 U.S.C. sections 14501(d) and 14701 and the Appalachian Regional Commission Code as authorized under 40 U.S.C. section 14302)
This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 40 U.S.C. 14501 allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

ON-SITE WORKFORCE AFFIRMATIVE ACTION REQUIREMENTS FOR WOMEN AND MINORITIES ON FEDERAL-AID CONTRACTS

Pursuant to 41 CFR 60-4.6 (see also 41 CFR 60-4.2(a)) the following notice concerning Affirmative Action Requirements for Women and Minorities shall be included in, and shall be a part of, all solicitations for offers and bids on all Federal and federally assisted construction contracts or subcontracts in excess of $10,000 to be performed in geographical areas designated by the United States Department of Labor (USDOL) Director. The USDOL, Office of Federal Contract Compliance Programs (OFCCP) has made the following statement concerning Goals, Timetables and Good Faith Efforts:

> "Numerical goals are established based on the availability of qualified applicants in the job market or qualified candidates in the employer's work force. Executive Order [E.O. 11246] numerical goals do not create set-asides for specific groups, nor are they designed to achieve proportional representation or equal results. Rather, the goal-setting process in affirmative action planning is used to target and measure the effectiveness of affirmative action efforts to eradicate and prevent discrimination. The Executive Order and its supporting regulations do not authorize OFCCP to penalize contractors for not meeting goals. The regulations at 41 CFR 60-2.12(e), 60-2.30 and 60-2.15, specifically prohibit quota and preferential hiring and promotions under the guise of affirmative action numerical goals. In other words, discrimination in the selection decision is prohibited."

For purposes of these "On-Site Workforce Affirmative Action Requirements for Women and Minorities on Federal-Aid Contracts", "Good Faith Effort" means affirmative action measures designed to implement the established objectives of an Affirmative Action Plan 23 CFR 230.407(o).

A. AFFIRMATIVE ACTION REQUIREMENTS

Notice of Requirement for Affirmative Action To Ensure Equal Employment Opportunity (Executive Order 11246)

1. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Goal and Timetable for Female Utilization Statewide

Timetable	Goal (Percent)
From Apr. 1, 1980 until further notice	6.9

Goals for Minority Utilization by County

	Goal (Percent)
Clackamas, Multnomah, and Washington Counties	4.5
Marion and Polk Counties	2.9
Benton, Clatsop, Columbia, Crook, Deschutes, Hood River, Jefferson, Lincoln, Linn, Sherman, Tillamook, Wasco, and Yamhill Counties	3.8
Lane, Coos, Curry, Douglas, Jackson, Josephine, Klamath, and Lake Counties	2.4
Baker, Gilliam, Grant, Morrow, Umatilla, Union, Wallowa, and Wheeler Counties	3.6
Harney and Malheur Counties	4.4

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

2. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 business days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

3. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is the county or counties shown in the Solicitation Documents. In cases where the work is two or more counties covered by different percentage goals, the highest percentage will govern.

B. STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

1. As used in these specifications:

a. "Covered area" means the geographical area, described in the solicitation from which this contract resulted;

b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;

c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.

d. "Minority" includes:

(i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);

(ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);

(iii) Asian American and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and

(iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitation from which this contract resulted.

3. A contractor participating, either individually or through an association, in an approved Hometown Plan (including heavy highway affirmative action plans) shall comply with its affirmative action obligations under Executive Order 11246 by complying with its obligations under the plan; provided, that each contractor or subcontractor participating in an approved plan is individually required to comply with the equal opportunity clause set forth in 41 CFR 60-1.4; to make a good faith effort to achieve the goals for each trade participating in the plan in which it has employees; and that the overall good performance by other contractors or subcontractors toward a goal in an approved plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the plan's goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minorities and female utilization the Contractor should

reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is performed. Goals are published periodically in the Federal Register in notice form, and such notices maybe obtained from any Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minorities and female individuals working at such sites or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organization’s responses.

c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or a community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.

d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the

Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.

f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc., by specific review of the policy with all management personnel and with all minority and female employees at least once a year, and by posting the Contractor's EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject manner.

h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work force.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female employees for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and Contractor's activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through 7p). The efforts of a contractor association, joint contractor union, contractor-community; or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through 7p of these specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female work force participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex or national origin.

11. The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The contractor will designate an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of EEO and who must be assigned adequate authority and responsibility to do so. Additionally, the contractor EEO Officer shall ensure that the company EEO policy is being carried out, to submit reports relating to the specifications hereof as may be required by the Agency and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, Contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws, which establish different standards of compliance, or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

16. The Office of Federal Contract Compliance Programs (OFCCP) may conduct compliance evaluations to determine if the contractor maintains nondiscriminatory hiring and employment practices and is taking affirmative action to ensure that applicants are employed and that employees are placed, trained, upgraded, promoted, and otherwise treated during employment without regard to race, color, religion, sex, or national origin. In the event of the contractor's non-compliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be canceled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

EQUAL EMPLOYMENT OPPORTUNITY PROVISIONS

As used in these provisions, "Engineer" means the Chief Engineer of the Oregon Department of Transportation acting either directly or through authorized representatives. "Good Faith Efforts" means "affirmative action measures designed to implement the established objectives of an Affirmative Action Plan" 23 CFR 230.407(o).

Section 140 of Title 23, United States Code, EQUAL EMPLOYMENT OPPORTUNITY, as in effect on May 1, 1982, is incorporated by this reference and made a part of these provisions.

Written Notification

The Contractor shall provide to the Engineer within two weeks of award of any construction subcontract in excess of $10,000 at any tier for construction work under the Contract resulting from this solicitation written notification with the following information: the name, address and telephone number of the Subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

The Contractor shall provide immediate written notification to the Engineer when (1) the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor minorities or women that the Contractor sent to the union, or (2) the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its equal opportunity obligations. This is in addition to the notification required in item 7d in the "On-Site Workforce Affirmative Action Requirements for Women and Minorities on Federal-Aid Contracts".

Monthly Report

The Contractor and each Subcontractor (on contracts that require certified payrolls) shall submit each month to the Engineer a "Monthly Employment Utilization Report" (Form 731-0668). The electronic form is available at:

https://www.oregon.gov/ODOT/Business/OCR/Pages/Forms.aspx

Annual Report

Each July for the duration of the Project, each Contractor and Subcontractor shall submit Form FHWA-1391. This report shall be sent directly to the ODOT Office of Equity and Civil Rights.

PURSUANT TO 23 CFR PART 230, SUBPART D, THE STATE HIGHWAY AGENCY HAS A RESPONSIBILITY TO ASSURE COMPLIANCE BY CONTRACTORS WITH THE REQUIREMENTS OF FEDERAL-AID CONSTRUCTION CONTRACTS, 23 CFR 230.405(b). THEREFORE, THE STATE HIGHWAY AGENCY HAS THE FOLLOWING OBLIGATIONS CONCERNING MONITORING AND COMPLIANCE, INCLUDING SHOW CAUSE NOTICE REQUIREMENTS.

Monitoring and Compliance

The Agency will maintain a vigorous monitoring process to ensure nondiscrimination and affirmative action on all federally funded Projects. Monitoring shall include at a minimum, monthly meetings to review the "Monthly Employment Utilization Report" (Form 731-0668) with the Contractor's Equal Employment Opportunity (EEO) Officer and quarterly reviews of the Contractor's Good Faith Efforts as outlined in FHWA 1273.

The Agency shall determine the Contractor's compliance with equal opportunity requirements including:

- Non-discrimination in selection and retention of subcontractors, material suppliers and vendors;
- Maintenance of non-segregated facilities;
- Adequate representation and utilization of minorities and women (by craft and trade) in the Contractor's workforce;
- Good Faith Efforts in meeting on-the-job training and training special provisions contained in FHWA 1273;
- Fair treatment in all terms and conditions of employment; and,
- Adherence (where applicable) to Indian preference provisions.

If the Agency or the FHWA becomes aware of any possible violations of Executive Order 11246 or 41 CFR 60, each has the authority and the responsibility to notify the Office of Federal Contract Compliance Programs. The Contractor has the responsibility either to meet all the craft goals set forth in the applicable "Covered Area" of "On-Site Workforce Affirmative Action Requirements for Women and Minorities on Federal-Aid Contracts" or demonstrate Good Faith Efforts to meet these goals (as specified in paragraphs 7a through 7p of the "On-Site Workforce Affirmative Action Requirements for Women and Minorities on Federal-Aid Contracts").

Show Cause Notice

If an investigation or review reveals that a Contractor or Subcontractor has not complied with these EEO Provisions, the Agency shall issue a Show Cause Notice to initiate efforts to bring the Contractor or Subcontractor into compliance. This written notice shall state the deficiencies found during the review, and shall advise the Contractor or Subcontractor to show cause within 30 Calendar Days why the Agency shall not impose administrative

sanctions. The Contractor or Subcontractor must then show good cause or must provide an acceptable agreement for corrective action within 30 Calendar Days.

If the Contractor or Subcontractor does not provide this information by the end of the 30 Calendar Days, the Engineer shall withhold all project progress payments in process as of the date the Show Cause Notice was issued and will continue to withhold project progress payments until the Contractor or Subcontractor responds in an acceptable manner. If the Contractor or Subcontractor fails to meet the conditions of the corrective action agreement, no further Show Cause Notice is required; the Agency shall immediately initiate enforcement proceedings.

If a Contractor's prequalification certification is revoked or disqualified because the Contractor has been found on at least two occasions to be in breach of these EEO Provisions of Federal-Aid highway construction contracts, the Contractor must be determined to be in compliance with these EEO Provisions prior to the Contractor's prequalification certificate being reinstated.

SUSPENSION OF DISADVANTAGED BUSINESS ENTERPRISE (DBE) REQUIREMENTS EFFECTIVE 10/03/2025

In accordance with the Interim Final Rule, effective October 3, 2025 and published at 90 Fed Reg 47,969 (2025), modifying the certification, compliance and reporting requirements of the Disadvantaged Business Enterprise program (DBE IFR), ODOT's DBE requirements that were applicable to federally funded projects prior to the 10/03/2025 effective date of the rule are no longer in effect, and the associated DBE contractual requirements have been suspended pending implementation of the DBE IFR. Contractor will cooperate in processing any contractual revisions ODOT deems necessary or appropriate to effectuate the updated DBE Program requirements that may result from the DBE IFR implementation.

APPRENTICESHIP REQUIREMENTS

For projects with a contract price that exceeds $3 million, the Contractor is subject to the apprenticeship requirements found in ORS 279C.533 and set forth herein.

I. Apprenticeship Goal

Contractor shall employ Apprentices to perform 12 percent of the Work hours that Contractor's employees in Apprenticeable Occupations perform under this Contract.

Contractor shall also require that each subcontractor with a subcontract of an estimated value of $750,000 or more at the time of Agency's consent to the subcontract ("Covered Subcontractors") employ Apprentices to perform 12 percent of the Work hours that its employees in Apprenticeable Occupations perform under the subcontract.

Contractor has the primary responsibility to ensure the apprenticeship requirements set forth herein are met. Contractor shall ensure that the applicable subcontracts contain the appropriate clauses, obligating Subcontractor to the Apprenticeship goal as applicable; however, this shall not relieve the Contractor of the Contractor's primary responsibility.

Contractor and Covered Subcontractors shall use apprentices that the BOLI Apprenticeship & Training Division certifies are registered with the Oregon State Apprenticeship and Training Council in a Registered Apprenticeship Training Program. Contractor shall be an Oregon Bureau of Labor and Industries (BOLI) Registered Training Agent in accordance with OAR 839-011-0162 at time of time of contract execution. Reciprocal approval for federal purposes is accorded to contractors, apprentices, apprenticeship programs and standards that are registered with the USDOL Office of Apprenticeship ("OA") or registered to other State Apprenticeship Registration Agencies duly recognized by OA for federal public works projects in Oregon that are subject to the Davis-Bacon Act, in accordance with 29 CFR 29.5(b)(13) (see OAR 839-011-0162(6)). A Covered Subcontractor must be an approved training agent at the time of consent to subcontract unless it will not be performing work in an Apprenticeable Occupation.

Contractor and Covered Subcontractors shall pay an Apprentice for Work on the Project at the hourly rate to which the Apprentice is entitled under the applicable Apprenticeship Agreement or as otherwise specified by the Apprenticeship Training Program.

Apprenticeable Occupations are those designated by BOLI as available trades with apprenticeships. The list of those trades is available at: https://www.oregon.gov/boli/apprenticeship/Pages/trades.aspx

II. Reporting.

A. Required Forms. Contractor shall submit weekly the BOLI Enhanced WH-38 Form to BOLI with a copy to the Agency to report the extent of Contractor's and Covered Subcontractor's compliance with these Apprenticeship Requirements. Agency may disclose the reports as provided under ORS 279C.845(6).

At any time, BOLI may change the required form or method to identify, collect, and report the information required under this Subsection II. Contractor is under a continuing obligation to use the most current form required by BOLI for this purpose.

B. Failure to Report. Failure of Contractor to provide reports as described in Subsection A above may result in withholding of payment as provided in ORS 279C.845(7).

C. Obligation to Provide Additional Information. Upon request by Agency, and in a form and schedule specified by Agency, Contractor shall provide the following information:

i. The name of or other identification for this Contract;

ii. The city or county in which the public improvement is located;

iii. A detailed accounting of:

a. The total number of hours of work that workers performed under this Contract and each Covered Subcontract;

b. The total number of hours of work that workers performed in each Apprenticeable Occupation for the Contract and each Covered Subcontract on the public improvement;

c. The total number of hours of work that Apprentices performed under this Contract and each Covered Subcontract; and

d. The total number of hours of work that Apprentices in each Apprenticeable Occupation performed under this Contract and each Covered Subcontract.

iv. The total number of workers who performed construction work and the total numbers of minority individuals, women and veterans who performed construction work under this Contract. A report under this subparagraph must separately list for each worker the worker's race, ethnicity, gender, veteran status and, as applicable, trade, craft or job category.

D. Final Report. Upon request by Agency prior to final completion, Contractor shall provide Agency with a final report regarding its employment of Apprentices, which shall contain the following information for Contractor and each subcontractor subject to the Apprenticeship requirements:

- Total amount of Work hours that workers performed in each Apprenticeable Occupation
- Total amount of Work hours performed by Apprentices
- Number of hours subject to calculation of reduction in payment as described in Subsection II(C)(iii)(b)

III. Noncompliance and Reduction in Payment.

As required by ORS 279C.533, Agency will reduce payment due to Contractor under this Contract if Contractor does not meet the Apprenticeship Goal set forth in Section I. The reduction will be the equivalent of the difference between the total number of work hours that Apprentices in Apprenticeable Occupations should have performed to meet the apprenticeship requirements less the total number of work hours that Apprentices in Apprenticeable Occupations actually performed, multiplied by $15 per hour.

Contractor may apply reduction in the amount due to a Covered Subcontractor if that Covered Subcontractor fails to meet the Apprenticeship Goal. In such case, Contractor must notify Agency and reduce its invoices to Agency accordingly. In no event shall Contractor charge Agency for the amount reduced from the Subcontract.

OUTREACH, RECRUITMENT AND RETENTION

For projects with a contract price that exceeds $3 million, the Contractor is subject to the outreach, recruitment and retention requirements found in ORS 279C.533 and set forth herein.

Contractor shall comply fully with the provisions of ORS 279C.533**.** It is a material provision of this public improvement contract that Contractor establish and implement a plan for outreach to and recruitment and retention of women, minority individuals and veterans, with an aspirational target of having individuals in one or more of these groups to compose at least 15 percent of the total number of workers who perform work under this contract ("Outreach, Recruitment and Retention Plan") that meets the Plan Requirements set forth herein. Additionally, Contractor shall require any subcontractor with which the contractor has a subcontract with a contract price of $750,000 or more ("Covered Subcontractors") to establish and implement an Outreach, Recruitment and Retention Plan for Subcontractor's outreach to and recruitment and retention of women, minority individuals and veterans, with an aspirational target of having individuals in one or more of these groups to compose at least 15 percent of the total number of workers who perform work under that subcontract.

Outreach, Recruitment and Retention Plans must require, at a minimum, that Contractor (or Covered Subcontractor):

(i) Advertise employment opportunities available under the public improvement contract in general circulation publications, trade association publications and publications that serve an audience or readership that consists primarily of minority individuals, women or veterans;

(ii) Follow upon the contractor's initial solicitations of interest by contacting minority individuals, women or veterans who expressed interest in or responded to the initial solicitation to determine with certainty whether the minority individual, woman or veteran is interested in the opportunities described in subsection (i);

(iii) Provide all persons who express continued interest with adequate information about hiring qualifications, pay rates, benefits, the expected duration of employment, work hours and other conditions of employment under the public improvement contract;

(iv) Make efforts to encourage minority individuals, women and veterans to seek employment under the public improvement contract that the contractor may reasonably expect will produce a level of participation that meets the aspirational target described herein; and

(v) Use the services of minority community organizations, local, state, federal and tribal governments or other organizations that have recruiting, training and otherwise assisting minority individuals, women and veterans as the organization's primary purpose or mission to assist the contractor with outreach, recruitment and retention.

Contractor shall submit its Outreach, Recruitment, and Retention Plan ten (10) days prior to the preconstruction conference. Contractor shall submit the Outreach, Recruitment, and Retention Plans of Covered Subcontractors with Contractor's request for Agency's consent to subcontract. Contractor shall follow the reporting requirements Section II of the Apprenticeship Requirements Special Provision to satisfy the reporting requirements of 279C.533 as it relates to the Outreach, Recruitment and Retention Plan. Upon request of Agency, Contractor shall provide any other supporting information Agency deems necessary or appropriate to determine compliance with this provision and requirements of ORS 279C.533.

Contractor shall demonstrate adequate good faith efforts to comply with this provision. While the aspirational target is not a requirement for this Contract and is not binding on the Contractor, ODOT desires to encourage the highest possible participation of women, minority individuals, and veterans in the workforce. Neither the Contractor nor its Subcontractors are under any obligation to meet or achieve the aspirational targets set forth herein.

TRIBAL EMPLOYMENT RIGHTS ORDINANCE (TERO)

CONFEDERATED TRIBES
OF THE
WARM SPRINGS INDIAN RESERVATION

February 24, 2015

TRIBAL EMPLOYMENT RIGHTS ORDINANCE
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TRIBAL EMPLOYMENT RIGHTS OFFICE ORDINANCE

CHAPTER 1: GENERAL PROVISIONS

Section 1.01: TITLE

This Code shall be known as the Tribal Employment Rights Ordinance.

Section 1.02: PURPOSE

The purposes of this Code are:

A. To prevent employment related discrimination against American Indians;

B. To ensure compliance with this Code that is intended to give preference in employment, contracting and sub-contracting, and training to American Indians; and

C. To maximize utilization of Indian workers in all employment opportunities on and near the Warm Springs Indian Reservation.

D. To ensure the Indian workforce on the Warm Springs Indian Reservation are trained and equipped to enter the workforce and maintain employment of their choosing.

Section 1.03: STATEMENT OF POLICY

The Tribal Council of the Confederated Tribes of the Warm Springs Reservation of Oregon finds that:

A. Jobs in the private employment sector on and near the Warm Springs Reservation are an important resource for Indians residing on and near the Reservation.

B. In order to attract private employers to locate on the Warm Springs Reservation, Indians residing on or near the Reservation need to have the training and skills those employers require.

C. This Code is consistent and supplemental to existing federal and tribal law prohibiting employment discrimination against Indians and providing employment and contract preference to individual Indians and Indian-owned enterprises.

D. Indian unemployment on the Reservation continues to be a problem of sufficient magnitude to warrant the enactment and implementation of this Code which is designed to improve training and employment opportunities for Indians living on and near the Reservation.

E. Many unemployed Indians on the Reservation may have social barriers to employment such as poor education, substance abuse, the lack of vocational training or the lack of tools and other equipment needed by their preferred vocation that need to be addressed.

Section 1.04: JURISDICTION

A. This Code shall apply to all Employers and Construction Employers located on or engaged in work on the Reservation as set forth in this Code. This Code shall also apply to ODOT Contractors engaged in work on and near the Reservation as permitted by this Code and applicable federal and state law as identified in the Memorandum of Understanding.

B. This Code shall not apply to any direct employment by the Tribe, its enterprises or tribally owned corporations, or by federal, state, or other governments; however, construction contractors and subcontractors of these governmental entities shall be subject to the Code.

1. This Code is not intended to pre-empt or interfere with the rights or obligations set forth in the Tribes' Personnel Policies and Procedures, or the personnel manuals of Tribal enterprises now or later established. The employees of the Tribe and Tribal enterprises shall be limited to the rights and remedies provided in the duly adopted manuals or procedures enacted by the Tribe for those employees. This Code shall not apply to or be enforced against Tribal enterprises established and owned by the Tribe. Indian employment preference shall be provided at each Tribal enterprise in personnel manuals developed for each enterprise.

2. Contract disputes between contractors and their subcontractors or their employees are outside the scope or jurisdiction of this Code and are not subject to enforcement, compliance or the issuance of a citation under this Code. Contract disputes shall be resolved through specified contract procedures for such disputes or through a court of competent jurisdiction.

SECTION 1.05: DEFINITIONS

A. COMMISSION - shall mean the Warm Springs Tribal Employment Rights Commission.

B. COMMISSIONER - shall mean a member of the Warm Springs Tribal Employment Rights Commission.

C. COMMISSION CHAIRPERSON - shall mean the Chairperson of the Commission which shall be elected by the Commission on an annual basis. The Chairperson of the Commission shall preside at all meetings of the Commission.

D. COMPLIANCE AGREEMENT - an agreement between a Employer, Construction Employer, or ODOT Contractor and the Tribal Employment Rights Office, setting forth how the employer will meet Indian preference hiring and subcontracting goals and that they will comply with this Code. The Compliance Agreement must be executed prior to

commencement of any portion of a construction contract or sub-contract within the Reservation, or in the case of an ODOT Contractor, within or near the Reservation.

E. CORE CREW - means the essential, permanent employees of an Employer or Construction Employer. Core Crew employees must have been regular employees of the Employer for at least six (6) months. "Core Crew" requests must be submitted to the Office in writing, showing that each Core Crew member meets these criteria before the start of any project work, and approved by TERO Program Manager.

F. CONSTRUCTION EMPLOYER - shall mean any person, company, contractor, subcontractor, or entity located or engaged in construction work on the Reservation including new construction, remodeling, repair, or maintenance of structures, infrastructure, equipment and support facilities. The term shall include construction contractors and subcontractors of federal, state, county, and other local governments, but shall not include the Tribe, federal, state, or local governments or Tribal enterprises when they are employers.

G. EMERGENCY RELIEF ORDER - shall have the meaning set forth in Section 4.04 of the Code.

H. EMPLOYER - shall mean any person, company, contractor, subcontractor, or entity located on or engaged in work on the Reservation.

I. ENGAGED IN WORK ON THE RESERVATION - an Employer or Construction Employer is "engaged in work on the reservation" if during any portion of a business enterprise or specific project, contract or subcontract, he or any of his employees spends time performing work within the exterior boundaries of the Reservation.

J. INDIAN - shall mean any person enrolled in a federally recognized tribe and recognized by the United States pursuant to its trust responsibility to American Indians.

K. INDIAN OWNED BUSINESS - a business that is at least 51% owned, operated, and controlled by an Indian.

L. INDIAN PREFERENCE - shall mean a preference for enrolled Indians in all aspects of employment, including but not limited to, hiring, training, promotions, layoffs, contracting, and subcontracting for work on or near the Reservation. Qualified, available Indians shall receive an Indian preference in accordance with this code and negotiated Compliance Agreements.

M. LOCATED ON THE RESERVATION - an Employer or Construction Employer is "located on the Reservation" if during any portion of a contract it maintains a temporary or permanent office or facility within the exterior boundaries of the Reservation.

N. MEMORANDUM OF UNDERSTANDING - shall mean the agreement between the Tribe and the Oregon Department of Transportation providing Indian preference in employment for

Indians on ODOT transportation projects and authorizing the Office to impose a compliance fee on ODOT contractors.

O. NEAR THE RESERVATION - shall mean jobs within 60 miles of the exterior boundaries of the Warm Springs Indian Reservation.

P. ODOT - shall mean the Oregon Department of Transportation.

Q. ODOT CONTRACTOR - shall mean a transportation construction contractor, and all related subcontractors, to ODOT that are subject to the TERO Indian employment and subcontracting preference and Compliance Agreement under the Memorandum of Understanding.

R. OFFICE - shall mean the Warm Springs Tribal Employment Rights Office.

S. PROGRAM MANAGER - shall mean the Program Manager of the Warm Springs Tribal Employment Rights Office.

T. PROGRAM MANAGER DECISION - shall have the meaning set forth in Section 4.03 and 4.05 of the Code.

U. RESERVATION - shall mean the Warm Springs Indian Reservation.

V. TERO - shall mean this Tribal Employment Rights Ordinance.

W. TRIBE or TRIBAL - shall mean the Confederated Tribes of the Warm Springs Indians of Oregon.

X. TRIBAL COUNCIL - shall mean the governing body of the Confederated Tribes of the Warm Springs Indian Reservation.

Y. TRIBAL COURT - shall mean the Warm Springs Tribal Court.

Z. WORKFORCE DEVELOPMENT - shall be the training and employment component of the TERO program.

CHAPTER 2: TRIBAL EMPLOYMENT RIGHTS OFFICE

Section 2.01: PROGRAM MANAGER

The Program Manager of the Tribal Employment Rights Office shall be responsible for administering the provisions of this Code and provide direction, leadership and oversight to Office staff.

Section 2.02: GENERAL AUTHORITIES

The Program Manager shall have the authority to hire staff, to obtain and expend funds from tribal, federal, state, or other sources to carry out the purposes of this Code as provided in the annual budget of the Tribe, to establish Employer, Construction Employer, and ODOT Contractor record-keeping requirements, to implement a workforce development program plan to consult with the Commission on policy issues related to the implementation of this Code, and to take such other actions as are necessary for the fair and vigorous enforcement of this Code. The Program Manager will report TERO activities in the Human Resource Department Annual Work Plan for Tribal Council review.

Section 2.03: SPECIFIC AUTHORITIES

The Program Manager shall have the authority to implement and enforce this code, including but not limited to:

A. Enter Compliance Agreements with Employers, Construction Employers, and ODOT Contractors;

B. Investigate violations of and impose penalties on Employers, Construction Employers, and ODOT Contractors who violate the provisions of the Code;

C. Assist the Commission to develop and promulgate regulations necessary to implement the provisions of this Code;

D. For purposes of Compliance Agreements, develop and impose numerical hiring goals and timetables that reflect the available Indian labor pool and other employment opportunities for each craft and skill category.

E. Require Employers, Construction Employers, and ODOT Contractors that have established training or apprentice programs to provide preference to Indians.

F. Establish and maintain a tribal hiring hall that maintains a record of qualified, employable Indians that is to be used by employers to fill vacancies.

G. Prohibit any Employer, Construction Employer, and ODOT Contractor from imposing employment qualification criteria that serve as barriers to Indian employment unless it can be demonstrated that such criteria are required by business necessity.

H. To work cooperatively with other Tribal programs, including, but not limited to, Warm Springs Health & Wellness Center, Department of Children & Family Services, and Education to establish counseling, education and training, substance abuse treatment, and other support programs for Indian workers to assist them in acquiring and retaining employment.

I. To enter into cooperative agreements with federal and state agencies to minimize employment discrimination against Indians both on or near the Reservation, to promote Indian Preference in hiring, training, and contracting and to otherwise ensure compliance with this Code.

J. Through required payroll reports, from Construction Employers and ODOT Contractors, monitor wage scale and salaries to ensure equitable compensation of Indian workers.

K. To assess fees on Construction Employers and ODOT Contractors to support the operation of the Office.

L. To apply for federal funding to provide workforce training opportunities for Indians living on or near the Reservation pursuant to the Indian Employment, Training, and Related Services Demonstration Act of 1992, as amended, Public Law 102-477.

M. To address the needs of Indian persons living on or near the Reservation that are now unemployed or underemployed and/or dependent on public assistance, through the linkage of employment and vocational training, substance abuse counseling and other needed social services. Specifically, the Office will provide, or facilitate the provision of, special services to enable such Indian persons to receive the education, training, and other medical and social services they need to become productive employees in the workforce. The Program Manager shall carry out these duties as set forth in Chapter 9 of this Code.

N. Advertise, collect data, investigate, communicate, and make recommendations to the Commission regarding any application or re-certification process on the Indian Owned Business Directory. The Office will ensure each applicant has been reviewed and certified and shall make a recommendation to deny or approve the application to the Commission. The Office will ensure each Indian Owned Business on the Directory will be re-certified every 2 years and update the Commission on an annual basis.

CHAPTER 3: TRIBAL EMPLOYMENT RIGHTS PROGRAM

Section 3.01: SCOPE

All Construction Employers located on or engaged in work on the Reservation shall and ODOT contractors engaged in work on or near the Reservation shall:

A. Give preference to Indians in hiring, promotion, training and all other aspects of employment, contracting and subcontracting, business opportunities;

B. Comply with the Compliance Agreement executed under this Code; and

C. Shall comply with the terms of the Code and its implementation regulations.

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Section 3.02. COMPLIANCE AGREEMENT

A. Each Employer, Construction Employer, and ODOT Contractor shall be required to meet with the Program Manager to negotiate, execute, and comply with a Compliance Agreement which sets forth:

1. The minimum number of Indians that shall be hired for any particular project while the Employer or Construction Employer is located on or engaged in work on the Reservation, or an ODOT Contractor is engaged in work on or near the Reservation, numerical goals and timetables for each craft, skill area, job classification, etc., used by the Employer, Construction Employer or ODOT Contractor including, but not limited to: general labor, skilled, administrative, supervisory, and professional categories;

2. Applicable wage scale provisions, prevailing wage standards, and salary compensation terms that may be applicable to a project or contract under applicable federal or state law, or Tribal law, provided that any Tribal Minimum Wage or Prevailing Wage has been promulgated as provided in Section 3.12 of this Code;

3. Periodic reporting requirements to the Program Manager on the number of Indians employed, a record of persons hired, fired, or promoted during the reporting period, and a statement regarding compliance with the hiring goals set forth in the Compliance Agreement.

4. Preference for training programs where the Employer, Construction Employer or ODOT Contractor has an established program.

5. In the Program Manager's discretion, procedures and remedies for the enforcement and/or violations of the Compliance Agreement or the Code that may vary from the procedures and remedies set forth in this Code.

B. The numerical goals set forth in the Compliance Agreement shall be based upon surveys conducted by the Program Manager of the available and qualified Indian work force and of projected employment opportunities on or near the Reservation.

1. Compliance Agreements shall be reviewed periodically and revised as necessary to reflect changes in the number of Indians available or changes in Employer, Construction Employer or ODOT Contractor hiring plans.

2. At the Program Manager's discretion, no Employer, Construction Employer or ODOT Contractor shall commence work or site mobilization until a Compliance Agreement has been negotiated and executed.

3. Any violation of an executed Compliance Agreement shall be a violation of this Code.

4. When an Office employee referral to an Employer, Construction Employer or ODOT Contractor is unable to continue working, the Employer, Construction Employer or ODOT Contractor shall immediately notify the Office who shall provide a substitute referral within three (3) business days or notify the Employer, Construction Employer or ODOT Contractor that it has no referrals for the position, after which time the Employer, Construction Employer or ODOT Contractor will be authorized to hire a permanent replacement.

Section 3.03: JOB QUALIFICATIONS AND PERSONNEL REQUIREMENTS

Employer, Construction Employer or ODOT Contractor shall not use qualification criteria or other personnel requirements that serve as barriers to Indian employment unless the Employer, Construction Employer or ODOT Contractor is able to demonstrate that such criteria or requirements are required by business necessity.

Section 3.04: TRIBAL HIRING HALL

The Program Manager shall establish and maintain a hiring hall to assist Employers, Construction Employers and ODOT Contractors and all other employers doing business on the Reservation in placing qualified Indians in job positions.

A. Construction Employer and ODOT Contractors shall not hire a non-Indian in violation of the Compliance Agreement until the Program Manager has certified within a reasonable time that no qualified Indian is available to fill the vacancy. For purposes of this section, "reasonable time" for construction jobs shall mean that the Program Manager shall have 48 hours from time of notice of manpower needs to locate and refer a qualified Indian.

B. The Program Manager may waive the 48-hour time period upon a showing by the Construction Employer or ODOT Contractor that such time period imposes an undue burden upon the Construction Employer or ODOT Contractor, the business or the construction project in question

Section 3.05: UNIONS

Construction Employers with collective bargaining agreements with a union are responsible for informing such unions of this Code, its rules and regulations and their Compliance Agreement. ODOT Contractors with collective bargaining agreements with a union are responsible for informing such unions of this Code, the Memorandum of Understanding and their Compliance Agreement. Unions will give absolute preference to Indians in job referrals regardless of which referral list they are on. Temporary work permits will be granted to Indians who do not wish to join a union. Nothing herein shall constitute official tribal recognition of any union or tribal endorsement of any union activities on or near the Warm Springs Indians.

Section 3.06: CONTRACTORS AND SUBCONTRACTORS

Where the general contractor on a project is a Construction Employer, that general contractor shall ensure that all its subcontractors comply with this Code. The general contractor who is a Construction Employer may be held liable for violations of this Code by its subcontractors.

Section 3.07: PREFERENCE IN CONTRACTING AND SUBCONTRACTING

A. For Construction Employers. Construction Employers located on or engaged in work on the Reservation shall give preference to Indian Owned Businesses in the award of contracts or subcontracts to the extent permitted by applicable law. The Program Manager shall maintain a list of Indian Owned Businesses ("Indian Owned Business Directory") which shall be supplied to Construction Employers and ODOT Contractors upon request. Indian Owned Businesses shall be certified by the Program Manager to ensure that they meet the requirements of such an entity as set forth in section 1.05(I) of this Code. Indian Owned Businesses will submit re-certification applications every two (2) years to remain active.

B. All other Employers. All other Employers located on the Reservation shall give preference to Indian Owned Businesses in the award of contractor subcontracts to the maximum extent feasible as permitted by federal law and the law, budget, and fiscal policies of the Tribe.

Section 3.08: LAYOFFS

In all layoffs and reductions in force for a Construction Employer and ODOT Contractors, no Indian worker shall be terminated if a non-Indian worker in the same job classification is still employed. The non-Indian shall be terminated first if the Indian possesses threshold qualifications for the job classification. If a Construction Employer or ODOT Contractor lays off workers by crews, all qualified Indian workers shall be transferred to crews to be retained so long as non-Indians in the same job classification are employed elsewhere on the job site, except for non-Indians hired as Core Crew pursuant to negotiated Compliance Agreements.

Section 3.09: PROMOTION

Each Construction Employer and ODOT Contractor shall give Indians preferential consideration for all promotion opportunities and shall encourage Indians to seek such opportunities. For each promotion or supervisory position filled by a non-Indian, the Construction Employer or ODOT Contractor shall file a report with the Program Manager stating what efforts were made to inform Indian workers about the position, what Indians, if any, applied for the position and if an Indian was not chosen, the reasons therefore.

Section 3.10: COMPLIANCE FEES

The Program Manager shall assess and collect a compliance fee as follows:

A. Every Construction Employer with a construction, renovation, improvement, or expansion contract in the sum of ten thousand dollars ($10,000) or more shall pay a fee of 2.5 percent of the total amount of the contract. Such fee shall be paid by the Construction Employer prior to commencing work on the Reservation.

B. The Program Manager may develop a sliding scale fee that reduces the 2.5 percent fee applicable to Construction Employers based upon the Construction Employer meeting Indian Preference goals and Indian Owned Business subcontracting targets, provided that the fee shall not be reduced below 1.5 percent. All TERO compliance fee adjustments must be presented to the Program Manager for approval.

C. The Program Manager shall be authorized to assess a compliance fee on ODOT Contractors engaged in construction projects on or near the Reservation as may be permitted by the Memorandum of Agreement or federal transportation agency managing the transportation construction project.

D. Compliance fees shall be used for the Office operating budget. Compliance fees shall be appropriated by the Tribes' annual budget process.

F. The Program Manager shall be authorized to do the following in connection with the payment of the compliance fee:

1. Permit the employer to pay the compliance fee pursuant to a payment schedule over the lifetime of the project (for on reservation non-ODOT projects only) being constructed, provided that such payment shall be fully paid within twenty years; and

2. Provide credit to Construction Employer (for on reservation non-ODOT projects only) for the payment of the compliance fee when the Construction Employer makes contributions to the Tribal scholarship, vocational training or workforce development programs that are similar to the education and training functions of the Office, or when the Construction Employer establishes and funds an apprenticeship program providing job training for Indians.

G. The Program Manager shall receive a copy of each compliance fee payment. The Program Manager shall be responsible for collecting the fees and may request that the Commission promulgate such regulations as are necessary to ensure a fair and timely fee collection process. For Construction Employers working on projects that begin off and end on, or begin on and end off the Reservation, will be considered one hundred percent on-Reservation, thus subject to the full compliance fee. However, if fifty percent (50%) or more of the work is off-Reservation, the Program Manager is authorized to negotiate an appropriate compliance fee based upon the percentage of the work performed on the Reservation.

Section 3.11: ON SITE INSPECTIONS

The Program Manager shall have the authority to make on-site inspections during regular working hours in order to monitor compliance with this Code and the applicable Compliance Agreement by a Construction Employer or ODOT Contractor. The Program Manager and any authorized Office staff shall have the right to inspect and copy all relevant records of a Construction Employer or ODOT Contractor, of any signatory union or subcontractor of a Construction Employer or ODOT Contractor, and shall have the right to speak to workers and to conduct an investigation on the job site. All information collected by the Program Manager and/or Office staff shall be kept confidential unless disclosure is necessary or ordered as part of any federal or tribal judicial or administrative proceeding.

Section 3.12: TRIBAL MINIMUM OR PREVAILING WAGE

A. The Program Manager may promulgate a Tribal Minimum Wage or Prevailing Wage as provided in this Section. Such Tribal Minimum or Prevailing Wage shall only apply to Construction Employers. A Tribal Minimum or Prevailing Wage established under this subsection may be included in a Compliance Agreement pursuant to Section 3.02 of this Code.

B. Definitions. For purposes of this Section, the terms "Minimum Wage" and "Prevailing Wage" are defined as follows:

   1. Minimum Wage: Shall mean the lowest wage that the Construction Employer can pay any employee, which Minimum Wage shall not be less than the federal minimum wage;

   2. Prevailing Wage: Shall mean the lowest wage that a Construction Employer can pay any employee by trade or craft. A Prevailing Wage need not limit or put a cap on all employees in a particular craft or trade.

C. If the Program Manager elects to promulgate a proposed Minimum Wage or Prevailing Wage, the following factors shall be taken into consideration:

   1. The prevailing wage for each job classification in the Oregon or Washington wage classifications;

   2. The prevailing wages established by other Northwest Indian tribes;

   3. The number of Indian persons living on or near the Reservation with the particular craft or trade skills;

   4. The Reservation unemployment rate – especially the unemployment rate for the particular craft or trade;

   5. Local labor and market conditions;

6. The potential impact of the Prevailing Wage to attract businesses or Construction Employers to do business on the Warm Springs Indians; and

7. The potential impact of the Prevailing Wage in raising the costs of Tribal facilities.

D. The draft Minimum or Prevailing Wage shall be published in the Spilyay Tymoo with notice of the comment opportunity and comment deadline date and distributed to all Tribal governmental departments, enterprises, and to persons or entities that are known to the Office that could be impacted by such a proposal for review and comment. The record shall be kept open for at least sixty (60) days to permit comments to be submitted.

E. Within thirty (30) days of the closing of the record for comments, the Program Director shall either prepare a draft Minimum or Prevailing Wage, submit the proposed Minimum or Prevailing Wage to the Commission for its approval, or shall withdraw the proposal.

F. Upon receipt of Commission approval, the draft Minimum or Prevailing Wage shall be submitted to the Tribal Council for approval. The Minimum or Prevailing Wage shall become final upon Tribal Council approval of the Minimum or Prevailing Wage.

CHAPTER 4:VIOLATION PROCEDURES

Section 4.01: INVESTIGATION BY THE PROGRAM MANAGER

Whenever a violation of this Code or a Compliance Agreement has been alleged and is brought to the attention of the Program Manager, the Program Manager shall ensure a prompt and thorough investigation of the alleged violation. The Program Manager shall seek to achieve an informal settlement of the alleged violation, with a written report of findings provided to the Commission.

Section 4.02: ISSUANCE OF CITATION

A. If the Program Manager determines that a violation of the Code or a Compliance Agreement exists, and an informal settlement cannot be achieved, the Program Manager shall issue a warning to the Employer, Construction Employer or ODOT Contractor. This warning shall specify the nature of the violation and direct that the violation be corrected within three (3) days or sooner where warranted.

B. If the violation is not corrected within the time specified, the Program Manager shall issue a citation to the Employer, Construction Employer or ODOT Contractor which shall:

1. Be in writing and in the name of the Confederated Tribes of the Warm Springs Indian Reservation;

2. State the name of the violator;

3. Bear the signature of the Program Manager or the authorized representative;

4. State the name and section number of the Code provision or Compliance Agreement violated;

5. State a brief summary of facts constituting the violation; and

6. State a time and place the Construction Employer or ODOT Contractor must appear to answer to the violation at a Program Manager hearing.

Section 4.03: PROGRAM MANAGER HEARING

Any Employer, Construction Employer or ODOT Contractor that receives a citation shall be entitled to a hearing before the Program Manager no later than ten (10) working days after receipt of a citation. Hearing procedures shall comply with the requirements of due process, but will not be bound by the formal rules of evidence. The Employer, Construction Employer or ODOT Contractor shall be entitled to present evidence and to call witnesses to demonstrate that it has complied with the requirements of this Code or Compliance Agreement or that it made its best effort to do so and therefore should not be subject to sanctions. On the basis of evidence presented at the hearing, and the information collected by the Office, the Program Manager shall determine whether or not the Employer, Construction Employer or ODOT Contractor complied with this Code. If the Employer, Construction Employer or ODOT Contractor fails to attend the hearing set before the Program Manager, the Program Manager shall base its determination on the facts before the Program Manager. If the Program Manager determines that the Employer, Construction Employer or ODOT Contractor is out of compliance and has not made a best effort to comply, the Program Manager shall impose one or more of the sanctions provided for in this Code, as appropriate, and shall order the Employer, Construction Employer or ODOT Contractor to take such corrective action as is necessary to remedy any harm done to the Tribe or individual Indians caused by the non-compliance. The Program Manager shall send written notice of its decision ("Program Manager Decision") to all parties within ten (10) days after its decision in the matter.

Section 4.04: EMERGENCY RELIEF

When the Program Manager determines that a violation has occurred that is of a critical nature requiring immediate remedial action, the Program Manager may issue a citation without delay, stating sanctions to be placed on the offending Employer, Construction Employer or ODOT Contractor ("Emergency Relief Order"). The Employer, Construction Employer or ODOT Contractor shall have the right to appeal the Emergency Relief Order and any imposition of emergency sanctions to the Commission. The Commission shall schedule a hearing on any appeal of an Emergency Relief Order within seven (7) working days.

Section 4.05: INDIVIDUAL COMPLAINT PROCEDURE

A. Any Indian who believes that an Employer, Construction Employer or ODOT Contractor has failed to comply with this Code or applicable Compliance Agreement, or who believes that

they have been discriminated against by an Employer, Construction Employer or ODOT Contractor because they are Indian, may file a complaint with the Office. The complainant shall be responsible for providing the Office with evidence of the discriminatory practices. Upon receipt of a complaint supported by sufficient evidence of discrimination against an Indian complainant, the Office shall conduct an investigation of the charge, which shall include interviews of the project manager for the Employer, Construction Employer or ODOT Contractor and any person(s) allegedly responsible for the discriminatory conduct, and shall attempt to achieve an informal settlement of the matter. If voluntary conciliation cannot be achieved, the Program Manager shall hold a hearing on the matter, shall make a determination on the validity of the charge, and shall issue a Program Management Decision as is necessary to make whole any Indian who is harmed by the Employer's, Construction Employer's or ODOT Contractor's non-compliance or discriminatory behavior. The Program Management Decision shall be in writing and shall be sent to all parties within seven (7) working days.

B. In conducting the hearing, the Program Manager shall have the same powers, and shall be bound by the same hearing requirements as provided in Sections 4.03, 4.04 and 4.06 of this Chapter.

Section 4.06: APPEALS OF PROGRAM MANAGER DECISIONS

A. The following my file an appeal:
   1. A party;

   2. Any person adversely affected by a Program Manager Decision or Emergency Relief Order; and
   3. A person entitled to notice and to whom no notice was mailed.

B. Program Manager Decisions or Emergency Relief Orders not timely appealed as set forth in WSTC Sections 4.03, 4.04, 4.05(A), and 7.01 shall be final agency orders subject to enforcement by any legal means, including in Warm Springs Tribal Court.

CHAPTER 5. PENALTIES AND ENFORCEMENT

Section 5.01: PENALTIES FOR VIOLATION

A. Employer, Construction Employer, or ODOT Contractor who violates this Code or a Compliance Agreement shall be subject to penalties including, but not limited to:

   1. Denial of the right to commence or continue business on the Reservation;

   2. Suspension of operations on the Reservation for Employers or Construction Employers or on or near the Reservation for ODOT Contractors;

   3. Payment of back pay and/or damages to compensate any injured party;

4. An order to summarily remove employees hired in violation of this Code or a Compliance Agreement;

5. Imposition of monetary civil penalties pursuant to a schedule of penalties promulgated by the Commission, which penalties shall take into consideration the severity of the violation, whether any other penalty pursuant to this section was imposed and whether the person or entity that is subject to the fine has any prior history of violating this Code; or

6. An order specifying requirements for employment, promotion, and training Indians injured by the violation.

Section 5.02: MONETARY FINES

The maximum monetary penalty that may be imposed for a violation is five hundred dollars ($500). For purposes of the imposition of penalties determined by the Court or sanction by the Program Manager, each day during which a violation exists shall constitute a separate violation.

Section 5:03: ENFORCEMENT

A. The Program Manager shall be entitled to pursue the enforcement of any final agency order under this Code by any legal means, including Tribal Court enforcement.

B. Costs associated with the enforcement of final agency orders issued pursuant to this Code shall be assessed against the Employer, Construction Employer, or ODOT Contractor that is out of compliance. These may include, but are not limited to: document reproduction costs, filing fees, attorney fees and costs incurred by the Tribe or the Project Manager or Commission related to securing enforcement of the order.

C. Employers or Construction Employers that do not comply with the provisions of this Code, and leave the Reservation before enforcement orders are issued or penalties are imposed and collected or an enforcement order is issued by the Commission or the Court, shall be denied the right of contracting or doing further business on the Reservation.

CHAPTER 6: TRIBAL EMPLOYMENT RIGHTS OFFICE COMMISSION

Section 6.01: ESTABLISHMENT

The Tribal Employment Rights Office Commission ("Commission") is hereby established to perform the duties and responsibilities set forth in this Code.

A. Membership - the Commission shall be comprised of 5 members appointed by the Tribal Council. The members shall hold office for a period of 1 and 2 years, terms to be determined by the Tribal Council. There is no limitation on the number of terms a member may serve.

B. Qualification - any Indian 18 years and older who works or resides on the Reservation is qualified to be appointed to the Commission.

C. Commission Chairperson - the Commission shall elect annually a Chairperson from its membership. The Chairperson shall preside at all meetings of the Commission and shall be authorized to sign required documents in accordance with the powers of the Commission.

D. Duties and Powers - the Commission shall be responsible for conducting hearings on tribal employment rights matters in accordance with this Code. In addition to all specific powers set forth in this Code, the Commission shall also have the following powers:

1. Review contractor applications to certify that applicant is eligible for inclusion on Indian Owned Business Directory.

2. Certify On-The-Job training hours as recorded by Office staff for Tribal Apprenticeship Programs.

3. The Commission may conduct on-site visits if such visits are a part of their investigation for the decision making process for appeals.

4. Develop procedures necessary to implement the provisions of this Code that are consistent with this Code.
5. Conduct an annual review of the Code.

E. The Commission will hold regular meetings at 1:30 pm, on the first and third Tuesday of every month. Times and procedures for hearings will be set as necessary, when an appeal is filed on a sanction or decision of the Program Manager. The Commission shall attempt whenever possible to execute its powers by consensus. If a consensus cannot be achieved, the affirmative vote of a majority of the 5 Commissioners shall be required to take Commission action. The Chairperson shall be entitled to vote on any decision or action. All written agreements or plans, directives, complaints, and appeals which the Commission authorized or required to issue or file, shall bear the signature of at least 2 Commissioners. The Commission will not supervise Tribal Employment Rights and Workforce Development personnel.

CHAPTER 7. COMMISSION APPEALS AND HEARINGS

Section 7.01: FILING AN APPEAL

A. Program Manager Decisions and Emergency Relief Orders may be appealed to the Commission.

B. To initiate an appeal, the person or entity appealing a sanction or decision of the Program Manager shall:

1. File a completed notice of appeal on a form prescribed by the Commission along with an appeal fee established independently by the Commission.

2. The notice of appeal and appeal fee must be received at the Commission office no later than 5:00 PM on the ninth (9^{th}) day following mailing of the decision.

3. The notice of appeal shall be accompanied by a written statement of appeal describing the nature of the Program Manager's action or decision being appealed, summarizing the factual and legal basis for the appeal and identifying the relief requested and by a copy of the Program Manager's written decision, if any.

4. In the circumstance of an appeal by a party who was entitled to notice but did not receive notice, the notice of appeal and appeal fee must be received by the Commission no later than 5:00 PM on the twentieth (20^{th}) day following mailing of the decision.

Section 7.02: SCHEDULING APPEAL HEARING

Upon receipt of an appeal that has been timely filed, the Commission shall establish a hearing date, time, and place and shall notify in writing the appealing party and the Program Manager. Each party shall be responsible for ensuring that their witnesses attend the hearing. A hearing on an appeal of a grant of emergency relief pursuant to Section 4.04 of this Code shall be scheduled within seven (7) working days of the filing of the appeal. All other hearings shall be scheduled as soon as possible.

Section 7.03: REQUEST TO RESCHEDULE COMMISSION HEARING

Upon receipt of a request by a party to a Commission appeal hearing requesting the rescheduling of a Commission hearing, the Commission shall promptly rule on such request and immediately notify the parties of its decision.

Section 7.04: COMMISSION HEARING PARTICIPANTS

Only the party filing the appeal, the Program Manager and the witnesses that may be called by the parties in the hearing may attend the hearing. The Commission shall be responsible for maintaining an administrative record of the proceedings including providing for audio recording of the hearing or other appropriate recording of the hearing. Both the appealing party and the Program Manager may be represented by counsel at the hearing.

Section 7.05: HEARING PROCEDURE

A. Hearing procedures shall comply with the requirements of due process, but will not be bound by the formal rules of evidence.

B. Both parties will be afforded the opportunity to present written arguments and opening statements with respect to what they intend to present to the Commission. Following opening statements, first the appellant and then the Program Manager may present witnesses and evidence in support of their position on the issues being appealed.

C. The Commission Chairperson or his/her Commission delegate will preside over the hearing and will take whatever action is necessary to ensure an equitable and expeditious hearing. Parties will abide by the presiding official's rulings. The Chairperson may limit the number of witnesses when testimony would be unduly repetitious, and exclude any person from the hearing for contemptuous or inappropriate misbehavior that obstructs the hearing.

Section 7.06: COMMISSION DECISION

A. The Commission will render a written decision and order ("Order") within ten (10) working days from the date of the hearing. Such decision shall include a statement of facts and a statement of legal authority on which the decision is based. Orders shall be delivered to the party for whom the hearing was held and shall include information and instructions for appealing the decisions pursuant to WSTC 8.01.

B. Orders not appealed to the Court of Appeals as set forth by WSTC 203.100 within thirty (30) days of the date of the Order shall be considered final agency orders of the Commission and subject to enforcement by any legal means, including Warm Springs Tribal Court.

Section 7.07: COMMISSION TRAINING

The Commission will be afforded annual training on hearing procedures and decision making techniques.

CHAPTER 8: TRIBAL COURT ENFORCEMENT AND JUDICIAL REVIEW

Section 8.01: APPEALS OF COMMISSION DECISIONS

A. Any party to the Commission proceeding under Chapter 7 may appeal an Order of the Commission.

B. The Warm Springs Court of Appeals ("Court of Appeals"), established pursuant to WSTC Chapter 203, is hereby granted exclusive jurisdiction to hear appeals from Orders of the Commission and shall act as the final reviewing body for an Order of the Commission under this ordinance.

C. All notices of appeal and proceedings shall follow the established rules of the Court of Appeals.

D. The Court of Appeals shall initiate an expedited review procedure and shall issue decisions on appeals of Commission Final Orders within 45 days of the filing of the notice of appeal.

Section 8.02: TRIBAL COURT ENFORCEMENT OF FINAL AGENCY ORDERS

The Tribal Courts are hereby conferred exclusive jurisdiction and shall have the authority to issue any order, enter any judgment or take any action necessary to enforce any final agency order under this ordinance including without limitation the authority to assess and collect civil penalties, to enjoin or mandate actions to enforce the provisions of this Code, and to provide any other relief the Tribal Court deems lawful and equitable; provided that nothing in this Code shall be construed as a waiver of the sovereign immunity of the Confederated Tribes. Accordingly, nothing in this Code shall be construed as any authority for a claim for money damages against the Tribe, the Office or Tribal officials and employees acting pursuant to their authority under this Code.

CHAPTER 9: WORKFORCE DEVELOPMENT

Section 9.01: AUTHORIZATION

The Program Manager shall prepare for Tribal Council approval of a Workforce Development Plan pursuant to the Indian Employment, Training and Related Services Demonstration Act of 1992, 25 U.S.C. §3404 et seq. The Plan shall be submitted to the Department of Interior for its review, approval and funding. The Plan shall be developed by the Program Manager in consultation with the Tribal Secretary-Treasurer/CEO, the Tribal Human Resources Director, the Warm Springs Health & Wellness Chief Executive Officer, and the Directors of the Department of Children and Family Services, and the Department of Education.

Section 9.02: WORKFORCE DEVELOPMENT PLAN

The Workforce Development Plan shall, at a minimum, include the following elements:

A. Identification of the members of the Tribe and other enrolled Indians living on the Reservation between the ages of 18 and 65 who are either unemployed or underemployed;

B. The employment opportunities for members of the Tribe and enrolled Indians within the Reservation, including a listing of each enterprise, the types and number of employment positions available;

C. The education, vocational training, scholarships, and other training opportunities that might be available to increase the job skills of Indians living on the Reservation;

D. Identification of the employment obstacles experienced by unemployed and underemployed Indians residing on the Reservation;

E. Description of Tribal government departments, programs, and services that are available to address the obstacles preventing employment by Reservation Indians;

F. A comprehensive strategy to address and remove the employment obstacles experienced by Reservation Indians, the utilization of Tribal departments, programs, and services to address these obstacles and the education, training and employment opportunities available for Indians;

G. Additional funding and personnel needed to implement the Plan; and

H. Means to provide incentives for Indian persons to receive the services, education, or training needed to remove employment obstacles and seek gainful employment, which may include the removal of governmental benefits in the event that able bodied persons are unwilling to participate in Workforce Development programs or services to enable the participant to gain employment or, if such services or training have been provided, to pursue such employment.

Section 9.03: TRAINING

A. The Program Manager shall identify training programs necessary in order to increase the pool of qualified Indians for employment on the Reservation.

B. The Program Manager may initiate and sponsor training programs for employers to participate in, or the Program Manager may work with employers to establish and sponsor their own training programs to assist Indians to become qualified in the various job classifications used by employers.

C. The ratio of Indian trainees to fully qualified workers shall be negotiated as part of the Compliance Agreement. For construction projects, the number of Indian trainees shall be no less than the minimum ratio established by the Department of Labor.

Section 9.04: INTER-DEPARTMENTAL PARTICIPATION AND COOPERATION

Removing employment obstacles experienced by Reservation Indians will require the participation and cooperation by all Tribal departments and enterprises. While the Program Manager is charged with developing and implementing the Workforce Development Plan, all Tribal department directors and enterprise managers shall cooperate in the implementation of the Plan to the fullest extent practicable.

Section 9.05: REPORTING

The Program Manager shall report quarterly to the Trustees on the status of and progress in developing and implementing the Workforce Development Plan. Such reporting shall include information on the following:

A. Status of development of Workforce Development Plan;

B. Status of Department of Interior of Workforce Development Plan;

C. Amount of federal funding received, expended, and available for the implementation of the Workforce Development Plan;

D. Number of Indian persons receiving services or training pursuant to Workforce Development Plan;

E. Number of Indian persons who, after receiving Workforce Development services or training, have been employed;

F. A discussion of problems encountered in addressing employment obstacles experienced by Reservation Indians under the Workforce Development Plan.

SPECIAL PROVISION

INDIAN PREFERENCE IN EMPLOYMENT ON FEDERAL-AID HIGHWAY PROJECTS ON AND NEAR INDIAN RESERVATIONS

July 1, 2024

PURPOSE

The purpose of this Special Provision is to outline the Indian Employment Preference requirements and procedures to be followed by The Confederated Tribes of Warm Springs (CTWS), the Oregon Department of Transportation (ODOT), and all Contractors or subcontractors engaged in highway construction work that is under contract with ODOT on federal-aid highway projects that are located on and near the Warm Springs Indian Reservation.

BACKGROUND

Section 140(d) of Title 23, U.S.C., was amended by Section 1026 of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) to include that, “States may implement a preference for employment of Indians on projects carried out under this title near Indian reservation.”

AUTHORITY

ODOT acknowledges the inherent sovereign authority of the CTWS to promulgate and enforce the Tribal Employment Rights Ordinance (“TERO Ordinance”) within the boundaries of the Warm Springs Indian Reservation and acknowledges Title 23, Section 140(d) of the USC.

The current TERO Ordinance of the CTWS and its compliance requirements and procedures are incorporated herein and made part of this Special Provision.

ODOT and CTWS entered into a Memorandum of Understanding (MOU) to implement TERO Ordinance provisions into ODOT contracts.

APPLICABILITY

Eligible projects for Indian employment preference consideration under this Special Provision are those projects which are on or near Indian Reservation Roads or on the Warm Springs Reservation. Roads "near" Warm Springs Indian Reservation are defined by mileposts as shown on Exhibit A attached to the MOU.

ELIGIBLE EMPLOYEES

All Indians are eligible for Indian preference without regard to Tribal affiliation or place of enrollment. However, recruiting efforts will be targeted toward those living on or near the Warm Springs Indian Reservation.

Employers with collective bargaining agreements with a union are responsible for informing such unions of this requirement.

INDIAN EMPLOYMENT PREFERENCE GOAL

The Indian Employment Preference goal is indicated in the project Special Provisions.

Classifications for Indian Employment Preference goal consideration are:

Carpenter
Laborer
Equipment Operator
Cement Masons
Truck Drivers
Electricians
Ironworkers

Classification shall be according to requirements for certified payrolls.

Indian Employment Preference goals will apply to total project work hours and will not be applied individually to the Contractor and subcontractors. Indian Employment Preference goals do not apply to number of persons employed at any given period of time.

Indian Employment Preference goals are for the Contractor's work force who are other than core crew members. A Contractor's core crew is composed of full-time employed individuals necessary to satisfy his/her reasonable needs for supervisory or special experienced personnel to assure an efficient execution of the contract work. Indian employees of the Contractor shall be included in the core crew, regardless of job function, to avoid the unintended results of having a Contractor lay-off or terminate an Indian employee to hire another under this provision.

In setting the Indian Employment Preference goals, consideration has been given to the availability of skilled and unskilled Indian workers, the type of work to be performed, the Contractor's employment requirements, the need for new hires, and unemployment rates prevailing among non-Indians. Consideration has also been given to the employment goals for minorities and women established for the area by the U.S. Department of Labor's Office of Federal Contract Compliance Programs pursuant to Chapter 41, Code of Federal Regulations, Part 60-4.

The Indian Employment Preference goals may only be changed by ODOT after consultation with the CTWS and the Contractor, and after consideration of the good faith efforts of the Contractor together with the ability of the CTWS to refer workers in

numbers and in time for the Contractor to meet the Indian Employment Preference goals and to perform the work.

If the CTWS is unable to provide sufficient qualified or qualifiable applicants to meet the Indian Employment Preference goal within 48 hours of the placement of a job order by the Contractor, the Contractor, ensuring nondiscrimination and providing equal employment opportunity, may recruit from other sources off the Warm Springs Indian Reservation. The Contractor shall give full consideration to all qualified job applicants referred by the CTWS. The Contractor is not required to employ any applicant who, in the Contractor's opinion, is not qualified to perform the classification of work required.

FRINGE BENEFITS

All fringe benefits for Indian workers referred by the Tribal Employment Rights Office of the CTWS shall be paid in cash. Indian workers who are union members will have the option of fringe benefits in cash or paid into a bonafide plan or program. However, this does not change any agreements between Indian union members and their respective unions.

PRECONSTRUCTION CONFERENCE

The preconstruction conference will be the forum for finalizing all compliance agreements and requirements between the CTWS and the Contractor and subcontractor(s) and to answer any questions regarding the Indian Employment Preference goal and applicable Special Provisions.

MANDATORY TERO WORKSHOP

The Tribal Employment Rights Office of the CTWS agrees to conduct mandatory prebid quarterly TERO Code/MOU workshops, and shall issue certificates of completion to those Contractors who sign in, attend, and participate. Contractors must have a certificate in order to be eligible to bid on ODOT Contracts that require compliance with these TERO Code/MOU requirements. The certificate will be good for 3 years.

COMPLIANCE

The State will follow normal contract compliance procedures to effect compliance. The State may elect to invite the CTWS to assist their monitoring efforts in all or any part of its compliance process. The State will review the Contractor's employment practices and take appropriate enforcement actions when the goal is not reached after consideration of good faith efforts. See attached "ON-SITE WORKFORCE AFFIRMATIVE ACTION REQUIREMENTS FOR WOMEN AND MINORITIES ON FEDERAL AID CONTRACTS" or contact the Tribal Employment Rights Office for sanctions that may be imposed for failure to meet these goals.

COMPLIANCE FEE

The Contractor shall pay the compliance fee directly to the TERO before beginning work subject to this Special Provision. Use the Contract Amount to calculate the compliance fee. See Section 4 of the MOU for percentages.

MEMORANDUM OF UNDERSTANDING

STATE OF OREGON DEPARTMENT OF TRANSPORTATION
And
THE CONFEDERATED TRIBES OF THE WARM SPRINGS RESERVATION OF OREGON

THIS AGREEMENT, hereinafter "Agreement" or "MOU," is made and entered into by and between the STATE OF OREGON, acting by and through the Oregon Department of Transportation (ODOT or State); and the CONFEDERATED TRIBES OF THE WARM SPRINGS RESERVATION OF OREGON (CTWS or Tribe), acting by and through its elected officials and the Tribal Employment Rights Office (TERO), hereinafter individually referred to as "Party" and collectively referred to as the "Parties." The Agreement pertains to cooperation between the Parties to apply the Indian Employment Preference to Federal-Aid highway projects ("Federal-Aid Highway Projects") taking place on or near the Warm Springs Indian Reservation.

RECITALS

Oregon Revised Statutes (ORS) 190.110 et seq. grants authority to state agencies to enter into agreements with an American Indian tribe or an agency of an American Indian tribe for the performance of any or all functions and activities that a party to the agreement, its officers, or agents have the authority to perform.

CTWS has the inherent sovereign authority to promulgate and enforce the Tribal Employment Rights Office Ordinance ("TERO Ordinance or "Ordinance") within the boundaries of the Warm Springs Indian Reservation ("Reservation").

Section 140(d) of the United States Code, Title 23 provides, "States may implement a preference for employment of Indians on projects carried out under this title near Indian reservations."

USDOT Notice 4720.7 states,

> In off reservation situations, [Tribal Employment Rights Offices] can bill contractors at an agreed upon rate for services rendered, i.e., recruitment, employee referral and related supportive services. The proceeds are used by the tribes to develop and maintain skills banks, to fund job referral, counseling, liaison, and other services and activities related to the employment and training of Indians.

ODOT recognizes that jobs in the private employment sector on and near the Reservation are an important resource for Indians residing on or near the Reservation.

ODOT considers the availability of a pool of skilled and trained workers in heavy highway construction trades to be beneficial to Federal-Aid Highway Projects on or near the Reservation.

The purpose of this Agreement is to establish procedures to be followed by both Parties to aid in ensuring that:

(1) when Contractors are performing work on Federal-Aid Highway Projects on the Reservation ("MOU On-Reservation Project"), the Contractors comply with the Ordinance.

(2) when Contractors are performing work on Federal-Aid Highway Projects in the MOU TERO Boundary ("MOU Boundary Project"), the Contractors comply with the Compliance Agreement and the Ordinance that existed at the time this MOU was entered into and as set forth in this MOU.

Parties enter into this Agreement in the spirit of partnership, transparency and communication. In the event problems arise with Contractors under this MOU, both Parties agree that it is in the best interest of their ongoing partnership to proactively consult and confer with each other on proposed solutions for the mutual benefit of their separate and combined goals.

This MOU amends and replaces a prior MOU between the Parties which took effect on December 14, 2018, and was amended on December 14, 2023 to extend the term until June 30, 2024.

NOW THEREFORE in consideration of the mutual understandings and agreements herein set forth, CTWS and ODOT enter into the following Agreement:

1. EFFECTIVE DATE AND DURATION.

Once the Agreement has been fully executed, the term of this Agreement shall begin on the July 1, 2024 and shall remain in effect for five (5) years, unless earlier terminated per Section 9, below. The Parties agree to meet annually to review this Agreement, evaluate its effectiveness, and discuss any proposed amendments under Section 9.

2. DEFINITIONS.

2.1. Compliance Agreement – An agreement between a Contractor and TERO, setting forth how the Contractor will meet the Indian preference in hiring and other obligations under the Ordinance. The Compliance Agreement is attached as Exhibit B.

2.2. Contractor – Any contractor engaged to perform services on a highway construction project that is subject to this MOU.

2.3. CTGR/CTWS TERO Boundary Overlap – Region that is within both the CTGR MOU TERO Boundary and CTWS MOU TERO Boundary, as identified in Exhibit C.

2.4. Federal-Aid Highway Project – Projects that occur on Federal-Aid highways that are funded under USC Title 23, and which may be eligible for Indian

Preference in Employment if they are on or near the Reservation, per USDOT Notice 4207.7.

2.5. **Indian** – Any person enrolled in a federally recognized tribe.

2.6. **Indian Preference in Employment** – Preference for Indians in all aspects of employment, including but not limited to, hiring, training, promotions, layoffs, contracting and subcontracting for work in whole or in part within MOU TERO Boundary.

2.7. **MOU TERO Boundary** – Region of land near the Reservation boundary, as identified on the map attached as Exhibit A. "Outside the MOU TERO Boundary" refers to the region that is neither within the MOU TERO Boundary nor the Reservation.

2.8. **MOU Boundary Project** –A Federal-Aid Highway Project in whole or in part within the MOU TERO Boundary. ODOT requires Contractors for these projects to sign the Compliance Agreement and comply with the TERO Ordinance, as adopted on February 24, 2015.

2.9. **MOU On-Reservation Project** –A Federal-Aid Highway Project in whole or in part within the Warm Springs Indian Reservation. ODOT requires contractors for these projects to sign the Compliance Agreement comply with the TERO Ordinance.

2.10. **Reservation** – The Warm Springs Indian Reservation.

2.11. **Subcontractor** - Any Subcontractor engaged by a Contractor to perform services on a Federal-Aid Highway Project that is either an MOU Boundary Project or an MOU On-Reservation Project.

2.12. **TERO Ordinance or Ordinance** – Tribal Employment Rights Ordinance, Chapter 115 of the Warm Springs Tribal Code.

3. PROJECT ADMINISTRATION.

3.1. MOU On-Reservation Projects.

ODOT will require Contractor and Subcontractor to execute the Compliance Agreement and be subject to the TERO Ordinance. ODOT will include a copy of the Ordinance and the Compliance Agreement template in the contract documents for such projects.

3.2. Selection

ODOT and TERO will work together to identify projects eligible under this MOU to promote and support Indian employment on Federal-Aid Highway Projects that are on-Reservation or otherwise within the MOU TERO Boundary ("TERO Eligible Projects"). ODOT will share the

State Transportation Improvement Program ("STIP") with the TERO and identify TERO Eligible Projects.

ODOT and TERO will meet annually each spring to mutually decide which TERO Eligible Projects will be subject to this MOU and the Indian Preference in Employment as well as any specific project workforce training and needs, project schedule, bid documents (applicable deadlines, Compliance Agreement template and applicable Ordinance amendments), scope, and duration. Parties will also discuss how to minimize impact of Ordinance amendments to existing MOU On-Reservation Projects.

Parties may also discuss fee-supported training activities, goal setting process, reporting summaries, and challenges or successes in contractor compliance, such as participation and performance of contractors under respective compliance agreements.

ODOT shall notify TERO of any TERO Eligible Projects that come up after the parties' annual meeting. At CTWS's election, such projects shall become subject to this MOU and Contractor will be required to enter into a Compliance Agreement with TERO as a condition of the contract with ODOT. As stated in the Compliance Agreement, Contractor is responsible for ensuring each Subcontractor complies with the provisions of the Compliance Agreement. To the extent a TERO eligible project lies within the CTGR/CTWS TERO Boundary Overlap, the selection process outlined in 4.2 shall apply; provided, however, that the Tribe which selected first during a given year shall have the second selection of any TERO Eligible Projects within the Boundary Overlap that come up later that year.

3.3. Projects in the MOU TERO Boundary Overlap

The Confederated Tribes of the Grand Ronde (CTGR) MOU TERO Boundary and the Confederated Tribes of Warm Springs (CTWS) MOU TERO Boundary overlap as indicated in Exhibit C hereto (CTGR/CTWS TERO Overlap). Each MOU TERO boundary is established to define "near reservation" and is based solely on a reasonable commuting distance from a tribe's reservation (approximately 60 miles). The boundary is established with no relation to tribal historic or ceded lands. For this reason, MOU TERO boundaries among Oregon tribes may overlap.

In order to provide for the efficient and equitable distribution of the opportunity to participate in Federal-Aid Highway Projects within the CTGR/CTWS TERO Overlap, should it exist beyond 2024, the following project identification and selection process will be used:

1. ODOT shall provide a list of the planned Federal-Aid Highway Projects, if any, that fall within the CTGR/CTWS TERO Overlap to the CTGR and CTWS TERO Programs on a yearly basis;
2. ODOT, CTGR TERO and CTWS TERO shall meet annually in or around March of each year to determine which TERO Program shall administer and set the Indian preference goals for which eligible projects within the CTGR/CTWS TERO Overlap;

3. During the annual meeting, CTGR TERO and CTWS TERO shall take turns selecting TERO Eligible Projects within the CTGR/CTWS TERO Overlap to administer, with CTWS selecting first in odd numbered years and CTGR selecting first in even numbered years;
4. The selection process will continue until all TERO Eligible Projects within the CTGR/CTWS TERO overlap have been selected or one or both TEROs indicate they are unable to administer additional projects.
5. CTGR and CTWS will jointly provide notes of the results of this selection to ODOT.

In the event CTGR selects, but is subsequently unable or unwilling to administer, a TERO Eligible Project within the MOU TERO Boundary, CTWS shall have the option to administer the project, to the extent it does not interfere with ODOT procurement or contract administration.

3.4. Goal Setting

TERO shall analyze each TERO Eligible Project selected to become a contract under this MOU to establish an accomplishable hiring goal. The established goal shall be based on an assessment of workforce availability and worker skill needs for the project. TERO will provide goals with sufficient time to be included in ODOT's bid documents.

Eligible employees for goals include all Indians without regard to tribal affiliation or place of enrollment. However, TERO recruiting efforts shall be targeted towards those living on or near the CTWS.

Hiring goals apply to employees in job classifications for heavy highway construction trades, including but not limited to carpenter, laborer, equipment operator, cement mason, truck driver, electrician, and ironworker.

3.5. Compliance Agreement

TERO agrees to meet with each Contractor engaged under an ODOT MOU Boundary Project or MOU On-Reservation Project to develop a numerical hiring goal for each eligible job craft which shall be used on the contract. TERO will formalize the hiring goals using the Compliance Agreement form, attached as Exhibit B. This includes numerical hiring goals and timetables for each craft, skill area, job classification, etc., as a percentage of total hours worked on the project, used by the Contractor. This Compliance Agreement form may be revised from time to time by mutual consent of the parties, without formal amendment to this MOU.

ODOT agrees it will require a Contractor for an ODOT MOU Boundary Project or MOU On-Reservation Project to execute the Compliance Agreement.

3.6. Mandatory MOU Workshop

TERO agrees to conduct mandatory pre-bid quarterly TERO/MOU workshops, and shall issue certificates of completion to those Contractors and, as applicable, Subcontractors who sign in, attend, and participate. ODOT agrees to make a good faith effort to participate in such

workshops. TERO agrees that the certificate shall be valid for three (3) years from the date of the workshop.

ODOT will require Contractors to obtain a valid certificate of completion issued by TERO in order to be eligible to bid for a TERO Eligible Project.

3.7. Pre-Construction Conference

Pre-construction conferences for contractors of projects that are subject to this MOU shall be held on or at location near the Reservation. At the pre-construction conference TERO and ODOT shall be available to provide a detailed explanation of, and answer questions about, the provisions of the Ordinance, if applicable, and Indian Preference goals. The pre-construction conference shall be the forum for finalizing all compliance agreements and requirements between TERO and the Contractor and Subcontractor(s) and answering any questions on Indian Preference and applicable special contract provisions.

3.8. Specialty and Service Provider Contractor Exclusion

All specialty and service provider contractors who are not required by ODOT to have a full subcontract will be exempt from entering into a compliance agreement with TERO, provided, when timing allows, ODOT and TERO mutually agree that a given contractor qualifies as a specialty/service provider prior to such exclusion applying.

3.9. Preference in Subcontracting.

ODOT will require that Contractors who perform work on the Reservation shall give preference to Indian owned businesses in the award of subcontracts. ODOT will require that Contractors who perform work in the MOU TERO Boundary shall be notified of any Indian owned businesses that may be qualified as a Disadvantaged Business Enterprise and available to work under a subcontract. Such notification may be included in the Compliance Agreement. The TERO program manager shall maintain a list of Indian owned businesses in a directory which shall be supplied to Contractors upon request.

4. COMPLIANCE FEES.

4.1. Compliance Fee Calculation

ODOT acknowledges the inherent sovereign authority of CTWS to assess and collect the compliance fees set forth in the Ordinance, Section 3.10 for MOU On-Reservation Projects.

Parties agree that TERO will assess a compliance fee on ODOT MOU Boundary Projects ("TERO Boundary Compliance Fee"). The TERO Boundary Compliance Fee is equal to a percentage of the total cost of the Project, as set forth below:

Contract Value	Fee % allowed
$1 to $500,000	1.00%
$500,001 to $999,999	0.75%
$1,000,000 to $1,999,999	0.50%
$2,000,000 to full contract value	0.25%

When a Federal-Aid Highway Project results in a contract that occurs both on the Reservation and within the MOU TERO Boundary, the portion of work on the Reservation is subject to the fee percentage established in the Ordinance and the portion of the work that is within the MOU TERO Boundary is subject to the TERO Boundary Compliance Fee.

CTWS is continuing to develop its TERO Program to meet the goals of federal law and the TERO Ordinance. The TERO Boundary Compliance Fee will be used to support the TERO consistent with USDOT Notice 4720.7 and may be adjusted by mutual agreement in accordance with Section 9, below.

4.2. Reporting

Parties agree that the Compliance Fees paid under this Agreement are to be used by the TERO to develop and maintain a TERO Program including a Tribal Hiring Hall, to fund job referral, conduct screening, career counseling, liaison representation, training, and apprenticeship.

TERO will provide a Tribal Hiring Hall referral report (Referral Report) on a monthly basis to ODOT Office of Civil Rights. Each Referral Report will provide the following data:

- month and year of report submitted,
- names of TERO employee referrals,
- dates referred,
- contractors referred to,
- trades,
- last four digits of employees' social security number,
- notation if registered apprentice, and
- active or terminated dates.

TERO will provide to ODOT quarterly reports summarizing Compliance Fee-supported activities (Quarterly Fee Report) within thirty (30) days after the completion of each quarter of CTWS's fiscal year. Reports will provide the following data:

- total Compliance Fees collected,
- number of Tribal Hiring Hall referrals,
- trade breakout of referrals,
- gender breakout of referrals,
- support activities such as screening, orientations, counseling, trainings, and
- other activities supported with Compliance Fees collected under this Agreement.

The parties agree to consult within thirty (30) days of any failure to deliver the Quarterly Fee Report in a timely manner.

ODOT, through its Office of Civil Rights, shall provide TERO with, at a minimum, a copy of the "TERO Project Employment" report, or its future equivalent, on a monthly basis.

5. NOTICES; ADMINISTRATORS.

5.1. Notice. Except as otherwise expressly provided in this Agreement, any communications between the Parties hereto or notices to be given hereunder shall be given in writing by email, personal delivery, or mailing the same, postage prepaid, to ODOT or CTWS at the address, number or email address set forth in this Agreement. Any communication or notice so addressed and mailed shall be effective five (5) days after mailing. Any communication or notice given by personal delivery shall be effective when actually delivered. Any communication or notice given by email shall be effective upon the sender's receipt of confirmation generated by the recipient's email system that the notice has been received by the recipient's email system.

5.2. Service. All notices required or authorized to be served on either Party shall be served by first class mail to Party's Administrator in Section 6.3.

5.3. Administrators for this Agreement are:

ODOT	CTWS
ODOT IGA #	CTWS #
Administrator: Angela M. Crain Title: Manager, Office of Equity and Civil Rights Address: 800 Airport Rd SE Salem, OR 97301 Phone: 503-931-2575 Email: angela.m.crain@odot.state.or.us	Administrator: Wendell Jim Title: TERO Director Address: P.O Box 515/1233 Veterans St. Warm Springs, Oregon 97761 Phone: 541-615-0853 Email: wendell.jim@wstribes.org

Parties may make changes to the specified Administrators in this section, and such changes shall constitute contract administration for purposes of this Agreement. Parties will provide notification to each other of any such change in writing, and changed shall be effective without the necessity of a formal amendment to this Agreement.

6. CHOICE OF LAWS.

This Agreement shall be construed in accordance with the laws of the State of Oregon. In no event shall anything be construed as a waiver by either Party of any form of defense or immunity, whether sovereign immunity, governmental immunity, Tribal immunity, immunity based on the eleventh amendment to the Constitution of the United States or otherwise, from any Claim or from the jurisdiction of any court.

7. NO WAIVER.

By entering into this Agreement, CTWS does not waive, alter, or otherwise diminish its sovereign immunity for itself, its agents, members, enterprises and affiliates, from suit or its rights, privileges, remedies, or services guaranteed by the Treaty with the Tribes of Middle

Oregon, June 25, 1855, 12 Stat. 963. ODOT acknowledges that nothing in this MOU may be construed as a waiver, express or implied, of the Tribe's sovereign immunity.

8. AMENDMENTS

This Agreement may be amended by mutual agreement of both Parties, but only to the extent permitted by applicable statutes and administrative rules. No amendment to this Agreement shall be effective unless it is in writing signed by the Parties and all approvals required by applicable law have been obtained.

In the event CTWS amends its Ordinance before the expiration of this Agreement, the parties agree to confer regarding any necessary amendments to this Agreement.

In the event there is a change in federal law, regulation or guidance applicable to this MOU, or that the Federal Highway Administration changes its interpretations of these laws and regulations, such change will automatically apply to the MOU from the date of the adoption or publication.

9. TERMINATION.

9.1. This agreement shall remain in effect for five years, unless one of the following events occurs:

9.1.1. This Agreement is terminated by written agreement of both Parties, in which case it shall terminate on the date mutually selected by the Parties.

9.1.2. Either Party serves the other with notice of termination, in which case it shall terminate no sooner than 30 days following the notice of termination.

9.1.3. If tribal, federal or state laws, regulations, or guidelines are modified or interpreted in such a way that either the work under this Agreement is prohibited, or payments for such work are prohibited from the planned funding source, in which case it shall terminate immediately.

9.2. In the event the parties terminate this Agreement and there is on-going work on a project within the MOU TERO Boundary or Reservation, the parties agree that ODOT may enter the project site and finish work in the manner agreed to by the Parties.

9.3. Any termination of this Agreement shall not prejudice any rights or obligations accrued to the Parties prior to termination.

10. REPRESENTATIONS AND WARRANTIES OF THE PARTIES.

10.1. CTWS represents and warrants to ODOT that (1) CTWS has the power and authority to enter into and perform this Agreement, (2) this Agreement, when executed and delivered, shall be a valid and binding obligation of the CTWS enforceable in accordance with its terms, and (3) the person executing this Agreement on behalf of the CTWS has the necessary authority to execute this Agreement for and on behalf of the CTWS.

10.2. ODOT represents and warrants that (1) ODOT has the power and authority to enter into and perform this Agreement, and that (2) this Agreement, when executed and delivered, shall be a valid and binding obligation of the State of

Oregon enforceable in accordance with its terms, and (3) the person executing this Agreement on behalf of the ODOT has the necessary authority to execute this Agreement for and on behalf of the ODOT.

11. COUNTERPARTS.

This Agreement may be executed in two or more counterparts, electronically or otherwise, each of which is an original, and all of which together are deemed one and the same instrument, notwithstanding that all Parties are not signatories to the same counterpart.

12. NON-APPROPRIATION.

Nothing in this Agreement is to be construed as permitting any violation of Article XI, section 7 of the Oregon Constitution or any other law regulating liabilities or monetary obligations of the State of Oregon.

CONFEDERATED TRIBES OF THE WARM SPRINGS INDIAN RESERVATION

By Robert A. Brunoe
Name: Robert A. Brunoe
Title: Secretary-Treasurer/CEO

Date 6/20/24

STATE OF OREGON, by and through its **DEPARTMENT OF TRANSPORTATION**

By Angela CRAIN (Jun 18, 2024 10:41 PDT)
Name: Angela M. Crain
Title: Manager, Office of Equity & Civil Rights

Date 06/18/2024

APPROVED AS TO LEGAL SUFFICIENCY

By Karen E. Clevering
Karen E. Clevering
Assistant Attorney General

Date 6/21/24

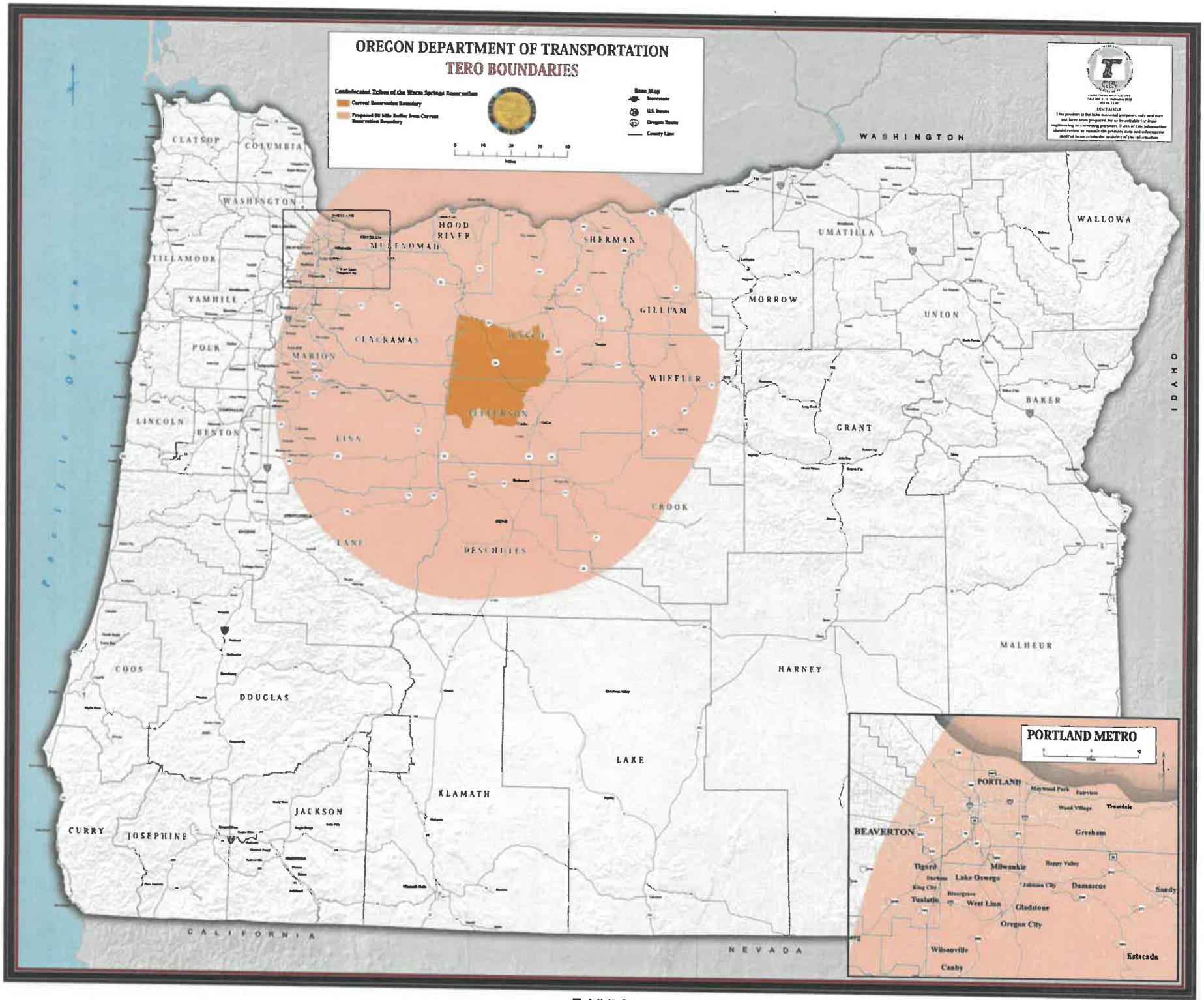

Exhibit A

06-21-24 24_SP00043_WARM_SPRINGS_TERO

CONFEDERATED TRIBES OF WARM SPRINGS
TRIBAL EMPLOYMENT RIGHTS OFFICE
ODOT MOU COMPLIANCE AGREEMENT

The Confederated Tribes of the Warm Springs Reservation of Oregon ("CTWS"), by and through its Tribal Employment Rights Office ("TERO"), and Contractor (as defined below) hereby enter into the following compliance agreement ("Agreement") as a condition of award of the Project (as defined below), and pursuant to the Memorandum of Understanding ("MOU") between CTWS and the State of Oregon Department of Transportation ("ODOT").

A. Contractor Information. The Contractor is identified as follows:

Check one: General ☐ Subcontractor ☐

Contractor Name: Click or tap here to enter text.

Mailing Address: Click or tap here to enter text.

City Click or tap here to enter text. **State** Click or tap here to enter text. **Zip** Click or tap here to enter text.

Contact Person: Click or tap here to enter text. **Title:** Click or tap here to enter text.

Phone: Click or tap here to enter text. **Cell:** Click or tap here to enter text.

Email: Click or tap here to enter text.

Scope of work: Click or tap here to enter text.

Performance Period: **Approximate Start Date:** Click or tap here to enter text. **End Date:** Click or tap here to enter text.

B. Project Information. The Project is identified as follows:

Contract Number: Click or tap here to enter text.

Project Name: Click or tap here to enter text.

Location: Click or tap here to enter text.

Project is: On-Reservation ☐ Within MOU TERO Boundary ☐ Both ☐

Duration of the Project: **Start Date:** Click or tap here to enter text. **End Date:** Click or tap here to enter text.

Total Contract Value: Click or tap here to enter text.

C. Definitions.

1. "Contractor" means the contractor engaged to perform services pursuant to this Agreement and the MOU, and identified in Section A of this Agreement, whether a General Contractor or Subcontractor.
2. "Core Crew" means the essential, permanent employees of Contractor who are full time employed individuals necessary to satisfy Contractor's reasonable needs for supervisory or specially experienced personnel to assure an efficient execution of the contract work.
3. "General Contractor" means the prime contractor responsible for oversight and coordination of the Project.
4. "MOU TERO Boundary" means the region of land near the Reservation boundary, as identified on the map attached as Exhibit A to the MOU.
5. "Reservation" means the Warm Springs Reservation.
6. "Subcontractor" means an individual or entity engaged by a General Contractor to perform services pursuant to this Agreement and the MOU.

D. Compliance Fees. Unless Contractor is a Subcontractor, Contractor must comply with the following requirements regarding compliance fees:

1. If the Project has a work scope within the Reservation boundary, it is subject to the on-Reservation compliance fees established with Tribal Employment Rights Ordinance, Chapter 115 of the Warm Springs Tribal Code ("TERO Code"), presently at 2.5% of the total contract cost.
2. If the Project is within the MOU TERO Boundary, it is subject to the compliance fee as described in the most recent version of the MOU, currently as set forth below:

Contract Value	Fee % allowed
$1 to $500,000	1.00%
$500,001 to $999,999	0.75%
$1,000,000 to $1,999,999	0.50%
$2,000,000 to full contract value	0.25%

3. If the Project occurs both on the Reservation and within the TERO Boundary, the portion of work on the Reservation is subject to the fee percentage established in the TERO Code and the portion of work that is within the TERO Boundary is subject to compliance fee as set forth in the MOU.
4. Contractor shall pay TERO the required compliance fees, as shown on Attachment I of this Agreement, prior to commencing work.

E. Numerical Goal Setting. TERO will analyze the Project and establish an Indian preference hiring goal. The established goal shall be based on an assessment of workforce availability and worker skill needs for the Project. TERO agrees to meet with the Contractor to develop a numerical goal for each job craft which will be used on the Project.

F. Hiring Goals. TERO reserves the right to negotiate for any position listed on the compliance agreement hiring goals application in order to meet the prescribed employment goals. All labor, training, or apprentice positions will be filled by Indian workers referred by the TERO program. Any non-Indian

found to be working on the Project who has not been approved by TERO will constitute non-compliance and in violation of this Agreement. Indian employment preference goals are for the Contractor's work force who are other than Core Crew members.

G. TERO Workforce

1. Contractor agrees to fulfill its hiring goals for the Project as shown in Attachment II of this Agreement.
2. Contractors engaged in work on the Reservation shall give preference to Indian owned businesses in the award of subcontracts as permitted by applicable law Unless Contractor is a Subcontractor, Contractors who perform work in the MOU TERO Boundary shall be notified of any Indian owned businesses that may be qualified as a Disadvantaged Business Enterprise and available to work under a subcontract. Any such notification will be included as an attachment to this Compliance Agreement. The TERO program manager shall maintain a list of Indian owned business directory which shall be supplied to Contractors upon request.
3. Contractor will provide TERO with a list of all positions to be used on the Project, the number of each craft, and any Core Crew requests.
4. Core Crew requests must be in writing with rationale for each. The listing of positions and the Core Crew requested must be submitted to TERO at least three (3) days prior to a required pre-construction meeting with TERO staff or start-up of the Project. Core Crew must have been on the company payroll for at least six (6) months in order to qualify as Core Crew.
5. Contractors must inform TERO of all signatory trade unions to be involved in the Project. TERO obligations have priority over union obligations by a contractor signatory to any trade unions. However, TERO will consider Indian workers of the trade unions in order for contractors to meet their hiring goals.
6. Contractor must notify TERO of all job vacancies. All available Indian applicants shall be considered first before any non-Indians are considered for employment and training. If no qualified Indians are available, TERO will provide a consent form to waive this obligation;
7. Employees referred by the TERO program will have preference in retention of employment from the beginning to the end of the Project.
8. Contractor must inform TERO of any lay-offs. In all layoffs and reductions in force, no Indian worker shall be terminated if a non-Indian worker in the same job classification is still employed. The non-Indian shall be terminated first if the Indian possesses threshold qualifications for the job classification. If a Contractor lays off workers by crews, all qualified Indian workers shall be transferred to crews to be retained so long as non-Indians in the same job classification are employed elsewhere on the job site, except for non-Indians hired as Core Crew pursuant this Agreement.
9. Before any TERO referral is terminated from the Project, Contractor must inform TERO to allow for informal counseling, unless such termination is for conduct of the TERO referral that is unlawful or creates an unsafe or hostile work environment. When a TERO worker is terminated or unable to continue working, the Employer shall immediately notify the TERO office which may provide a substitute referral within three business days or notify the Employer that it has no referrals for the position, after which time the Employer will be authorized to hire a permanent replacement. The Employer may submit a written request and justification for a shorter rehire period.

10. Contractor must provide copies of certified weekly payroll reports to the TERO program.

H. Mandatory TERO Workshop. The Warm Springs TERO program will conduct quarterly contract certification workshops. TERO will issue certificates of completion to those contractors who complete the workshop. All Contractors must have a certificate in order to be eligible to bid on ODOT contracts. The certificate shall be good for 3 years. Warm Springs TERO contract certification workshop fees are as follows:

- $650 Advanced registration: early registration fee 1st participant / $75 for additional attendee
- $750 Registration fee at the door for 1st participant / $125 for additional attendee
- $1,200 special workshop fee 1st participant / $225 for additional attendee.

For ODOT MOU On-Reservation Contracts, Contractors will require Subcontractors to obtain a valid certificate of completion at the earliest opportunity offered by TERO. Subcontractor certificates shall be valid for three (3) years from the date of the workshop.

I. Request Form and Referral Card. A TERO Worker Request form, Attachment III, will be used by the Contractor when requesting workers. TERO referrals must be requested from TERO in a timely manner to satisfy the Contractor's new hire process. In addition, Contractors and Subcontractors will be required to complete the Referral Card, attached as Attachment IV.

J. Compliance. Failure to comply with this Agreement and/or the TERO Code shall be deemed a violation of a binding contract and shall be subject to penalties as prescribed in the TERO Code. Contractors shall ensure that any Subcontractors comply with this Agreement and the TERO Code, and may be held liable for Subcontractor violations.

K. On Site Inspections. TERO shall have the authority to make on-site inspections during regular working hours in order to monitor compliance with the TERO Code, if applicable, and this Agreement. TERO shall have the right to inspect and copy all relevant records of Contractor, any Subcontractors, and any signatory union, and shall have the right to speak to workers and to conduct an investigation on the job site. All information collected by TERO shall be kept confidential unless disclosure is necessary or ordered as part of any federal or tribal judicial or administrative proceeding.

L. Point of Contact. The Point of contact for TERO is:

Wendell Jim, Director
Tribal Employment Rights Office
P.O Box 515/1233 Veterans St.
Warm Springs, Oregon 97761
Phone: 541-615-0853
Email: wendell.jim@wstribes.org

Contractor must submit a list of key staff with the completed Compliance Agreement, including but not limited to, the main office receptionist and on-site manager/supervisor.

M. No Waiver of Sovereign Immunity. By entering into this Agreement, CTWS does not waive, alter, or otherwise diminish its sovereign immunity for itself, its agents, members, enterprises and

affiliates, from suit or its rights, privileges, remedies, or services guaranteed by the Treaty with the Tribes of Middle Oregon, June 25, 1855, 12 Stat. 963.

N. Attachments. Attachments I, II, III, and IV are incorporated as part of this Agreement. No work on the scheduled program will begin until all applicable agreements are signed.

I have read and understand the terms, conditions, and requirements as set forth in this Compliance Agreement. I understand that a compliance agreement is required even if there is no set hiring goal to ensure continued compliance with the TERO Code and monitoring by the TERO Program. I certify that I have full authority to sign on behalf of _____.

_____ _____

Contactor Representative (Print) Title

_____ _____

Contractor Representative (Signature) Date

On behalf of the CTWS TERO Program, I have reviewed this compliance agreement and certify that the contractor has submitted the required documentation. The contractor has been approved to commence work on the Project.

_____ _____

TERO Representative (Print) Title

_____ _____

TERO Representative (Signature) Date

TERO COMPLIANCE AGREEMENT
Attachment I – Hiring Goals

Section I – Contractor Positions

Project: Click or tap here to enter text.

Contractor: Click or tap here to enter text.

TERO Representative Approval: _____ **Date** _____

Employer Approval: _____ **Date** _____

Position	# of each	# of Indians	%	Wage Rate
TOTALS				

TERO reserves the right to negotiate for any positions listed above in order to meet the prescribed employment goals. This attachment supplements the TERO Compliance Agreement.

Section II – Overall Project Hiring Goal

The Contractor shall be responsible for ensuring that an overall hiring goal of Click here to enter text.%, for the life of the Project will be met.

Contactor Representative (Print) _____ Title _____

Contractor Representative (Signature) _____ Date _____

TERO Representative (Print) _____ Title _____

TERO Representative (Signature) _____ Date _____

ODOT MOU COMPLIANCE AGREEMENT
Attachment II – Fee/Fee Calculation

(General Contractor Only—Not Applicable to Subcontractors)

TERO shall assess a Compliance Fee to this Project.

A. **Project:** Click or tap here to enter text.

B. **Contractor:** Click or tap here to enter text.

C. **Applicable Fee:** ☐ On-Reservation Fee %: 2.5%

☐ TERO Boundary Fee % Allowed Per MOU:

Total Contract Value _____ % Allowed: ___

Contract Value	Fee % allowed
$1 to $500,000	1.00%
$500,001 to $999,999	0.75%
$1,000,000 to $1,999,999	0.50%
$2,000,000 to full contract value	0.25%

☐ Both: On-Reservation Portion_____ TERO Boundary Portion _____

D. **Fee Total:** Click or tap here to enter text.

E. **Due Date:** *due before the date that work commences on the Project* – Click or tap here to enter text.

Contactor Representative (Print) Title

Contractor Representative (Signature) Date

TERO Representative (Print) Title

TERO Representative (Signature) Date

ODOT MOU COMPLIANCE AGREEMENT
Attachment III – Worker Request

A worker request form and company application will need to be submitted when the employer is requesting a worker.

Date: Click or tap here to enter text.

Check one: General Contractor ☐ Subcontractor ☐

Project Name: Click or tap here to enter text. Project Location: Click or tap here to enter text.

Contractor Name: Click or tap here to enter text.

Representative requesting worker(s) (Name and Title): Click or tap here to enter text.

Contact Number: Click or tap here to enter text. Email: Click or tap here to enter text.

Job position requesting: Click or tap here to enter text. No. of positions needed: Click or tap here to enter text.

Job location: Click or tap here to enter text.Rate of pay: Click or tap here to enter text.

Starting date: Click or tap here to enter text. Starting time: Click or tap here to enter text.

Name, Title, and Contact info of individual(s) that the TERO worker will need to contact when starting work: Click or tap here to enter text.

Job Status: Full- Time ☐ Part Time ☐

Job Duration: < 1 week ☐ 1-2 weeks ☐ 2 weeks – 1 month ☐ > 1 month ☐

Schedule: M-F ☐ Weekends ☐ Other: Click or tap here to enter text. ☐

Driver's license required? Yes ☐ No ☐ CDL? Yes ☐ No ☐ If yes, type: A ☐ B ☐ C ☐ D ☐

Alcohol/Drug test required? Yes ☐ No ☐ Physical Required? Yes ☐ No ☐

Brief Job Description: Click or tap here to enter text.

Skills/Training needed: Click or tap here to enter text.

Tools required: Click or tap here to enter text.

Special Instructions: Click or tap here to enter text.

ODOT MOU COMPLIANCE AGREEMENT
Attachment IV – Referral Card

(Interviewer: Please complete bottom section and return by mail or email)

PROJECT: Click or tap here to enter text.

TO: Click or tap here to enter text.

OF: Click or tap here to enter text.

TELEPHONE: Click or tap here to enter text.

INTRODUCING: Click or tap here to enter text.

TELEPHONE: Click or tap here to enter text.

REFERRED BY: Click or tap here to enter text.

REFER DATE: 7/23/2021

OUTCOME OF REFERRAL (to be completed by Interviewer):

START DATE AND TIME: Click or tap to enter a date._Click or tap here to enter text.

HIRED: YES ☐ NO☐

HIRE DATE: Click to enter a date. WAGE RATE: Click or tap here to enter text.

PRINT NAME	TITLE
SIGNATURE	Click or tap to enter a date. DATE

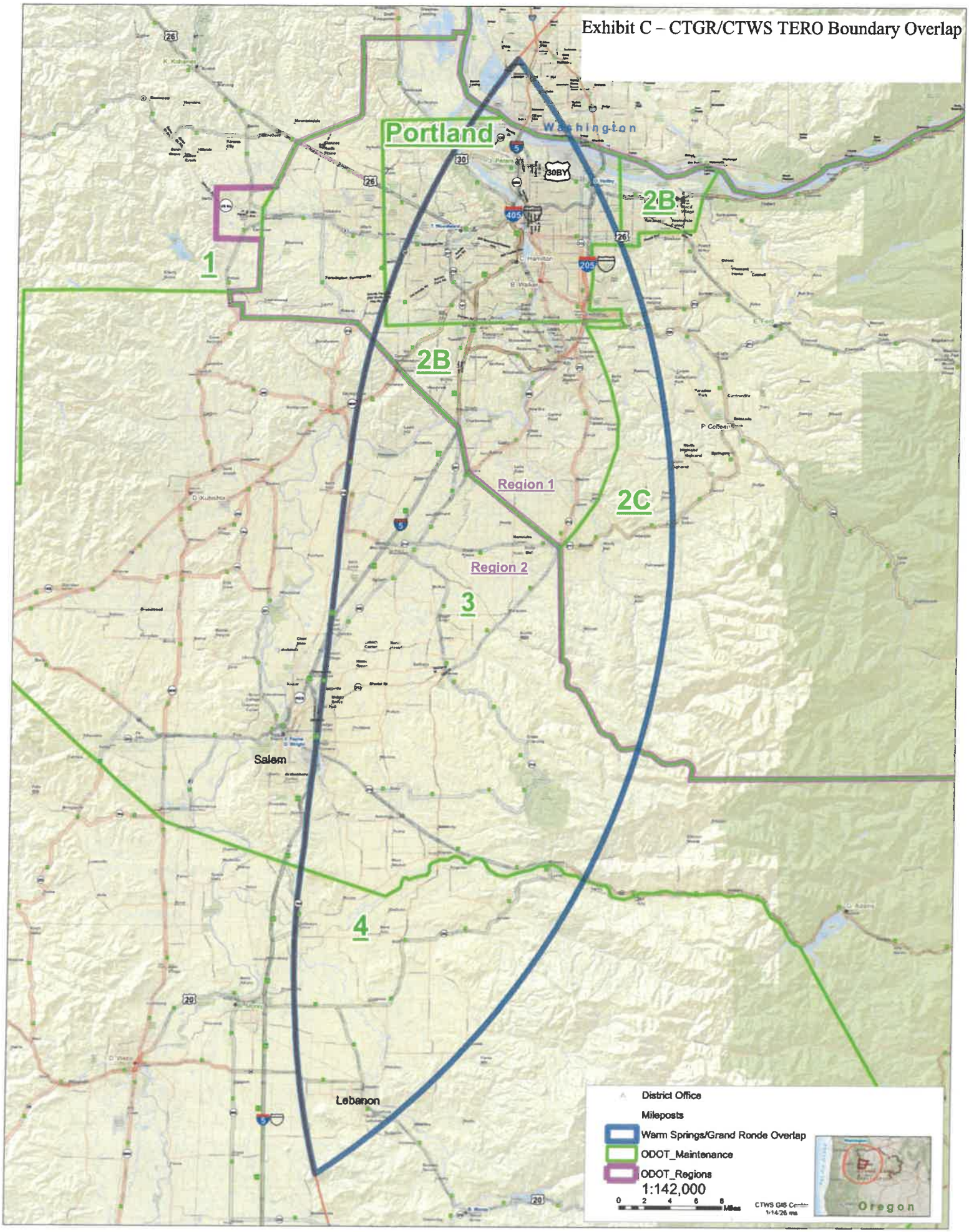

Exhibit C – CTGR/CTWS TERO Boundary Overlap

INDIAN EMPLOYMENT GOALS AND COMPLIANCE FEE

Indian Employment Preference Goal

The assigned Indian Employment Preference goal for this Project is 8%

Compliance Fee

As established in separate Memorandum of Understanding (MOU) with the Confederated Tribes of the Warm Springs Indian Reservation (CTWS) a project in which any work takes place within reservation boundary or within the TERO boundary may be subject to a TERO compliance fee. The TERO boundary is described in Exhibit A to the MOU.

The Contractor is required to determine the compliance fee for this Project. Use the following calculations to determine the fee. The Compliance Fee for this Project is the summation of the following four calculations:

$1 to $500,000 of Contract Amount × 1.00% ..... = _____

$500,001 to $999,999 of Contract Amount × 0.75% ..... = _____

$1,000,000 to $1,999,999 of Contract Amount × 0.50% . = _____

$2,000,000 up to the full Contract Amount × 0.25% ..... = _____

Total COMPLIANCE FEE for this Project is: ..... = _____

UNION PACIFIC RAILROAD COMPANY

Contractor's Right of Entry Agreement

Exhibit B

Exhibit C

Exhibit D

The following Union Pacific Railroad Company agreements and exhibits are included in this Project for information and reference only. The actual Contractor's Right of Entry Agreement with Exhibit B, Exhibit C, and Exhibit D will be provided and executed by the Union Pacific Railroad Company.

The Contractor shall obtain all necessary permits and licenses and pay all fees and obtain a fully executed copy of the Railroad agreement according to 00170.01(e).

The Contractor shall review and comply with the following documents as applicable:

- *UPRR-BNSF Guidelines for Grade Separated Projects* and *Guidelines for Temporary Shoring* located at: https://www.up.com/real_estate/roadxing/industry/grade_separation/index.htm
- *Union Pacific Railroad Public Projects Manual* located at: https://www.up.com/cs/groups/public/@uprr/@corprel/documents/up_pdf_nativedocs/pdf_up_public_projects_manual.pdf
- *Union Pacific Railroad Engineering Standard Drawings* located at: https://www.up.com/emp/engineering/apps/archives/standards/public/index.cfm
- *Union Pacific General Conditions and Specifications* located at: https://www.up.com/emp/engineering/mapcontent/standards/UP_GENERAL_SPECIFICATIONS.pdf
- Guide for Preparation of a Bridge Demolition and Removal Plan for Structures over Railroad located at: https://www.up.com/cs/groups/public/@uprr/@realestate/documents/up_pdf_nativedocs/pdf_up_reus_industry_demo.pdf
- *Guidelines for Contractor Material Delivery on Union Pacific Property* located at: https://www.up.com/emp/engineering/mapcontent/standards/GUIDELINES_FOR_CONTRACTORS_ON_UPRR_PROPERTY.pdf
- *UPRR Safety Book/UPRR Contractor Minimum Safety Requirements* located at: https://www.up.com/suppliers/contractor-safety/index.htm

When Railroad flagger services are required, the Contractor shall provide Railroad flagger services from a vendor on Union Pacific's approved third party list of Railroad flagger vendors according to 00223.35.

Contractor's Right of Entry Public
Projects Form Approved 02/09/2022

CONTRACTOR'S
RIGHT OF ENTRY AGREEMENT

THIS AGREEMENT is made and entered into as of the _____ day of _____, 20_____, by and between **UNION PACIFIC RAILROAD COMPANY**, a Delaware corporation ("Railroad"); and _____, a _____ corporation ("Contractor").

RECITALS:

Contractor has been hired by _____ to perform work relating to _____ (the "Work") with all or a portion of such Work to be performed on property of Railroad in the vicinity of Railroad's Milepost _____ on Railroad's _____ [Subdivision or Branch] [at or near DOT No. _____ located at or near _____, in _____ County, State of _____, as such location is in the general location shown on the print marked Exhibit A, attached hereto and hereby made a part hereof, which Work is the subject of a contract dated _____ between Railroad and _____.

Railroad is willing to permit Contractor to perform the Work described above at the location described above subject to the terms and conditions contained in this agreement.

AGREEMENT:

NOW, THEREFORE, it is mutually agreed by and between Railroad and Contractor, as follows:

ARTICLE 1 - DEFINITION OF CONTRACTOR.

For purposes of this agreement, all references in this agreement to Contractor shall include Contractor's contractors, subcontractors, officers, agents, and employees, and others acting under its or their authority. For purposes of clarity, Contractor agrees that any SC (defined below) hired by Contractor is a subcontractor of Contractor and therefore included in the defined term Contractor pursuant to the foregoing sentence.

ARTICLE 2 - RIGHT GRANTED; PURPOSE.

Railroad hereby grants to Contractor the right, during the term hereinafter stated and upon and subject to each and all of the terms, provisions and conditions herein contained, to enter upon and have ingress to and egress from the property described in the Recitals for the purpose of performing the Work described in the Recitals above. The right herein granted to Contractor is limited to those portions of Railroad's property specifically described herein, or as designated by the Railroad Representative named in Article 4.

ARTICLE 3 - TERMS AND CONDITIONS CONTAINED IN EXHIBITS B AND C.

The terms and conditions contained in **Exhibit B** and **Exhibit C**, attached hereto, are hereby made a part of this agreement.

SAMPLE

ARTICLE 4 - ALL EXPENSES TO BE BORNE BY CONTRACTOR; RAILROAD REPRESENTATIVE.

A. Contractor shall bear any and all costs and expenses associated with any Work performed by Contractor (including without limitation any CIC), or any costs or expenses incurred by Railroad relating to this agreement.

B. Contractor shall coordinate all of its Work with the following Railroad representative or his or her duly authorized representative (the "Railroad Representative"):

_____
_____
_____
_____

C. Contractor, at its own expense, shall adequately police and supervise all Work to be performed by Contractor and shall ensure that such Work is performed in a safe manner as set forth in Section 7 of **Exhibit B**. The responsibility of Contractor for safe conduct and adequate policing and supervision of Contractor's Work shall not be lessened or otherwise affected by Railroad's approval of plans and specifications involving the Work, or by Railroad's collaboration in performance of any Work, or by the presence at the Work site of a Railroad Representative, or by compliance by Contractor with any requests or recommendations made by Railroad Representative.

ARTICLE 5 - SCHEDULE OF WORK ON A MONTHLY BASIS.

The Contractor, at its expense, shall provide on a monthly basis a detailed schedule of Work to the Railroad Representative named in Article 4B above. The reports shall start at the execution of this agreement and continue until this agreement is terminated as provided in this agreement or until the Contractor has completed all Work on Railroad's property.

ARTICLE 6 - TERM; TERMINATION.

A. The grant of rights herein made to Contractor shall commence on the date of this agreement, and continue until _____, unless sooner terminated as herein provided, or at such time as Contractor has completed its Work on Railroad's property, whichever is earlier. Contractor agrees to notify the Railroad Representative in writing when it has completed its Work on Railroad's property.

B. This agreement may be terminated by either party on ten (10) days written notice to the other party.

ARTICLE 7 - CERTIFICATE OF INSURANCE.

A. Before commencing any Work and throughout the entire term of this Agreement, Contractor, at its expense, shall procure and maintain in full force and effect the types and minimum limits of insurance specified in **Exhibit C** of this agreement and require each of its subcontractors to include the insurance endorsements as required under Section 12 of **Exhibit B** of this agreement.

B. Not more frequently than once every two (2) years, Railroad may reasonably modify the required insurance coverage to reflect then-current risk management practices in the railroad industry and underwriting practices in the insurance industry.

C. Upon request of Railroad, Contractor shall provide to Railroad a certificate issued by its insurance

SAMPLE

carrier evidencing the insurance coverage required under **Exhibit B**.

D. Contractor understands and accepts that the terms of this Article are wholly separate from and independent of the terms of any indemnity provisions contained in this Agreement.

D. Upon request of Railroad, insurance correspondence, binders, policies, certificates and endorsements shall be sent to:

Union Pacific Railroad Company
_____
[Insert mailing address]
_____
_____
Attn:_____
Folder No. _____

ARTICLE 8 - PRECONSTRUCTION MEETING.

If the Work to be performed by the Contractor will involve the Railroad providing any flagging protection (or if a CIC is approved to provide flagging protection pursuant to the terms set forth herein) and/or there is separate work to be performed by the Railroad, the Contractor confirms that no work shall commence until the Railroad and Contractor participate in a preconstruction meeting involving flagging procedures and coordination of work activities of the Contractor and the Railroad (and any CIC, as applicable.)

ARTICLE 9. DISMISSAL OF CONTRACTOR'S EMPLOYEE.

At the request of Railroad, Contractor shall remove from Railroad's property any employee of Contractor who fails to conform to the instructions of the Railroad representative in connection with the Work on Railroad's property, and any right of Contractor shall be suspended until such removal has occurred. Contractor shall indemnify Railroad against any claims arising from the removal of any such employee from Railroad's property.

ARTICLE 10. ADMINISTRATIVE FEE.

Upon the execution and delivery of this agreement, Contractor shall pay to Railroad One Thousand Twenty Five Dollars ($1,025.00) as reimbursement for clerical, administrative and handling expenses in connection with the processing of this agreement.

ARTICLE 11. CROSSINGS; COMPLIANCE WITH MUTCD AND FRA GUIDELINES.

A. No additional vehicular crossings (including temporary haul roads) or pedestrian crossings over Railroad's trackage shall be installed or used by Contractor without the prior written permission of Railroad.

B. Any permanent or temporary changes, including temporary traffic control, to crossings must conform to the Manual of Uniform Traffic Control Devices (MUTCD) and any applicable Federal Railroad Administration rules, regulations and guidelines, and must be reviewed by the Railroad prior to any changes being implemented. In the event the Railroad is found to be out of compliance with federal safety regulations due to the Contractor's modifications, negligence, or any other reason arising from the Contractor's presence on the Railroad's property, the Contractor agrees to assume liability for any civil penalties imposed upon the Railroad for such noncompliance.

SAMPLE

ARTICLE 12.- EXPLOSIVES.

Explosives or other highly flammable substances shall not be stored or used on Railroad's property without the prior written approval of Railroad.

IN WITNESS WHEREOF, the parties hereto have duly executed this agreement in duplicate as of the date first herein written.

UNION PACIFIC RAILROAD COMPANY

By: _____

Title: _____

_____

(Name of Contractor)

By: _____

Name: _____

Title: _____

Phone: _____

E-Mail: _____

SAMPLE

EXHIBIT A
TO
CONTRACTOR'S RIGHT OF ENTRY AGREEMENT

Exhibit A will be a print showing the general location of the work site.

SAMPLE

EXHIBIT B
TO
CONTRACTOR'S RIGHT OF ENTRY AGREEMENT

Section 1. NOTICE OF COMMENCEMENT OF WORK - RAILROAD FLAGGING - PRIVATE FLAGGING.

A. Contractor agrees to notify the Railroad Representative at least ten (10) working days in advance of Contractor commencing its Work and at least thirty (30) working days in advance of proposed performance of any Work by Contractor in which any person or equipment will be within twenty-five (25) feet of any track, or will be near enough to any track that any equipment extension (such as, but not limited to, a crane boom) will reach to within twenty-five (25) feet of any track.

B. No work of any kind shall be performed, and no person, equipment, machinery, tool(s), material(s), vehicle(s), or thing(s) shall be located, operated, placed, or stored within twenty-five (25) feet of any of Railroad's track(s) at any time, for any reason, unless and until a Railroad approved flagman is provided to watch for trains. Upon receipt of such thirty (30)-day notice, the Railroad Representative will determine and inform Contractor whether a flagman need be present and whether Contractor needs to implement any special protective or safety measures.

C. Contractor shall be permitted to hire a private contractor to perform flagging or other special protective or safety measures (such private contractor being commonly known in the railroad industry as a contractor-in-charge ("CIC")) in lieu of Railroad providing such services or in concert with Railroad providing such services, subject to prior written approval by Railroad, which approval shall be in Railroad's sole and absolute discretion. If Railroad agrees to permit Contractor to utilize a CIC pursuant to the preceding sentence, Contractor shall obtain Railroad's prior approval in writing for each of the following items, as determined in all respects in Railroad's sole and absolute discretion: (i) the identity of the third-party performing the role of CIC; (ii) the scope of the services to be performed for the project by the approved CIC; and (iii) any other terms and conditions governing such services to be provided by the CIC. If flagging or other special protective or safety measures are performed by an approved CIC, Contractor shall be solely responsible for (and shall timely pay such CIC for) its services. Railroad reserves the right to rescind any approval pursuant to this Section 1, Subsection C., in whole or in part, at any time, as determined in Railroad's sole and absolute discretion.

D. If any flagging or other special protective or safety measures are performed by employees of Railroad and/or any contractor of Railroad, Railroad will bill Contractor for such expenses incurred by Railroad, unless Railroad and a federal, state or local governmental entity have agreed that Railroad is to bill such expenses to the federal, state or local governmental entity. If Railroad will be sending the bills to Contractor, Contractor shall pay such bills within thirty (30) days of Contractor's receipt of billing.

E. If any flagging or other special protective or safety measures are performed by Railroad or a CIC, Contractor agrees that Contractor is not relieved of any of its responsibilities or liabilities set forth in this agreement.

F. The provisions set forth in this subsection are only applicable for Flagging Services performed by employees of Railroad: the rate of pay per hour for each flagman will be the prevailing hourly rate in effect for an eight-hour day for the class of flagmen used during regularly assigned hours and overtime in accordance with labor agreements and schedules in effect at the time the Work is performed. In addition to the cost of such labor, a composite charge for vacation, holiday, health and welfare, supplemental sickness, Railroad Retirement and unemployment compensation, supplemental pension, Employees Liability and Property Damage and Administration will be included, computed on actual payroll. The composite charge will be the prevailing composite charge in effect at the time the Work is performed. One and one-half times the current hourly rate is

SAMPLE

paid for overtime, Saturdays and Sundays, and two and one-half times current hourly rate for holidays. Wage rates are subject to change, at any time, by law or by agreement between Railroad and its employees, and may be retroactive as a result of negotiations or a ruling of an authorized governmental agency. Additional charges on labor are also subject to change. If the wage rate or additional charges are changed, Contractor (or the governmental entity, as applicable) shall pay on the basis of the new rates and charges. If flagging is performed by Railroad, reimbursement to Railroad will be required covering the full eight-hour day during which any flagman is furnished, unless the flagman can be assigned to other Railroad work during a portion of such day, in which event reimbursement will not be required for the portion of the day during which the flagman is engaged in other Railroad work. Reimbursement will also be required for any day not actually worked by the flagman following the flagman's assignment to work on the project for which Railroad is required to pay the flagman and which could not reasonably be avoided by Railroad by assignment of such flagman to other work, even though Contractor may not be working during such time. When it becomes necessary for Railroad to bulletin and assign an employee to a flagging position in compliance with union collective bargaining agreements, Contractor must provide Railroad a minimum of five (5) days notice prior to the cessation of the need for a flagman. If five (5) days notice of cessation is not given, Contractor will still be required to pay flagging charges for the five (5) day notice period required by union agreement to be given to the employee, even though flagging is not required for that period. An additional thirty (30) days notice must then be given to Railroad if flagging services are needed again after such five-day cessation notice has been given to Railroad.

Section 2. **LIMITATION AND SUBORDINATION OF RIGHTS GRANTED.**

A. The foregoing grant of right is subject and subordinate to the prior and continuing right and obligation of the Railroad to use and maintain its entire property including the right and power of Railroad to construct, maintain, repair, renew, use, operate, change, modify or relocate railroad tracks, roadways, signal, communication, fiber optics, or other wirelines, pipelines and other facilities upon, along or across any or all parts of its property, all or any of which may be freely done at any time or times by Railroad without liability to Contractor or to any other party for compensation or damages.

B. The foregoing grant is also subject to all outstanding superior rights (whether recorded or unrecorded and including those in favor of licensees and lessees of Railroad's property, and others) and the right of Railroad to renew and extend the same, and is made without covenant of title or for quiet enjoyment.

Section 3. **NO INTERFERENCE WITH OPERATIONS OF RAILROAD AND ITS TENANTS.**

A. Contractor shall conduct its operations so as not to interfere with the continuous and uninterrupted use and operation of the railroad tracks and property of Railroad, including without limitation, the operations of Railroad's lessees, licensees or others, unless specifically authorized in advance by the Railroad Representative. Nothing shall be done or permitted to be done by Contractor at any time that would in any manner impair the safety of such operations. When not in use, Contractor's machinery and materials shall be kept at least twenty-five (25) feet from the centerline of Railroad's nearest track, and there shall be no vehicular crossings of Railroads tracks except at existing open public crossings.

B. Operations of Railroad and work performed by Railroad personnel and delays in the Work to be performed by Contractor caused by such railroad operations and Work are expected by Contractor, and Contractor agrees that Railroad shall have no liability to Contractor, or any other person or entity for any such delays. The Contractor shall coordinate its activities with those of Railroad and third parties so as to avoid interference with railroad operations. The safe operation of Railroad train movements and other activities by Railroad takes precedence over any Work to be performed by Contractor.

SAMPLE

Section 4. LIENS.

Contractor shall pay in full all persons who perform labor or provide materials for the Work to be performed by Contractor. Contractor shall not create, permit or suffer any mechanic's or materialmen's liens of any kind or nature to be created or enforced against any property of Railroad for any such Work performed. Contractor shall indemnify and hold harmless Railroad from and against any and all liens, claims, demands, costs or expenses of whatsoever nature in any way connected with or growing out of such Work done, labor performed, or materials furnished. If Contractor fails to promptly cause any lien to be released of record, Railroad may, at its election, discharge the lien or claim of lien at Contractor's expense.

Section 5. PROTECTION OF FIBER OPTIC CABLE SYSTEMS.

A. Fiber optic cable systems may be buried on Railroad's property. Protection of the fiber optic cable systems is of extreme importance since any break could disrupt service to users resulting in business interruption and loss of revenue and profits. Contractor shall visit www.up.com/CBUD to complete and submit the required form to determine if fiber optic cable is buried anywhere on Railroad's property to be used by Contractor. If it is, Contractor will telephone the telecommunications company(ies) involved to make arrangements for a cable locator and, if applicable, for relocation or other protection of the fiber optic cable. Contractor shall not commence any Work until all such protection or relocation (if applicable) has been accomplished.

B. IN ADDITION TO OTHER INDEMNITY PROVISIONS IN THIS AGREEMENT, CONTRACTOR SHALL INDEMNIFY, DEFEND AND HOLD RAILROAD HARMLESS FROM AND AGAINST ALL COSTS, LIABILITY AND EXPENSE WHATSOEVER (INCLUDING, WITHOUT LIMITATION, ATTORNEYS' FEES, COURT COSTS AND EXPENSES) ARISING OUT OF ANY ACT OR OMISSION OF CONTRACTOR, ITS AGENTS AND/OR EMPLOYEES, THAT CAUSES OR CONTRIBUTES TO (1) ANY DAMAGE TO OR DESTRUCTION OF ANY TELECOMMUNICATIONS SYSTEM ON RAILROAD'S PROPERTY, AND/OR (2) ANY INJURY TO OR DEATH OF ANY PERSON EMPLOYED BY OR ON BEHALF OF ANY TELECOMMUNICATIONS COMPANY, AND/OR ITS CONTRACTOR, AGENTS AND/OR EMPLOYEES, ON RAILROAD'S PROPERTY. CONTRACTOR SHALL NOT HAVE OR SEEK RECOURSE AGAINST RAILROAD FOR ANY CLAIM OR CAUSE OF ACTION FOR ALLEGED LOSS OF PROFITS OR REVENUE OR LOSS OF SERVICE OR OTHER CONSEQUENTIAL DAMAGE TO A TELECOMMUNICATION COMPANY USING RAILROAD'S PROPERTY OR A CUSTOMER OR USER OF SERVICES OF THE FIBER OPTIC CABLE ON RAILROAD'S PROPERTY.

SAMPLE

Section 6. PERMITS - COMPLIANCE WITH LAWS.

In the prosecution of the Work covered by this agreement, Contractor shall secure any and all necessary permits and shall comply with all applicable federal, state and local laws, regulations and enactments affecting the Work including, without limitation, all applicable Federal Railroad Administration regulations.

Section 7. SAFETY.

A. Safety of personnel, property, rail operations and the public is of paramount importance in the prosecution of any Work on Railroad property performed by Contractor. Contractor shall be responsible for initiating, maintaining and supervising all safety, operations and programs in connection with the Work. Contractor shall, at a minimum, comply with Railroad's then current safety standards located at the below web address ("Railroad's Safety Standards") to ensure uniformity with the safety standards followed by Railroad's own forces. As a part of Contractor's safety responsibilities, Contractor shall notify Railroad if Contractor

determines that any of Railroad's Safety Standards are contrary to good safety practices. Contractor shall furnish copies of Railroad's Safety Standards to each of its employees before they enter Railroad property.

http://www.up.com/cs/groups/public/@uprr/@suppliers/documents/up_pdf_nativedocs/pdf_up_supplier_safety_req.pdf

B. Without limitation of the provisions of paragraph A above, Contractor shall keep the job site free from safety and health hazards and ensure that its employees are competent and adequately trained in all safety and health aspects of the job.

C. Contractor shall have proper first aid supplies available on the job site so that prompt first aid services may be provided to any person injured on the job site. Contractor shall promptly notify Railroad of any U.S. Occupational Safety and Health Administration reportable injuries. Contractor shall have a nondelegable duty to control its employees while they are on the job site or any other property of Railroad, and to be certain they do not use, be under the influence of, or have in their possession any alcoholic beverage, drug or other substance that may inhibit the safe performance of any Work.

D. If and when requested by Railroad, Contractor shall deliver to Railroad a copy of Contractor's safety plan for conducting the Work (the "Safety Plan"). Railroad shall have the right, but not the obligation, to require Contractor to correct any deficiencies in the Safety Plan. The terms of this agreement shall control if there are any inconsistencies between this agreement and the Safety Plan.

Section 8. INDEMNITY.

A. TO THE FULLEST EXTENT ALLOWED BY APPLICABLE LAW, CONTRACTOR SHALL INDEMNIFY, DEFEND AND HOLD HARMLESS RAILROAD, ITS AFFILIATES, AND ITS AND THEIR OFFICERS, AGENTS AND EMPLOYEES (INDIVIDUALLY AN "INDEMNIFIED PARTY" OR COLLECTIVELY "INDEMNIFIED PARTIES") FROM AND AGAINST ANY AND ALL LOSS, DAMAGE, INJURY, LIABILITY, CLAIM, DEMAND, COST OR EXPENSE (INCLUDING, WITHOUT LIMITATION, ATTORNEY'S, CONSULTANT'S AND EXPERT'S FEES AND COURT COSTS), FINE OR PENALTY (COLLECTIVELY, "LOSS") INCURRED BY ANY PERSON (INCLUDING, WITHOUT LIMITATION, ANY INDEMNIFIED PARTY, CONTRACTOR, OR ANY EMPLOYEE OF CONTRACTOR OR OF ANY INDEMNIFIED PARTY) ARISING OUT OF OR IN ANY MANNER CONNECTED WITH (I) ANY WORK PERFORMED BY CONTRACTOR, OR (II) ANY ACT OR OMISSION OF CONTRACTOR, ITS OFFICERS, AGENTS OR EMPLOYEES, OR (III) ANY BREACH OF THIS AGREEMENT BY CONTRACTOR.

B. THE RIGHT TO INDEMNITY UNDER THIS SECTION 8 SHALL ACCRUE UPON OCCURRENCE OF THE EVENT GIVING RISE TO THE LOSS, AND SHALL APPLY REGARDLESS OF ANY NEGLIGENCE OR STRICT LIABILITY OF ANY INDEMNIFIED PARTY, EXCEPT WHERE THE LOSS IS CAUSED BY THE SOLE ACTIVE NEGLIGENCE OF AN INDEMNIFIED PARTY AS ESTABLISHED BY THE FINAL JUDGMENT OF A COURT OF COMPETENT JURISDICTION. THE SOLE ACTIVE NEGLIGENCE OF ANY INDEMNIFIED PARTY SHALL NOT BAR THE RECOVERY OF ANY OTHER INDEMNIFIED PARTY.

C. CONTRACTOR EXPRESSLY AND SPECIFICALLY ASSUMES POTENTIAL LIABILITY UNDER THIS SECTION 8 FOR CLAIMS OR ACTIONS BROUGHT BY CONTRACTOR'S OWN EMPLOYEES. CONTRACTOR WAIVES ANY IMMUNITY IT MAY HAVE UNDER WORKER'S COMPENSATION OR INDUSTRIAL INSURANCE ACTS TO INDEMNIFY THE INDEMNIFIED PARTIES UNDER THIS SECTION 8. CONTRACTOR ACKNOWLEDGES THAT THIS WAIVER WAS MUTUALLY NEGOTIATED BY THE PARTIES HERETO.

D. NO COURT OR JURY FINDINGS IN ANY EMPLOYEE'S SUIT PURSUANT TO ANY

SAMPLE

WORKER'S COMPENSATION ACT OR THE FEDERAL EMPLOYERS' LIABILITY ACT AGAINST A PARTY TO THIS AGREEMENT MAY BE RELIED UPON OR USED BY CONTRACTOR IN ANY ATTEMPT TO ASSERT LIABILITY AGAINST ANY INDEMNIFIED PARTY.

E. THE PROVISIONS OF THIS SECTION 8 SHALL SURVIVE THE COMPLETION OF ANY WORK PERFORMED BY CONTRACTOR OR THE TERMINATION OR EXPIRATION OF THIS AGREEMENT. IN NO EVENT SHALL THIS SECTION 8 OR ANY OTHER PROVISION OF THIS AGREEMENT BE DEEMED TO LIMIT ANY LIABILITY CONTRACTOR MAY HAVE TO ANY INDEMNIFIED PARTY BY STATUTE OR UNDER COMMON LAW.

Section 9. RESTORATION OF PROPERTY.

In the event Railroad authorizes Contractor to take down any fence of Railroad or in any manner move or disturb any of the other property of Railroad in connection with the Work to be performed by Contractor, then in that event Contractor shall, as soon as possible and at Contractor's sole expense, restore such fence and other property to the same condition as the same were in before such fence was taken down or such other property was moved or disturbed. Contractor shall remove all of Contractor's tools, equipment, rubbish and other materials from Railroad's property promptly upon completion of the Work, restoring Railroad's property to the same state and condition as when Contractor entered thereon.

Section 10. WAIVER OF DEFAULT.

Waiver by Railroad of any breach or default of any condition, covenant or agreement herein contained to be kept, observed and performed by Contractor shall in no way impair the right of Railroad to avail itself of any remedy for any subsequent breach or default.

Section 11. MODIFICATION - ENTIRE AGREEMENT.

No modification of this agreement shall be effective unless made in writing and signed by Contractor and Railroad. This agreement and the exhibits attached hereto and made a part hereof constitute the entire understanding between Contractor and Railroad and cancel and supersede any prior negotiations, understandings or agreements, whether written or oral, with respect to the Work to be performed by Contractor.

Section 12. ASSIGNMENT - SUBCONTRACTING.

Contractor shall not assign or subcontract this agreement, or any interest therein, without the written consent of the Railroad. Contractor shall be responsible for the acts and omissions of all subcontractors. Before Contractor commences any Work, the Contractor shall, except to the extent prohibited by law; (1) require each of its subcontractors to include the Contractor as "Additional Insured" on the subcontractor's Commercial General Liability policy and Umbrella or Excess policies (if applicable) with respect to all liabilities arising out of the subcontractor's performance of Work on behalf of the Contractor by endorsing these policies with ISO Additional Insured Endorsements CG 20 10, and CG 20 37 (or substitute forms providing equivalent coverage; (2) require each of its subcontractors to endorse their Commercial General Liability Policy with "Contractual Liability Railroads" ISO Form CG 24 17 10 01 (or a substitute form providing equivalent coverage) for the job site; and (3) require each of its subcontractors to endorse their Business Automobile Policy with "Coverage For Certain Operations In Connection With Railroads" ISO Form CA 20 70 10 01 (or a substitute form providing equivalent coverage) for the job site.

SAMPLE

EXHIBIT C
TO
CONTRACTOR'S
RIGHT OF ENTRY AGREEMENT

Union Pacific Railroad Company
Insurance Requirements For
Contractor's Right of Entry Agreement

During the entire term of this Agreement and course of the Project, and until all Project Work on Railroad's property has been completed and all equipment and materials have been removed from Railroad's property and Railroad's property has been clean and restored to Railroad's satisfaction, Contractor shall, at its sole cost and expense, procure and maintain the following insurance coverage:

A. **Commercial General Liability** insurance. Commercial general liability (CGL) with a limit of not less than $5,000,000 each occurrence and an aggregate limit of not less than $10,000,000. CGL insurance must be written on ISO occurrence form CG 00 01 12 04 (or a substitute form providing equivalent coverage).

The policy must also contain the following endorsement, which must be stated on the certificate of insurance:

- Contractual Liability Railroads ISO form CG 24 17 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Railroad Company Property" as the Designated Job Site.
- Designated Construction Project(s) General Aggregate Limit ISO Form CG 25 03 03 97 (or a substitute form providing equivalent coverage) showing the project on the form schedule.

B. **Business Automobile Coverage** insurance. Business auto coverage written on ISO form CA 00 01 10 01 (or a substitute form providing equivalent liability coverage) with a combined single limit of not less $5,000,000 for each accident and coverage must include liability arising out of any auto (including owned, hired and non-owned autos).

The policy must contain the following endorsements, which must be stated on the certificate of insurance:

- Coverage For Certain Operations In Connection With Railroads ISO form CA 20 70 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Property" as the Designated Job Site.
- Motor Carrier Act Endorsement - Hazardous materials clean up (MCS-90) if required by law.

C. **Workers' Compensation and Employers' Liability** insurance. Coverage must include but not be limited to:

- Contractor's statutory liability under the workers' compensation laws of the state where the Work is being performed.
- Employers' Liability (Part B) with limits of at least $500,000 each accident, $500,000 disease policy limit $500,000 each employee.

If Contractor is self-insured, evidence of state approval and excess workers compensation coverage must be provided. Coverage must include liability arising out of the U. S. Longshoremen's and Harbor Workers' Act, the Jones Act, and the Outer Continental Shelf Land Act, if applicable.

D. **Railroad Protective Liability** insurance. Contractor must maintain "Railroad Protective Liability" (RPL) insurance written on ISO occurrence form CG 00 35 12 04 (or a substitute form providing equivalent coverage) on behalf of Railroad as named insured, with a limit of not less than $2,000,000 per occurrence

SAMPLE

and an aggregate of $6,000,000. The definition of "JOB LOCATION" and "WORK" on the declaration page of the policy shall refer to this agreement and shall describe all WORK or OPERATIONS performed under this agreement. Contractor shall provide this agreement to Contractor's insurance agent(s) and/or broker(s) and Contractor shall instruct such agent(s) and/or broker(s) to procure the insurance coverage required by this agreement. A BINDER STATING THE POLICY IS IN PLACE MUST BE SUBMITTED TO RAILROAD BEFORE THE WORK MAY COMMENCE AND UNTIL THE ORIGINAL POLICY IS FORWARDED TO UNION PACIFIC RAILROAD.

E. **Umbrella or Excess** insurance. If Contractor utilizes umbrella or excess policies, these policies must "follow form" and afford no less coverage than the primary policy.

F. **Pollution Liability** insurance. Pollution liability coverage must be included when the scope of the Work as defined in the agreement includes installation, temporary storage, or disposal of any "hazardous" material that is injurious in or upon land, the atmosphere, or any watercourses; or may cause bodily injury at any time.

If required, coverage may be provided in separate policy form or by endorsement to Contractors CGL or RPL. Any form coverage must be equivalent to that provided by ISO form CG 24 15 "Limited Pollution Liability Extension Endorsement" or CG 28 31 "Pollution Exclusion Amendment" with limits of at least $5,000,000 per occurrence and an aggregate limit of $10,000,000.

If the scope of Work as defined in this agreement includes the disposal of any hazardous or non-hazardous materials from the job site, Contractor must furnish to Railroad evidence of pollution legal liability insurance maintained by the disposal site operator for losses arising from the insured facility accepting the materials, with coverage in minimum amounts of $1,000,000 per loss, and an annual aggregate of $2,000,000.

Other Requirements

G. All policy(ies) required above (except business automobile, worker's compensation and employers liability) must include Railroad as "Additional Insured" using ISO Additional Insured Endorsements CG 20 10, and CG 20 37 (or substitute forms providing equivalent coverage). The coverage provided to Railroad as additional insured shall not be limited by Contractor's liability under the indemnity provisions of this agreement. BOTH CONTRACTOR AND RAILROAD EXPECT THAT UNION PACIFIC RAILROAD COMPANY WILL BE PROVIDED WITH THE BROADEST POSSIBLE COVERAGE AVAILABLE BY OPERATION OF LAW UNDER ISO ADDITIONAL INSURED FORMS CG 20 10 AND CG 20 37.

H. Punitive damages exclusion, if any, must be deleted (and the deletion indicated on the certificate of insurance), unless (a) insurance coverage may not lawfully be obtained for any punitive damages that may arise under this agreement, or (b) all punitive damages are prohibited by all states in which this agreement will be performed.

I. Contractor waives all rights of recovery, and its insurers also waive all rights of subrogation of damages against Railroad and its agents, officers, directors and employees for damages covered by the workers compensation and employers liability or commercial umbrella or excess liability obtained by Contractor required in this agreement where prohibited by law. This waiver must be stated on the certificate of insurance.

J. Prior to commencing the Work, Contractor shall furnish Railroad with a certificate(s) of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements in this agreement.

SAMPLE

K. All insurance policies must be written by a reputable insurance company acceptable to Railroad or with a current Best's Insurance Guide Rating of A- and Class VII or better, and authorized to do business in the state where the Work is being performed.

L. The fact that insurance is obtained by Contractor or by Railroad on behalf of Contractor will not be deemed to release or diminish the liability of Contractor, including, without limitation, liability under the indemnity provisions of this agreement. Damages recoverable by Railroad from Contractor or any third party will not be limited by the amount of the required insurance coverage.

SAMPLE

PROJECT WAGE RATES

Applicable Wages - The following federal prevailing wage rates and the State prevailing wage rates (including any wage rate determinations, modifications, or amendments), last published prior to Bid Opening apply to this Project and will be incorporated into the Contract:

(1) U.S. Department of Labor (USDOL), "General Wage Determinations Issued under the Davis-Bacon and Related Acts: Oregon Highway Construction Projects", and

(2) Oregon Bureau of Labor and Industries (BOLI), "Prevailing Wage Rates For Public Works Contracts".

Wage Rates are Subject to Change - Modifications or amendments to the Davis-Bacon and BOLI wage rates applicable to this Project may occur any time before Bid Opening. Bidders are responsible to monitor the USDOL website, BOLI website, and the ODOT web page for modifications and amendments up until Bid Opening.

Wage Rates are Internet-Accessible - Contractor may access the Davis-Bacon/BOLI Combined Prevailing Wage Rates, on the table provided by Bid Opening Date on the web page located at:

https://www.oregon.gov/ODOT/Business/Pages/Project-Wages.aspx

Covered Occupations – The BOLI publication titled “Definitions of Covered Occupations” last published prior to bid opening applies to this project and is located at:

https://www.oregon.gov/boli/employers/pages/occupational-definitions.aspx

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SPECIAL PROVISIONS

Subject to such revision as may be made in accordance with provisions stated in the Preface hereto, the provisions stated on the sheets inserted between pages [6] and [7] hereof are the Special Provisions which will be incorporated in and made a part of any Contract that may be awarded for the Work on the basis of a Bid received at the time and places stated herein under the headings "Description of Work" and "Time and Places of Receiving Bids (Bid Closing)".

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Grading, Drainage, Structures, Paving, Signing, and Roadside Development
I-84 (Westbound): Union Pacific Railroad Bridge (Hood River) Project
Columbia River Highway
Hood River County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Bridges and Structures. Modified Special Provisions were prepared by me or under my supervision.
 RENEWS: 06-30-2027	Section(s) 00530, 00540, 00545, 00560, 00582, 00583, 00585, 00587, 00594, 02001, 02010, 02050 02440, 02510, 02530, 02560, 02571

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Grading, Drainage, Structures, Paving, Signing, and Roadside Development
I-84 (Westbound): Union Pacific Railroad Bridge (Hood River) Project
Columbia River Highway
Hood River County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for BR 24318 & BR 02443. Modified Special Provisions were prepared by me or under my supervision.
 RENEWS: 12-31-2027	Section(s) 00223, 00252, 00253, 00256, 00350, 00430, 00501, 00510, 00512, 00530, 00540, 00543, 00585, 00842, 02001, 02010, 02050, 02210, 02320 02510, 02560, 02610, 02690, 02810.

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Grading, Drainage, Structures, Paving, Signing, and Roadside Development
I-84 (Westbound): Union Pacific Railroad Bridge (Hood River) Project
Columbia River Highway
Hood River County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Permanent Pavement Markings. Modified Special Provisions were prepared by me or under my supervision.
 RENEWS: 6-30-2027	Section(s) 00850, 00855, 00857, 00865

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Grading, Drainage, Structures, Paving, Signing, and Roadside Development
I-84 (Westbound): Union Pacific Railroad Bridge (Hood River) Project
Columbia River Highway
Hood River County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature RENEWS: 6-30-2028	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Permanent Signing Modified Special Provisions were prepared by me or under my supervision. Section(s) 00440, 00840, 00905, 00910, 00920, 00930, 00940, 02110, 02190, 02510, 02530, 02560, 02910

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Grading, Drainage, Structures, Paving, Signing, and Roadside Development
I-84 (Westbound): Union Pacific Railroad Bridge (Hood River) Project
Columbia River Highway
Hood River County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature	
REGISTERED 424 Digitally Signed 2026.08.13 14:10:48 -07'00' Magnus P. Bernhardt OREGON 05/14/99 LANDSCAPE ARCHITECT *EXPIRES: 05.31.2027*	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Erosion Control, Roadside Development, Seeding, and Planting. Modified Special Provisions were prepared by me or under my supervision. Section(s) 00231, 00280, 01030, 01040, 02320, 03010, 03020

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Grading, Drainage, Structures, Paving, Signing, and Roadside Development
I-84 (Westbound): Union Pacific Railroad Bridge (Hood River) Project
Columbia River Highway
Hood River County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature RENEWS: 6-30-2027	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Temporary Traffic Control. Modified Special Provisions were prepared by me or under my supervision. Section(s) 00220, 00221, 00222, 00223, 00224, 00225, 00226, 00820.

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Grading, Drainage, Structures, Paving, Signing, and Roadside Development
I-84 (Westbound): Union Pacific Railroad Bridge (Hood River) Project
Columbia River Highway
Hood River County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Drilled Shafts and MSE Wall. Modified Special Provisions were prepared by me or under my supervision.
 RENEWS: 06-30-2027	Section(s) 00330, 00350, 00440, 00512, 00596A, 02001, 02010, 02320, 02510, 02560, 02630, 02690

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Grading, Drainage, Structures, Paving, Signing, and Roadside Development
I-84 (Westbound): Union Pacific Railroad Bridge (Hood River) Project
Columbia River Highway
Hood River County

PROFESSIONAL OF RECORD CERTIFICATION:

REGISTERED PROFESSIONAL ENGINEER 95227PE Digitally Signed 2026.08.18 07:25:16 -07'00' OREGON Sept 10, 2019 PAUL T. BURCH RENEWS: 12-31-2027	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Pavement Design. Modified Special Provisions were prepared by me or under my supervision. Section(s) 00350, 00620, 00641, 00730, 00745

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Grading, Drainage, Structures, Paving, Signing, and Roadside Development
I-84 (Westbound): Union Pacific Railroad Bridge (Hood River) Project
Columbia River Highway
Hood River County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Earthwork, Drainage Curbs, Guardrail, and Fencing. Modified Special Provisions were prepared by me or under my supervision.
 RENEWS: 12-31-2027	Section(s) 00231, 00305, 00310, 00320, 00330, 00440, 00480, 00594, 00756, 00759, 00810, 00960, 01050, 02110, 02820, 03010

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Grading, Drainage, Structures, Paving, Signing, and Roadside Development
I-84 (Westbound): Union Pacific Railroad Bridge (Hood River) Project
Columbia River Highway
Hood River County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Bridge Rails. Modified Special Provisions were prepared by me or under my supervision.
 RENEWS: 12-31-2027	Section(s) 00253, 00535, 00560, 00587, 00593, 02001, 02110, 02530, 02560, 02810, 03010

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Grading, Drainage, Structures, Paving, Signing, and Roadside Development
I-84 (Westbound): Union Pacific Railroad Bridge (Hood River) Project
Columbia River Highway
Hood River County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Monitoring Wells, Improved Soil Mass, and Prefabricated Modular Retaining Walls. Modified Special Provisions were prepared by me or under my supervision.
 Digitally Signed 2026.09.14 09:20:52 -07'00' RENEWS: 12-31-2027	Section(s) 00298, 00345, 00350, 00440, 00596B, 02001, 02010, 02020, 02030, 02320, 02340, 02630, 02690

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Grading, Drainage, Structures, Paving, Signing, and Roadside Development
I-84 (Westbound): Union Pacific Railroad Bridge (Hood River) Project
Columbia River Highway
Hood River County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Hazardous Materials. Modified Special Provisions were prepared by me or under my supervision. Section(s) 00294, 00295

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Grading, Drainage, Structures, Paving, Signing, and Roadside Development
I-84 (Westbound): Union Pacific Railroad Bridge (Hood River) Project
Columbia River Highway
Hood River County

PROFESSIONAL OF RECORD CERTIFICATION:

REGISTERED PROFESSIONAL ENGINEER 93,567 Digitally Signed 2026.08.31 11:22:33 -07'00' OREGON MAY 8, 2018 WILLIAM A. BABICKY RENEWS: 12-31-2027	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Temporary Water Management, Storm Sewers, Water Quality Swales. Modified Special Provisions were prepared by me or under my supervision. Section(s) 00245, 00310, 00330, 00350, 00390, 00405, 00415, 00440, 00445, 00460, 00470, 00490, 00495, 00641, 00842, 01012, 02050, 02320, 02410, 02415, 02420, 02440, 02450, 02510, 02630, 03020

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Grading, Drainage, Structures, Paving, Signing, and Roadside Development
I-84 (Westbound): Union Pacific Railroad Bridge (Hood River) Project
Columbia River Highway
Hood River County

PROFESSIONAL OF RECORD CERTIFICATION:

	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Sanitary Sewer and Potable Water Lines. Modified Special Provisions were prepared by me or under my supervision. Section(s) 00405, 00406, 00415, 00442, 00445, 00470, 00490, 01140, 02470, 02475

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

SPECIAL PROVISIONS

WORK TO BE DONE

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

1. Construct bridges.
2. Construct improved soil mass.
3. Construct drilled shafts.
4. Construct retaining walls.
5. Construct sanitary and storm sewers.
6. Construct potable water lines.
7. Install bearing devices.
8. Construct asphalt concrete pavement.
9. Construct metal guardrail.
10. Install permanent pavement markings and signing.
11. Construct water quality swales.
12. Perform wetland restoration.
13. Perform additional and Incidental Work as called for by the Specifications and Plans.

AUTHORITY OF CONSULTANT

The consultant will be directly in charge of the Project. However, the consultant’s authority on this Project is as designated in the official "Consultant Agreement" for this Project, and as designated by the Engineer. This does not include authority to approve Contract changes or semifinal and Final Inspection of the Project.

APPLICABLE SPECIFICATIONS

The Specifications that are applicable to the Work on this Project is the 2024 edition of the "Oregon Standard Specifications for Construction", as modified by these Special Provisions. All Sections in Part 00100 apply, whether or not modified or referenced in the Special Provisions.

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

CLASS OF PROJECT

This is a Federal-Aid Project.

SECTION 00110 - ORGANIZATION, CONVENTIONS, ABBREVIATIONS AND DEFINITIONS

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

00110.05(e) Reference to Websites - Add the following bullet list to the end of this subsection:

- AASHTOWare Project ™
  www.oregon.gov/odot/Construction/Pages/AW-Construction.aspx
- American Traffic Safety Services Association (ATSSA)
  www.atssa.com
- BidExpress
  www.bidx.com
- EquipmentWatch
  www.equipmentwatch.com
- ODOT Construction Section
  www.oregon.gov/odot/construction/pages/index.aspx
- ODOT Construction Section - Qualified Products List (QPL)
  www.oregon.gov/ODOT/Construction/Pages/Qualified-Products.aspx
- ODOT Construction Surveying Manual for Contractors
  www.oregon.gov/ODOT/ETA/Documents_Geometronics/Construction-Survey-Manual-Contractors.pdf
- ODOT Electronic Bidding Information Distribution System (eBids)
  (Also referred to as ODOT eBids website)
  https://ecmnet.odot.state.or.us/ebidse
- ODOT Environmental Product Declaration
  https://www.oregon.gov/odot/Construction/Pages/Environmental-Product-Declarations.aspx
- ODOT Estimating
  www.oregon.gov/ODOT/Business/Pages/Steel.aspx
- ODOT Oregon Trucking Online - "Highway Restriction Notice - Size and/or Weight" (Form No. 734-2357)

https://www.oregon.gov/odot/Forms/2ODOT/7342357.pdf

- ODOT Procurement Office - Conflict of Interest Guidelines and Disclosure Forms
  www.oregon.gov/ODOT/Business/Procurement/Pages/PSK.aspx
- ODOT Procurement Office - Construction Contracts Unit Notice of Intent
  www.oregon.gov/ODOT/Business/Procurement/Pages/NOI.aspx
- ODOT Procurement Office - Construction Contracts Unit prequalification forms
  www.oregon.gov/odot/business/procurement/pages/bid_award.aspx
- ODOT Traffic Control Plans Unit
  www.oregon.gov/ODOT/Engineering/Pages/Work-Zone.aspx
- ODOT Traffic Standards
  www.oregon.gov/ODOT/Engineering/Pages/Signals.aspx
- Oregon Legislative Counsel
  www.oregonlegislature.gov/lc
- Oregon Secretary of State: State Archives
  sos.oregon.gov/archives/Pages/default.aspx

00110.10 Abbreviations - Add the following paragraph to the end of this subsection:

EPD - Environmental Product Declaration

PCD - Pedestrian Channelizing Device

Delete the following paragraph:

DBE - Disadvantaged Business Enterprise

00110.20 Definitions - Add the following paragraphs to the end of this subsection:

Environmental Product Declaration - An environmental declaration providing environmental data using predetermined parameters and, where relevant, additional environmental information. *ISO 14025* refers to these as Type III Environmental Declarations.

Materially Unbalanced Bid - A Bid which generates a reasonable doubt that Award to the Bidder submitting a Mathematically Unbalanced Bid will result in the lowest ultimate cost to the Agency.

Mathematically Unbalanced Bid - A Bid containing lump sum or unit Pay Items (bid items) which do not reflect reasonable actual costs plus a reasonable proportionate share of the Bidder's anticipated profit, overhead costs and other indirect costs.

Pedestrian Accessible Route - An area for the use of pedestrians to navigate along sidewalks, driveways, curb ramps, crossings, and pedestrian facilities.

Pedestrian Channelizing Device - Devices used for channelizing pedestrians along a Temporary Pedestrian Accessible Route.

SECTION 00120 - BIDDING REQUIREMENTS AND PROCEDURES

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

00120.00 Prequalification of Bidders - Add the following bullet to the end of the bullet list:

- If delivered by electronic mail, the application shall be sent to:

  ODOTProcurementOfficeConstruction@odot.oregon.gov

Replace the bullet that begins “If delivered by mail…” with the following bullet:

- If delivered by mail or parcel delivery service, the application shall be sent to:

  Oregon Department of Transportation
  Procurement Construction Contracts, MS #33
  355 Capitol Street NE
  Salem, OR 97301

00120.01 General Bidding Requirements - Replace the paragraph that begins “If the Bidder submits the Bid…” with the following paragraph:

If the Bidder submits the Bid electronically through BidExpress® as a joint venture, in addition to the joint venture signing with the digital signature and unique ID for the joint venture, the Bidder must also submit the signature pages from the Bid Booklet signed by each member of the joint venture, together with a statement the Bidder adds above or with the signatures as follows: “The following joint venture member signatures are for the Bid for the [Insert Project Name] Project submitted by the joint venture through BidExpress®. The signatures are on behalf of each joint venture member and the joint venture and also confirm that the signatory in BidExpress® was authorized to submit the Bid on behalf of the joint venture.” The Bidder must also email .pdf copies of the signature pages showing the signatures of the joint venture members with the required statement which must be received by BJ McCartney, Construction Contracts Manager, at the ODOT Procurement Office at: ODOTProcurementOfficeConstruction@odot.oregon.gov before the Closing date and time for the Bid. The signature pages with the original signatures must also be mailed or delivered to and received by BJ McCartney, Construction Contracts Manager, at the address given in the Bid Book as a condition of Award.

00120.05 Request for Plans, Special Provisions, and Bid Booklets - Add the following to the end of this subsection:

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

"Grading, Drainage, Structures, Paving, Signing, and Roadside Development
I-84 (Westbound): Union Pacific Railroad Bridge (Hood River) Project
Columbia River Highway
Hood River County
November 2026"

00120.10 Bid Booklet - Replace the bullet that begins “Appendix, which includes…” with the following bullet:

- Appendix, which includes required time-sensitive forms, sample forms, and other informational pages

00120.15 Examination of Work Site and Solicitation Documents; Consideration of Conditions to be Encountered - Add the following to the end of this subsection:

Certain Specifications included in the Project require additional experience or personnel qualifications. Refer to the subsection requirements that may affect bidding considerations, including but not limited to the following:

Subsection	Title
00256.30	Personnel Qualifications
00294.30	Personnel Qualifications
00295.30	Personnel Qualifications
00298.30	Personnel Qualifications
00345.30	Personnel Qualifications
00350.30	Personnel Qualifications
00512.30	Personnel Qualifications
00535.30	Personnel Qualifications
00543.30	Personnel Qualifications
00585.30	Personnel Qualifications
00759.30	Personnel Qualifications
01030.30	Personnel Qualifications

00120.40(b) Bidding Considerations - Add the following to the end of the list:

00160.20(d)	Build America Buy America Act Requirements

00120.40(f) Disclosure of First-Tier Subcontractors - Replace the paragraph beginning “If no subcontracts subject to the above…” with the following paragraph:

If no subcontracts subject to the above disclosure requirements are anticipated, a Bidder shall so indicate by entering "NONE" or by filling in the appropriate check box. For each Subcontractor listed, Bidders shall provide all requested information. Failure to submit a form or submission of a form that does not include the information required by ORS 279C.370 for each Subcontractor listed, specifically the name of each Subcontractor, the dollar amount of each subcontract and the category of Work that each Subcontractor will perform, will result

in the rejection of the Bid. The Agency is not required to determine the accuracy or the completeness of the Subcontractor disclosure. See ORS 279C.370 and OAR 731-005-0420.

Replace both of the bullets that begin “Using the form provided on the Agency’s website…” with the following bullet:

- Using the fillable form provided on the Agency's website, identified in the Bid Booklet on the ODOT eBIDS website, filling the form out and submitting the completed form via email to the email address given in the paper Bid Booklet.

00120.70 Rejection of Nonresponsive Bids - Delete the bullet that begins “The Bidder has not complied with the DBE…”.

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

- The Bid is found to be Mathematically Unbalanced and Materially Unbalanced.

SECTION 00130 - AWARD AND EXECUTION OF CONTRACT

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

00130.00 Consideration of Bids - Replace the paragraph that begins “The Agency reserves…” with the following paragraph:

The Agency reserves the right to waive minor informalities and irregularities, seek clarification of any Bid or response that, in its sole discretion, it deems necessary or advisable, and to reject any Bids for irregularities under 00120.70 or all bids for good cause after finding that it is in the public interest to do so (ORS 279C.395). The Agency may correct obvious clerical errors, when the correct information can be determined from the face of the documents, if it finds that the best interest of the Agency and the public will be served thereby.

00130.40 Contract Submittals - Add the following paragraph to the end of this subsection:

The Agency, in its sole discretion, may require execution of documents identified in subsections (a), (b) and (c) with a form of electronic signature (including but not limited to sealing and signing) acceptable to the Agency.

00130.40(c) Workers' Compensation - Replace this subsection, except for the subsection number and title, with the following:

To certify compliance with the workers' compensation insurance coverage required by 00170.61(a) and 00170.70(e), the successful Bidder shall complete and sign the "Certification of Workers' Compensation Coverage" form bound in the Contract booklet.

00130.50 Execution of Contract and Bonds - Add the following paragraph to the end of this subsection:

The Agency, in its sole discretion, may require execution of documents identified in subsection (a) with a form of electronic signature (including but not limited to sealing and signing) acceptable to the Agency.

00130.80 Project Site Restriction - Replace the paragraph that begins "Until the Agency sends the Contractor …" with the following paragraph:

Until the Agency sends the Contractor written Notice to Proceed with the Work, and the Contractor has filed the public works bonds required in 00170.65(b), the Contractor shall not go onto the Project Site on which the Work is to be done, nor move Materials, Equipment, or workers onto that Project Site.

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:

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

The Engineer will perform the Agency responsibilities described in the *Construction Surveying Manual for Contractors*, Chapter 1.5 (see Section 00305).

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

The Contractor shall perform the Contractor responsibilities described in the *Construction Surveying Manual for Contractors*, Chapter 1.6 (see Section 00305).

The Contractor shall perform slope staking including intersections and set stakes defining limits for clearing which approximate Right-of-Way and easements.

00150.30 Delivery of Notices - Replace the paragraph and bullets that begin "Following Notice to Proceed, all notices and other documents submitted…" with the following paragraph and bullets:

Following Notice to Proceed, all notices and other documents submitted to the Contractor by the Engineer, or to the Engineer by the Contractor, electronically under 00170.08 or 00170.09:

- If recorded in Doc Express® or AASHTOWare Project™ as received before 5:00 p.m. PST on a business day it shall be considered as received on the business day on which it was actually received in Doc Express® or AASHTOWare Project™.
- If recorded in Doc Express® or AASHTOWare Project™ as received on a non-business day, or after 5:00 p.m. PST on a business day, it shall be considered as received at 8:00 a.m. PST on the next business day.

00150.50(c) Contractor's Responsibilities - Replace the bullet that begins "In addition to the notification required…" with the following bullet:

- In addition to the notification required in OAR 952-001-0090(7), notify the Engineer and the Utility as soon as the Contractor discovers any previously unknown Utility conflicts or issues. Contrary to the OAR, stop excavating until directed by the Engineer and allow the Utility a minimum of two weeks to relocate or resolve the previously unknown Utility issues; and

Add the following subsection:

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

Table 00150-1

Utility	**Contact Person's Name, Address, Email, *(*and*)* Phone Number *(*and Work Order Number*)***
NW Natural Gas	JC Sanchez juan.sanchez@nwnatural.com (541) 255-6359
Hood River Electric	Chris Walker 3521 Davis Dr Hood River OR 97031 chrisw@hoodriver.coop (541) 436-8799

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

NW Natural Gas - Gas Utilities -

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

- Northwest Natural Gas 1-800-882-3377; or

Add the following subsection:

00150.50(g) Utility Information (Anticipated Relocations):

The organizations list in Table 00150-2 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:

Table 00150-2

Subsection	Utility	Contact Person's Name, Address, Email, (and) Phone Number (and Work Order Number)	Estimated Completion Date
00150.50(g)(1)	Pacific Power	Daniel Didyk 1290 Tucker Rd Hood River OR 97031 daniel.didyk@pacificorp.com (971) 235-2485	11/30/2026
00150.50(g)(2)	City of Hood River	Randy Achziger 211 2nd St Hood River OR 97031 R.Achziger@cityofhoodriver.gov (541) 436-3510	During Construction
00150.50(g)(3)	Lumen	Tyson Froemke 2500 Valley Ave Baker City OR 97814 tyson.froemke@lumen.com (503) 416-1510 WO# P.639426 OR	11/30/2026
00150.50(g)(4)	City of Hood River	Randy Achziger 211 2nd St Hood River OR 97031 R.Achziger@cityofhoodriver.gov (541) 436-3510	During Construction

The Contractor shall contact the Engineer to view the approved utility relocation Plans.

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

(1) Pacific Power - "Power Supplier":

The Contractor shall notify the Power Supplier(s) in writing, with a copy to the Engineer, at least 14 Calendar Days before beginning Work within 10 feet of the power line(s).

(2) City of Hood River - "Sewer Facility":

The Contractor shall notify the Sewer Facility in writing, with a copy to the Engineer, at least 14 Calendar Days before beginning Work within 10 feet of the Sewer facilities.

The Contractor shall notify the Sewer Facility in writing, with a copy to the Engineer, 14 Calendar Days before the Contractor is scheduled to begin performing sewer line Work. After the Sewer Facility receives the notification, the Contractor shall then allow the Sewer Facility 14 Calendar Days to schedule and complete the relocation and adjustment work before the Contractor begins performing sewer line Work.

(3) Lumen - "Telecommunication Utility":

The Contractor shall notify the Telecommunication Utility in writing, with a copy to the Engineer, at least 14 Calendar Days before beginning Work within 10 feet of the Telecommunication Utility facilities.

(4) City of Hood River - "Water Utility":

The Contractor shall notify the Water Utility in writing, with a copy to the Engineer, at least 14 Calendar Days before beginning Work within 10 feet of the Water Utility facilities.

The Contractor shall notify the Water Utility in writing, with a copy to the Engineer, 14 Calendar Days before the Contractor is scheduled to begin performing potable water Work. After the Water Utility receives the notification, the Contractor shall then allow the Water Utility 14 Calendar Days to schedule and complete the relocation and adjustment work before the Contractor begins performing potable water Work.

00150.60(a) Load and Speed Restrictions for Construction Vehicles and Equipment - Add the following bullet to the end of the bullet list:

- The Contractor shall restrict the combined weights of construction vehicles, Equipment, and Materials on Bridges according to 00220.45.

SECTION 00160 - SOURCE OF MATERIALS

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

00160.01(a) All Materials - Replace the paragraph that begins “The Contractor shall identify…” with the following paragraph:

When the estimated value is over $10,000, the Contractor shall submit a copy of the materials purchase order or supply agreement.

Delete the paragraph that begins “For this purpose…”.

00160.05 Qualified Products List (QPL) - Replace this subsection, except for the subsection number and title, with the following:

The QPL is a listing of manufactured products available on the market (shelf items) that ODOT has evaluated and found suitable for a specified use in highway construction. The QPL is available from ODOT's Construction Section website (see 00110.05(e)).

The most current version of the QPL on ODOT's Construction Section website at the time of Advertisement is the version in effect for the Project. When the Contract specifies the use of the QPL, unless specified as the subject of an exemption per ORS 279C.345, the Agency may approve for use a product qualified for inclusion in a later edition of the QPL, or other equivalent product that meets the requirements of the QPL, following the Standard Guidelines for Product Review, if the Agency finds the product acceptable for use on the Project.

Use of listed products shall be restricted to the category of use for which they are listed. The Contractor shall install all products as recommended by the manufacturer. The Contractor shall replace qualified products not conforming to Specifications or not properly handled or installed at no additional cost to the Agency.

00160.20(a) Buy America - Replace this subsection, except for the subsection number and title, with the following:

If $500,000 or more of federal highway funds are involved on the Project, the Contractor shall limit the quantity of foreign Materials incorporated into the Work as follows. Section 635.410 of Title 23, Code of Federal Regulations, and the Intermodal Surface Transportation Efficiency Act require that all iron or steel manufacturing processes, including, without limitation, the casting of ingots, for iron or steel Materials permanently incorporated into the Project shall occur in the United States, unless the cost of foreign-origin iron or steel Materials does not exceed one-tenth of one percent (0.1%) of the Contract Amount or $2,500, whichever is greater. Buy America requirements apply to any steel or iron component of a manufactured product regardless of the overall composition of the manufactured product (e.g., Buy America applies to the steel wire mesh or steel reinforcing components of a precast reinforced concrete pipe). The Contractor shall not incorporate foreign-origin iron or steel Materials in excess of this amount into the Project. All foreign-origin iron or steel Materials incorporated in the Project in excess of the amount indicated above shall be removed and replaced with domestic iron or steel Materials at the Contractor's expense. For purposes of this Specification, the cost of foreign-origin iron or steel Materials shall be the value of the iron or steel products as of the date they are delivered to the Project Site.

Manufacturing processes include without limitation the casting of ingots and the application of coatings to finished iron or steel products or components. Coatings include epoxy coating, galvanizing, painting, and any other coating that protects or enhances the value of the steel or iron product or component. The Contractor shall provide the Engineer with a Certificate of Materials Origin, on a form furnished by the Engineer, before incorporating any iron or steel products into the Project. Unless a Certificate of Materials Origin has been provided to the Engineer, the Materials shall be considered of foreign origin.

The Contractor shall retain manufacturers' certificates verifying the origin of all domestic iron or steel Materials for 3 years after the date of final payment for the Project, and shall furnish copies to the Engineer upon request.

The Contractor shall include this provision in all subcontracts.

00160.20(d) Build America Buy America Act Requirements - Replace this subsection, except for the subsection number and title, with the following:

If federal highway funds are involved on the Project, the Contractor shall comply with the Build America Buy America Act and implementing regulations (Infrastructure Investment and Jobs Act (“IIJA”), Pub. L. No. 117-58, which includes the Build America, Buy America Act (“the Act”). Pub. L. No. 117-58, Sections 70901-70941).

The Build America Buy America Act requirements apply to construction materials and manufactured products permanently incorporated in the Project. All construction materials and manufactured products permanently incorporated in the Project must be produced in the United States.

Construction materials include an article, Material, or supply that is or consists primarily of only one of the following, with the standard for the material to be considered ‘‘produced in the United States’’:

- **Non-ferrous metals -** All manufacturing processes, from initial smelting or melting through final shaping, coating, and assembly, occurred in the United States.
- **Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables)** - All manufacturing processes, from initial combination of constituent plastic or polymer-based inputs, or, where applicable, constituent composite materials, until the item is in its final form, occurred in the United States.
- **Glass (including optic glass)** - All manufacturing processes, from initial batching and melting of raw materials through annealing, cooling, and cutting, occurred in the United States.
- **Fiber optic cable (including drop cable)** - All manufacturing processes, from the initial ribboning (if applicable), through buffering, fiber stranding and jacketing, occurred in the United States. All manufacturing processes also include the standards for glass and optical fiber, but not for non-ferrous metals, plastic and polymer-based products, or any others.
- **Optical fiber** - All manufacturing processes, from the initial preform fabrication stage through the completion of the draw, occurred in the United States.
- **Lumber** - All manufacturing processes, from initial debarking through treatment and planing, occurred in the United States.
- **Drywall** - All manufacturing processes, from initial blending of mined or synthetic gypsum plaster and additives through cutting and drying of sandwiched panels, occurred in the United States.
- **Engineered wood** - All manufacturing processes from the initial combination of constituent materials until the wood product is in its final form, occurred in the United States.

The classification of an article, material, or supply as construction material is based on its status at the time it is brought to the work site for incorporation in the Project. In general, the work site is the location of the Project at which the construction materials will be incorporated.

FHWA issued a final rule on January 14, 2025 amending FHWA's Buy America regulation to terminate FHWA's general waiver for manufactured products and establish Buy America requirements for manufactured products with respect to Federal-aid highway projects.

https://www.federalregister.gov/documents/2025/01/14/2024-31350/buy-america-requirements-for-manufactured-products

Manufactured products assembled outside the Project Site are also subject to the Build America Buy America requirements. Manufactured products means articles, materials, or supplies that have been:

- Processed into a specific form and shape; or
- Combined with other articles, materials, or supplies to create a product with different properties than the individual articles, materials, or supplies.

For manufactured products, the final assembly of the product shall occur within the United States for projects obligated on or after October 1, 2025. For projects obligated after October 1, 2026, the cost of the components of the product that are mined, produced or manufactured in the United States shall be more than 55 percent of the total cost of all components of the product.

The USDOT issued a Public Interest Waiver for De Minimis Costs and Small Grants. The final waiver can be viewed here: https://www.federalregister.gov/documents/2023/08/16/2023-17602/waiver-of-buy-america-requirements-for-de-minimis-costs-and-small-grants and this waiver applies to Materials covered by the Build America Buy America Act.

The public interest waiver is for manufactured products and construction materials for which:

- The total value of the non-compliant products (foreign or unknown origin) is no more than the lesser of $1,000,000 or 5% of total applicable costs for the project*; or
- The total amount of Federal financial assistance applied to the project, through awards or subawards, is below $500,000.

*The “total value of the non-compliant products” includes construction materials and manufactured products only. The “total applicable costs” includes construction materials, iron and steel, and manufactured products. The value of materials are the actual cost of the materials, not the anticipated cost of materials. Furthermore, this bullet does not apply to iron and steel subject to the requirements of 23 U.S.C. 313. The de minimis threshold in 23 CFR 635.410(b)(4) continues to apply for steel and iron. (See 00160.20(a).)

Strict compliance with the Build America, Buy America domestic preferences is required, except to the extent the above public interest waiver applies. The Contractor shall not incorporate construction materials and manufactured products in excess of this amount into the Project. All foreign origin construction materials and manufactured products incorporated in the Project in excess of the amount indicated above shall be removed and replaced with domestic construction materials at the Contractor's expense.

The Contractor shall provide the Engineer with a Certificate of Materials Origin, on a form furnished by the Engineer, before incorporating any applicable construction materials and manufactured products into the Project. Unless a Certificate of Materials Origin has been provided to the Engineer, the products and Materials shall be considered of foreign origin.

The Contractor shall retain manufacturers' certificates verifying the origin of all applicable construction materials and manufactured products for 3 years after the date of final payment for the Project, and shall furnish copies to the Engineer upon request.

Iron and steel Materials and manufactured products that are predominately iron or steel are subject to 00160.20(a).

The Contractor shall include this provision in all subcontracts.

00160.21 Cargo Preference Act Requirements - Add the following to the end of this subsection:

Additional information may be available at the following websites:

https://www.fhwa.dot.gov/construction/cqit/cargo.cfm
https://www.fhwa.dot.gov/construction/cqit/cargo/qa.cfm.

Add the following subsection:

00160.65 Environmental Product Declaration - Pursuant to ORS 184.879 and OAR 731-005-0910, provide an Environmental Product Declaration for the following materials:

- Concrete, including ready mix concrete, shotcrete, precast concrete and concrete masonry units;
- Asphalt paving mixtures;
- Steel, including rebar, reinforcing steel and structural steel, hot-rolled sections, hollow sections, plate steel and cold-formed steel.

Submit an EPD according to the *ODOT Environmental Product Declaration Manual (see 00110.05(e))*.

The most current published PDF version of the *ODOT Environmental Product Declaration Manual* on the date of Advertisement is the version in effect for the Project.

The EPD must be accepted by the Engineer before the product is incorporated into the Project unless the product is procured under a listed exemption in ODOT's *Environmental Product Declaration Manual*.

SECTION 00165 - QUALITY OF MATERIALS

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

00165.10(b) Nonfield-Tested Materials - Replace this subsection, except for the subsection number and title, with the following:

Nonfield-tested Materials will be accepted according to the ODOT Nonfield Tested Materials Acceptance Guide (NTMAG), unless otherwise specified in the Contract. The NTMAG is available on the ODOT Construction Section website (see 00110.05(e)). The most current version of the NTMAG on the date of Advertisement is the version in effect for the Project.

(1) Rejections - The inspection at the mill, shop, or precaster of any Material, Work or finished members will not prevent subsequent rejection, if later found damaged or defective, nor relieve the Contractor of the responsibility to correct or replace the Work at no additional cost to the Agency.

(2) Transport - Do not ship members or piece of fabricated steel or precast member, that requires a fabrication inspection report, without the Inspector's label or marking.

Add the following subsection:

00165.15 AASHTOWare™ - Field-tested Materials and Nonfield-tested Materials will be tracked within AASHTOWare Project™ for this Project. The acceptance criteria for Materials in AASHTOWare Project™ can be viewed at the https://www.oregon.gov/odot/Business/Pages/AASHTOWare-Project.aspx (see 00110.05(e)). The most current version of AASHTOWare™ on the date of Advertisement is the version in effect for the Project.

00165.20 Materials Specifications and Test Method References - Replace this subsection, except for the subsection number and title, with the following:

References to materials specifications and test methods of ODOT, WAQTC, AASHTO, ASTM, other governmental agencies, or other recognized organizations mean those officially adopted and in current use by the agency or organization on the date of Advertisement.

If there are conflicting references, or if no reference is made to materials specifications, sampling and testing frequencies, or test method, the Engineer will resolve any discrepancies between these documents in the following orders of precedence:

Field-Tested Materials:

- Contract Change Orders;
- Special Provisions;
- ODOT Laboratory Manual of Test Procedures;
- MFTP;
- Standard Specifications; and
- AASHTOWare™

Nonfield-Tested Materials:

- Contract Change Orders;
- Special Provisions;
- ODOT Laboratory Manual of Test Procedures;
- Standard Specifications; and

- AASHTOWare™

Material test methods:

- ODOT;
- WAQTC;
- AASHTO;
- ASTM;
- Other recognized national organizations, such as ANSI, AWPA, IMSA, ISSA, and UL; and
- Industry standards in the location where the Work is being performed.

Sampling and testing frequencies:

- Contract Change Orders;
- Special Provisions;
- MFTP;
- Standard Specifications; and
- AASHTOWare™.

If the Contractor identifies conflicting references or if no reference is made, the Contractor shall immediately request a clarification from the Engineer.

00165.35(d) Certificate of Origin of Steel Materials - Replace this subsection with the following subsection:

00165.35(d) Certificate of Origin of Steel Materials, Construction Materials, and Manufactured Products - When a certificate of material origin is specified, complete the form furnished by the Engineer as required by 00160.20.

00165.35(e) Certificate of Origin of Construction Materials - Delete this subsection.

00165.91 Fabrication Inspection Expenses - Replace the table with the following table:

TABLE 00165-3

Zone	Place of Fabrication	Reduction in Payment
1	All of State of Oregon, and the portion of the State of Washington within 50 airline miles of Portland International Airport (PDX)	$0
2	Outside of Zone 1, and up to 250 airline miles of Portland International Airport (PDX)	$300 per Calendar Day

3	Outside of Zone 2, up to 1,000 airline miles of Portland International Airport (PDX).	Round trip coach airfare from Portland, Oregon plus $300 per Calendar Day
4	Outside of Zone 3, or outside of the continental United States.	Round trip coach airfare from Portland, Oregon plus $500 per Calendar Day

SECTION 00170 - LEGAL RELATIONS AND RESPONSIBILITIES

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

Add the following subsection:

00170.01(e) Railroads -

ODOT has submitted the initial agreement to the Railroad. The Contractor shall sign and send to the Railroad the agreement that is supplied to the Contractor by the Engineer. A sample copy of the agreement is included near the front of this Special Provision booklet. The Railroad agreement and requirements are subject to change by the Railroad. The Contractor shall obtain all necessary agreements (permits and licenses) and pay all additional fees. The Contractor shall obtain a fully executed copy of the agreement and requirements between the Contractor and the Railroad and provide a copy of it to the Engineer before beginning Work near or within the Railroad property or Right-of-Way.

The USDOT Number for this Project is 810122R.
Railroad company owning the track: UPRR.
Operating Railroad company at track: UPRR.
Railroad MP: 62.5.
Railroad Subdivision: Portland Sub via Graham Line.
City: Hood River.
County: Hood River.

The Union Pacific Railroad Folder Number is not applicable.

The Railroad requires a third-party flagging vendor when Work occurs near or within Railroad property. When Railroad flagger services are required, the Contractor shall provide flagger services from a third-party flagging vendor from Union Pacific's approved third-party list according to 00223.35.

Add the following subsection:

00170.06 Federal-Aid Participation - This Project is to be conducted according to the regulations applying to Federal-Aid Highway Projects.

00170.07 Record Requirements - Replace the paragraph that begins "For purposes of this Subsection, the term …" with the following paragraph:

For purposes of this Subsection, the term "Contractor" includes the Contractor, all Subcontractors, Material Suppliers, and providers of rented operated Equipment (except truck drivers), at all tiers, for all subcontracts with first-tier Subcontractors, all subcontracts between the first-tier Subcontractors and their Subcontractors and any other lower-tier subcontracts, and "Related Entities" as that term is defined in OAR 734-010-0400. The Material Suppliers included in this definition are those for Aggregates, asphalt cement concrete, Portland cement concrete and the supply and fabrication of structural steel items, and Material Suppliers that provide quotes.

00170.07(a) Records Required - Replace the paragraph that begins "The Contractor shall include in its subcontracts …" with the following paragraph:

The Contractor shall include in its subcontracts, purchase orders, and all other written agreements, a provision requiring all Subcontractors, Material Suppliers and providers of rented operated Equipment (except truck drivers), at all tiers, to comply with 00170.07. The Contractor shall also require all Subcontractors, Material Suppliers, and providers of rented operated Equipment (except truck drivers), at all tiers, and Related Entities to include in their contracts, purchase orders, and all other written agreements, a provision requiring all lower-tier Subcontractors, Material Suppliers and providers of rented operated Equipment (except truck drivers) to comply with 00170.07. The Material Suppliers to which this applies are those for Aggregates, asphalt cement concrete, portland cement concrete and the supply and fabrication of structural steel items and Material suppliers that provide Material quotes and Related Entities as defined in OAR 734-010-0400.

00170.08 Electronic Document Management - Replace this subsection with the following subsection:

00170.08 Electronic Data and Document Management - The requirements of this Subsection do not apply to claims. Claims must be submitted on paper documents according to Section 00199.

For additional Specifications applicable to AASHTOWare Project™ see 00170.09.

Following Notice to Proceed, the Contractor shall submit all data and documents for this Contract to the Agency in an electronic format using Doc Express®, or using AASHTOWare Project™ for data and documents as specified in 00170.09. No paper documents, faxes or other similar paper methods or media are permitted, unless otherwise allowed or directed by the Engineer. The Contractor shall be solely responsible for submitting data and documents to the Agency using Doc Express® or AASHTOWare Project™, as applicable, for the Contractor and for Subcontractors, Suppliers, vendors and other third parties. Only data and documents submitted by the Contractor to the Agency and recorded in Doc Express® or AASHTOWare Project™, as applicable, as received will be considered valid and received by the Agency.

Following Notice to Proceed, all data and documents for this Contract will be managed in Doc Express® or AASHTOWare Project™, as applicable, unless otherwise allowed or directed by the Engineer. Following Notice to Proceed, the Contractor shall use Doc Express® or AASHTOWare Project™, as applicable, to submit data and documents to the Agency, and

the Agency will use Doc Express® or AASHTOWare Project™, as applicable, to submit, or make available, data and documents to the Contractor.

If authorized to do so, Subcontractors, Suppliers, vendors and other third parties may enter data and documents into AASHTOWare Project™, but such data and documents shall not be considered submitted to Agency until the Contractor reviews the data or document and completes the workflow transition to submit the data or document to the Agency within AASHTOWare. Required workflow transitions are defined in the ODOT AASHTOWare Project™ User Guide for Construction Contractors for specific data and documents that are required to be submitted to the Agency. Completion of required workflow transitions by the Contractor will constitute submittal to the Agency. See 00170.09.

Subcontractors, Suppliers, vendors and other third parties shall not be authorized to and shall not enter data or documents into Doc Express®.

The Contractor shall comply with naming conventions, drawer structure, and other Doc Express® instructions as specified in the ODOT Doc Express® User Guide for Construction Contractors, as may be revised from time to time and available from the Engineer. Instructions for entry and submittal of data and documents using AASHTOWare Project™ are specified in 00170.09.

The Contractor shall provide all Subcontractors, Suppliers, vendors, and any other third parties receiving payment from the Contractor or any Subcontractor, Supplier, vendor, or any other third party, with read-only access to the Doc Express® drawer that contains payment documents from the Agency and the Contractor. The Contractor may provide Subcontractors, Suppliers, vendors, and any other third parties receiving payment from the Contractor or any Subcontractor, Supplier, vendor or other third party with read-only access to other Doc Express® drawers at the Contractor's discretion. The Contractor shall not grant write access in Doc Express® to Subcontractors, Suppliers, vendors or any other third parties or their respective officers, employees or agents. Additional access requirements and limitations for AASHTOWare Project™ are specified in 00170.09.

Data and documents submitted according to this Subsection, from the Agency to the Contractor and from the Contractor to the Agency, are official data and documents for the Contract and will be accepted as such by both parties.

By submitting data and documents that originate from the Contractor to the Agency using Doc Express® or AASHTOWare Project™, as applicable, the Contractor is certifying that the data and documents are true and accurate and that if the data or document was required to be signed, it has been signed by a person with appropriate authority. By submitting data and documents to the Agency using Doc Express® or AASHTOWare Project™, as applicable, that originate from a Subcontractor, Supplier, vendor, manufacturer or other third party, the Contractor is certifying that the data and documents are a true and complete copy of the data and documents the Contractor received, that if the data or document was required to be signed, it has been signed, and that the Contractor does not know, nor does it have reason to believe, that the data and documents are not true and accurate, are not complete, are not what was required, or were signed by a person without appropriate authority.

In the event of a conflict between this Subsection and the Standard Specifications or other Special Provisions, this Subsection shall control except for, as applicable, 00170.09 and 00199.30.

Costs associated with obtaining and maintaining access to Doc Express® and AASHTOWare Project™ and the use of Doc Express® and AASHTOWare Project™ are Incidental to Mobilization.

Failure to submit data and documents electronically, as required by 00170.08 and 00170.09, may result in payments being withheld according to 00195.50.

The Contractor shall be responsible for causing access to Doc Express® (or to notify the Agency for AASHTOWare Project™) to be disabled for any Entity or individual that is no longer assigned, employed or under contract in relation to the Project or whose access is to be disabled due to improper activity. The Contractor's obligation to disable access applies to its own officers, employees and agents and to all Subcontractors, Suppliers, vendors and other third parties and their respective officers, employees and agents.

The Agency reserves the right to suspend or disable, or cause to be suspended or disabled, the access to Doc Express®, or AASHTOWare Project™, or both, for any Entity or individual at any time.

Use and access for Doc Express® and AASHTOWare Project™ are provided "as is". The Agency does not warrant that access to or functioning of Doc Express® or AASHTOWare Project™ will be error free, uninterrupted, or will meet the Contractor's needs. The Agency is not responsible for any damage that may occur due to error, omission, lack of timeliness or other malfunction of Doc Express® or AASHTOWare Project™ or their supporting systems. The Agency disclaims all liability arising from interference or interruption, viruses, telephone faults, malicious damage by anyone, electronic system downtime, overloading of the Internet or sites or any cause beyond the control of the Agency. The Agency reserves the right to temporarily suspend or cause to be suspended access to Doc Express® or AASHTOWare Project™, or both, without notice, because of maintenance, repair or any other reason deemed necessary for the proper functioning of Doc Express® or AASHTOWare Project™ by the Agency, AASHTO, or Info Tech, Inc.

In no event shall the State of Oregon, the Oregon Transportation Commission or the Agency or their respective members, officers, agents and employees be liable for any claims, suits, actions, losses, liabilities, damages, costs or expenses, including but not limited to attorney fees, of whatsoever nature, resulting from or arising out of the use of Doc Express® or AASHTOWare Project™ by the Contractor or Subcontractors, Suppliers, vendors or other third parties at any level or their respective officers, employees or agents.

The Contractor's indemnification, defense and hold harmless obligations under the Contract shall apply to the terms, conditions and requirements of 00170.08 and 00170.09 and to the use of Doc Express® and AASHTOWare Project™ and the acts, errors and omissions of the Contractor, Subcontractors, Suppliers, vendors and other third parties and their respective officers, employees and agents respecting access to and use of Doc Express® and AASHTOWare Project™.

The terms, conditions and requirements of 00170.08, 00170.09, and 00150.30 shall be included in all contracts with all Subcontractors, Suppliers, vendors and other third parties at all levels for which access to Doc Express® or AASHTOWare Project™ will or may be required.

(a) User Terms and Conditions - The Contractor shall comply with, shall require its officers, employees and agents to comply with, and shall require all Subcontractors, Suppliers, vendors and other third parties to comply with and to require their officers, employees and agents using or accessing Doc Express® or AASHTOWare Project™, or both, as applicable, to comply with 00170.08, 00170.09, and the following User Terms and Conditions, all as may be revised from time to time:

As an officer, employee or agent of the Contractor or any Subcontractor, Supplier, vendor or other third party, respecting my use of or access to Doc Express®, AASHTOWare Project™, or both, I agree to the following, all as may be revised from time to time:

- The terms, conditions and requirements of 00170.08;
- The terms, conditions and requirements of 00170.09;
- The Info Tech, Inc. Doc Express® Privacy Policy and Terms of Use and the Digital Millennium Copyright Act (DMCA) Policy, accessible from the Doc Express® registration site;
- The AASHTOWare Project™ Privacy Policy and Terms of Use and the Digital Millennium Copyright Act (DMCA) Policy, accessible from the AASHTOWare Project™ registration site;
- The ODOT Doc Express® User Guide for Construction Contractors available from the Engineer;
- The AASHTOWare Project™ Directory available from the Engineer;
- The ODOT AASHTOWare Project™ User Guide for Construction Contractors available from the Engineer; and
- The following Additional User Terms and Conditions:

My use of and access to Doc Express® or AASHTOWare Project™, or both, as applicable, are conditioned on my agreement to and my compliance with the foregoing and these Additional User Terms and Conditions.

I may have access to sensitive personnel, business, financial and/or security related information (“Confidential Information”) through use of Doc Express® or AASHTOWare Project™, and, except to the limited extent necessary to perform my duties, I will maintain its confidential status and will not share, publish or disseminate Confidential Information or other information obtained through Doc Express® or AASHTOWare Project™, without regard to how ODOT may treat any such Confidential Information or other information. All information is also subject to the Oregon Public Records law (see 00170.07(d)). In addition, if I know or have reason to believe any information was inadvertently or improperly included in Doc Express® or AASHTOWare Project™, I will immediately notify my employer for purposes of notification to the Contractor and the Contractor’s notification to ODOT.

I will not access any information, data or documents I am not authorized to use or access and I will not browse or otherwise use or access information, data or documents that exceed the minimum necessary to perform my duties.

If my authorized use of and access to Doc Express® or AASHTOWare Project™ includes entering data and documents (or “read-write” access) into Doc Express® or AASHTOWare Project™, I will not enter any data or documents into Doc Express® or

AASHTOWare Project™ except those I am authorized to enter (or in the case of the Contractor, to enter or submit, or both) and are necessary to perform my duties.

I have no expectation of privacy, rights or ownership of anything I may access, create, store, send or receive within Doc Express® or AASHTOWare Project™, respecting any data or documents, including but not limited to Confidential Information of any individual or Entity. For audit or system security purposes, ODOT may monitor and record all activity conducted within Doc Express® and AASHTOWare Project™. This includes but is not limited to the login identification information, times, dates and duration of access, as well as resources, data, or documents accessed.

Unauthorized access or activities that could compromise the systems or Confidential Information are strictly prohibited and patterns of unauthorized or unusual activity may result in access being immediately disabled, and possible further investigation.

If a breach of these terms and conditions or a security incident occurs, I will immediately notify my employer for purposes of notification to the Contractor and the Contractor's notification to ODOT.

I will not share my password or other means of access with any other individual or Entity. Violation of this restriction or of any of these other Terms and Conditions may result in my access being immediately disabled.

I understand that my use of and access to Doc Express® or AASHTOWare Project™, or both, as applicable, are conditioned on my relationship to my employer and my employer's relationship to one or more of: ODOT, the Contractor, a Subcontractor, Supplier, vendor or other third party, and that if I am no longer so employed, my job position or duties no longer require my access to Doc Express® or AASHTOWare Project™, or my employer no longer has such relationship, I will immediately cease my use of and access to Doc Express® and AASHTOWare Project™ and will immediately notify my employer for purposes of notification to the Contractor and the Contractor's notification to ODOT.

(b) Electronic Submittal Requirements - Unless otherwise allowed or directed by the Engineer, all data and documents submitted to the Agency for this Contract that require a signature shall be signed by a person with appropriate authority by applying:

- An original handwritten signature to a document and scanning the document into PDF format;
- An electronic signature to a document and converting the document into PDF format;
- A third-party verifiable digital signature to a PDF document;
- A Doc Express® electronic signature when prompted during submission of the document into Doc Express®; or
- An AASHTOWare Project™ electronic signature when prompted during entry or submission of the data or document into AASHTOWare Project™.

Data and documents that require a signature, but do not have a signature according to 00170.08 or 00170.09, or were signed by a person without appropriate authority, will

be considered as not received and of no effect. Notice requirements will not be satisfied and payments may be withheld for any affected Work items until the required data or documents with compliant signatures have been received by the Engineer.

Unless otherwise allowed or directed by the Engineer, all data and documents submitted to the Agency for this Contract that do not require a signature shall be submitted using Doc Express® or AASHTOWare Project™, as applicable.

Add the following subsection:

00170.09 AASHTOWare Project™ - The requirements of this Subsection do not apply to claims. Claims must be submitted on paper documents according to Section 00199.

This subsection applies to data and documents identified in the AASHTOWare Project™ Directory (AWD), as data or documents to be managed in AASHTOWare Project™, as may be revised from time to time. The AWD is available from the Engineer and can be downloaded from the Agency's AASHTOWare Project™ website (see 00110.05(e)).

Following Notice to Proceed, the Contractor, Subcontractors, Suppliers, vendors, and any other third parties, shall use AASHTOWare Project™ to enter certain data and upload certain documents, as identified in the AWD, for submittal by the Contractor to the Agency. The Agency will use AASHTOWare Project™ to submit or make available certain data and documents, as identified in the AWD, to the Contractor.

The Contractor, Subcontractors, Suppliers, vendors, and any other third parties authorized to enter data and documents into AASHTOWare Project™, shall comply with naming conventions, processes and other AASHTOWare Project™ instructions as specified in the ODOT AASHTOWare Project™ User Guide for Construction Contractors, as may be revised from time to time and available from the Engineer.

Data and documents that are required to be submitted to the Agency using AASHTOWare Project™ are identified in the AWD. Data and documents identified in the AWD to be submitted using AASHTOWare Project™ that are not submitted as required will be considered as not received and of no effect.

Data or documents that are not identified in the AWD as required to be submitted using AASHTOWare Project™ shall be submitted according to 00170.08 using DocExpress®, unless otherwise specified, allowed or directed by the Engineer.

The Contractor shall coordinate and identify to the Engineer the Subcontractors, Suppliers, vendors, and any other third parties requiring access to AASHTOWare Project™ to enter or access data or documents. Once identified, the Agency will work with Subcontractors, Suppliers, vendors and third parties for access rights in AASHTOWare Project™ per the AWD.

See also 00170.08, including but not limited to user terms and conditions and signature requirements which also apply to AASHTOWare Project™.

00170.10(g) Paid Summary Report - Replace this subsection, except for the subsection number and title, with the following:

The Contractor shall submit a *Paid Summary Report* to the Engineer certifying payments made to all of its Subcontractors.

The *Paid Summary Report* shall be completed on the form provided by the Engineer and submitted to the Engineer within 20 Calendar Days of receipt of payment from the Agency for each month in which payments were made to each Subcontractor.

At the completion of the Project, submit a final *Paid Summary Report* form that provides the total amounts paid to each Subcontractor.

The Contractor shall require each Subcontractor at every tier to comply with the requirement to submit a *Paid Summary Report* within 20 Calendar Days of receipt of payment for Work on the Project and submit a final *Paid Summary Report* that provides the total amounts paid to the Subcontractor for its Work under the subcontract at the completion of the Project or completion of its Work.

00170.20 Public Works Bond - Delete this subsection.

00170.61(a) Workers' Compensation - Replace this subsection with the following subsection:

00170.61(a) Workers' Compensation and Employer's Liability - The Contractor shall provide workers' compensation and employer's liability coverage for on-the-job injuries as required by 00170.70(e).

00170.65 Minimum Wage and Overtime Rates for Public Works Projects - Replace this subsection with the following subsection:

00170.65 Requirements for Public Works Projects:

(a) General - The provisions of ORS 279C.800 through ORS 279C.875 and OAR 839-25 are applicable to this Public Works Project ("Prevailing Wage Rate Provisions"). The Contractor, a Subcontractor or other person or Entity Contractor uses in performing all or part of the Contract who are required to comply with the Prevailing Wage Rate Provisions are collectively referred to as "Covered Employers" for the purposes of 00170.65. Covered Employers include employers of workers described in 00170.65(c)(1). "Covered Occupation" as used in 00170.65, refers to each occupation defined in the applicable Oregon Bureau of Labor and Industry ("BOLI") publication titled *Definitions of Covered Occupations for Public Works Contracts in Oregon*.

As required by ORS 279C.520, the Contractor shall comply with ORS 652.220 and shall not unlawfully discriminate against any of the 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. The 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.

(b) Public Works Bond - Before starting Work, Covered Employers shall each file with the Construction Contractors Board, and maintain in full force and effect, a separate public works bond, in the amount of $30,000 unless otherwise exempt, as required by ORS 279C.830(2) and ORS 279C.836. The Contractor shall verify each Covered Employer has filed a public works bond before that employer begins work.

(c) Prevailing Wage Requirements - Each Covered Employer must pay its workers on the Project in each Covered Occupation not less than the prevailing rate of wage for each Covered Occupation as set by BOLI in the applicable version of its publication entitled Prevailing Wage Rates for Public Works Contracts.

If the Class of Project is Federal-aid, each Covered Employer must pay its workers on the Project in each Covered Occupation not less than the applicable BOLI prevailing wage rate or the federal prevailing wage rate required under the Davis Bacon Act (40 U.S.C. 3141 et seq.), whichever is higher.

The Contractor is responsible for investigating local labor conditions. The Agency does not imply that labor can be obtained at the minimum hourly wage rates specified in State or federal wage rate publications, and no increase in the Contract Amount will be made if wage rates paid are more than those listed.

The applicable Project Wage Rates and *Definitions of Covered Occupations for Public Works Contracts in Oregon* are included in the Special Provisions.

(1) Satellite Location Bespoke Work Subject to ORS 279C.800(G) - As required in ORS 279C.800(G) and OAR 839-025-0800, Covered Employers include employers of workers performing bespoke work at satellite locations when the applicable version of the BOLI publication entitled Prevailing Wage Rates for Public Works Contracts has expressly made a wage rate applicable to the satellite location bespoke work. Contractor must provide the Engineer with written notice of the satellite work that will be performed as part of its Consent to Subcontract. If the Covered Employer is not a Subcontractor, Contractor must provide the Engineer with a copy of its agreement with that Covered Employer prior to that Covered Employer performing any Work on the Project. The agreement must meet the requirements of 00170.65(f).

(2) Payroll and Certified Statements - As required in ORS 279C.845, every Covered Employer shall submit written certified statements to the Engineer on the form prescribed by the Commissioner of BOLI in OAR 839-025-0010 certifying compliance with wage payment requirements and accurately setting out the Contractor's or Subcontractor's weekly payroll records for each worker employed on the Project.

If the Class of Project is Federal-aid, in addition to providing the payroll information and certified statements required under ORS 279C.845, every Covered Employer shall submit written certified statements that also meet the requirements in FHWA Form 1273.

The Covered Employers shall preserve the certified statements for a period of 6 years from the date of completion of the Contract.

(3) Retainage for Noncompliance with 279C.845:

a. Agency - As required in ORS 279C.845(7) the Agency will retain 25% of any amount earned by the Contractor on the Project until the Contractor has filed the certified statements required in ORS 279C.845 and in FHWA Form 1273, if the Class of Project is Federal-aid. The Agency will pay to the Contractor the amount retained within 14 Days after the Contractor files the required certified statements, regardless of whether a Subcontractor has failed to file certified statements.

b. Contractor - As required in ORS 279C.845(8) the Contractor shall retain 25% of any amount earned by a first-tier Subcontractor on the Project until the first-tier Subcontractor has filed with the Agency the certified statements required in ORS 279C.845 and in FHWA Form 1273, if the Class of Project is Federal-aid. Before paying any amount retained, the Contractor shall verify that the first-tier Subcontractor has filed the certified statement. Within 14 Days after the first-tier Subcontractor files the required certified statement, the Contractor shall pay the first-tier Subcontractor any amount retained.

(4) Posting Requirements - Every Covered Employer must post the prevailing wage rates and notices in accordance with OAR 839-025-0033.

(d) Overtime Requirements - As a condition of the Contract, the Contractor shall comply with the pertinent provisions of ORS 279C.520 and ORS 279C.540. If the Class of Project is Federal-aid, the Contractor shall comply with the overtime provision affording the greatest compensation required under FHWA Form 1273 and ORS 279C.540.

(1) Maximum Hours of Labor and Overtime Pay - According to ORS 279C.540, no person shall be employed to perform Work under this Contract for more than 10 hours in any 1 Day, or 40 hours in any 1 week, except in cases of necessity, emergency, or where public policy absolutely requires it. In such instances, the Contractor shall pay the employee at least time and a half pay:

- For all overtime in excess of 8 hours a day or 40 hours in any 1 week when the work week is 5 consecutive days, Monday through Friday; or
- For all overtime in excess of 10 hours a day or 40 hours in any 1 week when the work week is 4 consecutive days, Monday through Friday; and
- For all Work performed on Saturday and on any legal holiday specified in ORS 279C.540.

For additional information on requirements for overtime and establishing a work schedule see OAR 839-025-0050 and OAR 839-025-0034.

(2) Notice of Hours of Labor - The Contractor shall give written notice to employees of the number of hours per day and days per week the employees may be required to work. Provide the notice either at the time of hire or before commencement of work on this Contract, or by posting a notice in a location frequented by employees.

(3) Exception - The maximum hours of labor and overtime requirements under ORS 279C.540 will not apply to the Contractor's Work under this Contract if the Contractor is a party to a collective bargaining agreement in effect with any labor organization. For a collective bargaining agreement to be in effect it shall be enforceable within the geographic area of the Project, and its terms shall extend to workers who are working on the Project (see OAR 839-025-0054).

(e) State Time Limitation on Claim for Overtime - According to ORS 279C.545, any worker employed by the Contractor is foreclosed from the right to collect any overtime provided in ORS 279C.540 unless a claim for payment is filed with the Contractor within 90 Days from the completion of the Contract, provided the Contractor posted and maintained a circular as specified in this provision. Accordingly, the Contractor shall:

- Cause a circular, clearly printed in boldfaced 12-point type and containing a copy of ORS 279C.545, to be posted in a prominent place alongside the door of the timekeeper's office or in a similar place that is readily available and freely visible to any or all workers employed to perform Work; and
- Maintain such circular continuously posted from the inception to the completion of the Contract on which workers are or have been employed.

(f) Required Terms for Agreements with Covered Employers - Contractor must have agreements with all Covered Employers. For each Covered Employer that is not a Subcontractor, the Contractor's agreement must include:

(1) A clause or condition that if the Contractor fails, neglects, or refuses to make payment to the Covered Employer, the Covered Employer may file a complaint with the Construction Contractors Board, unless payment is subject to a good-faith dispute as defined in ORS 279C.580.

(2) A provision requiring the Covered Employer to have a public works bond filed with the Construction Contractors Board before starting Work on the Project, unless exempt.

(3) A provision that requires the Covered Employer's workers on the Project to be paid not less than the specified minimum hourly rate of wage.

(4) A provision that requires the Covered Employer to be registered as a vendor in OregonBuys, the on-line electronic Automated Oregon Procurement System administered by the State's Department of Administrative Services; and

(5) A clause that requires the Covered Employer to include (1) - (4) in each of the Covered Employer's agreements with other Covered Employers of Workers on the Project that are also subject to the requirements of ORS 279C.800 through ORS 279C.870.

00170.70(a) Insurance Coverages - Replace the paragraph that begins "**Contractor** - The Contractor shall…" with the following paragraph:

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 as required by an extended reporting period or tail coverage requirements, and all warranty periods that apply.

Replace the paragraph that begins "**Insurance Provisions** - The Contractor and Subcontractor(s), if…" with the following paragraph:

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/Employer's Liability. The Contractor, or appropriate Subcontractor, but not the Agency, shall pay for all deductibles, self-insurance retentions and self-insurance, if any.

Replace the paragraph that begins "**Commercial General Liability** - The Contractor shall provide Commercial…" with the following paragraph:

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, property damage, personal and advertising injury, products and completed operations, and contractual liability. 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 Special Provisions. The annual aggregate limit shall not be less than the dollar amount specified in the Special Provisions. The policy shall be endorsed to state that the annual aggregate limit of liability shall apply separately to the Contract.

Add the following to the end of this subsection:

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

Insurance Coverages	Combined Single Limit per Occurrence	Annual Aggregate Limit
Commercial General Liability	$5,000,000.00	$10,000,000.00
Commercial Automobile Liability	$2,000,000.00	(aggregate limit not required)
Pollution Liability	$2,000,000.00	$4,000,000.00
• With Asbestos Liability Endorsement or separate coverage • With Lead Liability Endorsement or separate coverage		
Commercial Automobile Liability with Pollution Coverage	$2,000,000.00	(aggregate limit not required)

00170.70(b) Extended Reporting - Replace the paragraph that begins "The Contractor or Subcontractor shall…" with the following paragraph:

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

00170.70(c) Excess/Umbrella Liability - Replace this subsection, except for the subsection number and title, with the following:

A combination of primary and Excess/Umbrella Liability Insurance may be used to meet the required minimum limits of insurance. If any Excess/Umbrella Liability policies are in place, they must be on a true “following form” or broader coverage basis, with coverage at least as broad as provided on the underlying insurance. In addition, the limits of the underlying 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.

00170.70(d) Additional Insured - Replace the paragraph that begins "The liability insurance coverages of 00170.70(a)…" with the following paragraph:

The liability insurance coverages of 00170.70(a) shall include an Additional Insured Endorsement endorsing the “State of Oregon, the Oregon Transportation Commission and the Oregon Department of Transportation, and their respective officers, members, agents, and employees” 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.

00170.70(e) Workers' Compensation - Replace the title of this subsection with “**Workers' Compensation and Employer’s Liability”**

00170.70(g) Certificate(s) of Insurance - Replace the bullet that begins "List the “State of Oregon…" with the following bullet:

- List the “State of Oregon, the Oregon Transportation Commission and the Oregon Department of Transportation, and their respective officers, members, agents and employees” as a Certificate holder and endorse as an Additional Insured;

Replace the bullet that begins “Specify that all liability insurance …" with the following bullet:

- Specify that all liability insurance coverages shall be primary and noncontributory with any other insurance and self-insurance, with exception of Workers’ Compensation/Employer’s Liability;

Replace the bullet that begins "Include a list of all policies…" with the following bullet:

- Include a list of all policies that fall under the Excess/Umbrella Liability Insurance if Excess or Umbrella Liability Insurance is used to meet the minimum insurance requirements .

00170.70(i) Insurance Requirement Review - Replace this subsection, except for the subsection number and title, with the following:

The Contractor agrees to periodic review of insurance requirements by Agency. Agency reserves the right to periodically assess risks and the adequacy of insurance coverage and in its discretion to require additional insurance coverage or increased coverage limits on existing coverages, or both.

SECTION 00180 - PROSECUTION AND PROGRESS

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

00180.20(d) Disadvantaged Business Enterprise (DBE) - Delete this subsection.

00180.20(e) Trucking - Replace the paragraph that begins "This Section does not apply to…" with the following paragraph:

This Section does not apply to delivery of Materials by or for or from a Supplier. This Subsection applies to all truck hauling of materials not performed with trucks owned (or rented) and operated by the Contractor.

00180.20(e)(1) Trucking Services Agreement - Delete the bullet that begins "Statement specifying whether the services will be provided by a DBE…".

00180.20(e)(2) Limitations - Replace the paragraph that begins "The approved trucking services agreements…" with the following paragraph:

The approved trucking services agreements shall be used for all trucking services for hauling materials not provided by trucks owned (or rented) and operated by the Contractor. The Contractor shall execute a trucking services agreement with every trucking services provider for hauling materials prior to the trucking services provider doing any Work on the Project Site.

00180.20(e)(3) Submittals - Replace this subsection, except for the subsection number and title, with the following:

The Contractor shall provide the Engineer with an executed copy of the trucking services agreement not later than 2 Days after the trucking services provider for hauling materials has started work. The Contractor shall make certain that the provider of approved trucking services submits payrolls required under Section 00170, complies with applicable Contract provisions, including, without limitation, 00170.07, and complies with applicable trucking services agreement provisions. The work or service provider will not be considered a Subcontractor under the Contract, but the work or services will be considered to have been performed by the Contractor's own organization for the purposes of determining compliance with 00180.20(a). If the trucking services are provided by an owner/operator attach a copy of the following data to the trucking services agreement before the time the services are performed and include without limitation for each owner/operator:

- Driver's name;
- Present driver license upon request;
- Vehicle identification number;

- Present vehicle registration upon request;
- Motor vehicle license plate number;
- Motor Carrier account number;
- Present ODOT Motor Carrier 1A Permit upon request; and
- Name of owner/operator from the side of the truck.

Each truck shall have the name of the owner/operator clearly displayed on the side of the truck.

00180.21(a) General - Replace the bullet that begins "If the Subcontractor is providing any…" with the following bullet:

- If the Subcontractor is providing any of the insurance coverages as permitted under 00170.70(a), the Agency will respond within 35 Calendar Days after the Engineer's receipt of the request. (28 Calendar Days for the Agency to review and approve the Certificates of Insurance required by 00170.70(g) plus 7 Calendar Days to review and approve the subcontract request.)

00180.40(b) On-Site Work - Replace the bullet that begins “Filed with the Construction Contractors…” with the following bullet:

- Filed with the Construction Contractors Board the public works bond as required in 00170.65(b);

Add the following subsection:

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

Limitations	**Subsection**
Cooperation with Utilities	00150.50
Railways	00170.01(e)
Contract Time	00180.50(h)
Closed Lanes	00220.40(e)(1)
Special Events	00220.40(e)(2)(b)
Limited Duration Ramp and Road Closures	00220.40(f)
Road Closure Using Rolling Slowdown Method	00220.40(g)
Noise Control	00290.32
Regulated Work Areas	00290.34(a)
Maintenance Under Traffic	00620.43
Opening Sections to Traffic	00745.51

The Contractor shall 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 C schedule as detailed in the Standard Specifications is required on this Contract.

00180.42 Preconstruction Conference - Add the following to the end of this subsection:

At the preconstruction conference, or at a mutually agreed upon time at least 10 Calendar Days prior to beginning ground disturbing activities, the Contractor shall meet with the Engineer to discuss sensitive cultural sites on the Project. In attendance at this conference shall be:

- The Contractor's supervisory personnel.
- Any Subcontractors (including contract archaeological monitors) and supervisory personnel who will be involved in ground disturbing activities.
- Agency archaeology representative or region environmental coordinator.
- When applicable, tribal representative(s) or monitor(s).

Add the following subsection:

00180.50(h) Contract Time - There is one Contract Time on this Project as follows:

The Contractor shall complete all Work to be done under the Contract, except for seeding establishment and plant establishment, not later than October 19, 2029.

Add the following subsection:

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

It is impractical to determine the actual damages the Agency will sustain in the event Traffic Lanes are closed beyond the limits listed in 00220.40(e). Therefore, the Contractor shall pay to the Agency, not as a penalty, but as liquidated damages, $2000 per 15 minutes, or for a portion of 15 minutes, per lane, for any lane closure beyond the limits listed in 00220.40(e).

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

Add the following subsection:

00180.85(d) Rolling Slowdown Closures - Rolling slowdown closures beyond the limits specified will inconvenience the traveling public and will be a cost to the Agency.

It is impractical to determine the actual damages the Agency will sustain in the event Traffic Lanes are closed by the Rolling Slowdown Method. Therefore, the Contractor shall pay to the Agency, not as a penalty, but as liquidated damages, $2000 per 20 minutes, or for a portion of 20 minutes, per lane, for any lane closure beyond the 20-minute limit listed in 00220.40(g).

The Engineer will determine when it is safe to reopen lanes to traffic. Assessment of liquidated damages will stop when all lanes have been safely reopened. Any liquidated damages assessed under these provisions will be in addition to those listed in 00180.85(b), but not in addition to 00180.85(c) for closures of the same lanes.

SECTION 00190 - MEASUREMENT OF PAY QUANTITIES

Comply with Section 00190 of the Standard Specifications.

Comply with Section 00190 of the Standard Specifications modified as follows:

00190.20(a) General - Replace the paragraph that begins "Unless otherwise provided in the Contract,…" with the following paragraph:

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

00190.20(f)(2) Scale Without Automatic Printer - Replace the paragraph that begins "The Contractor shall inform…" with the following paragraph:

If the scales require manual entry of gross weight information, the Agency may periodically have a representative weigh witness at the scales to observe the weighing procedures. The Contractor shall inform the Engineer of their intent to use a scale without an automatic printer at least 3 working days before weighing begins or before the Contractor changes to a scale that does not have an automatic printer. The Contractor shall pay costs for the weigh witness. The hourly cost of the weigh witness will be as stated in the Special Provisions. In addition, the Engineer may periodically check the weight for a load of Materials by directing the haul vehicle to reweigh on a different scale that has been inspected and certified according to 00190.20(b) and 00190.20(d).

Add the following paragraph after the paragraph that begins " If the scales require manual entry…":

Pay costs for the weigh witness at $35.00 per hour.

00190.20(f)(3) Duties of Weigh Technician - Replace the bullet that begins "Furnish a legible, serially numbered…" with the following paragraph:

- Furnish a legible, serially numbered weigh memo for each load of Materials to the Agency's Materials receiver at the point of delivery, through the Agency's e-ticket portal, or as directed by the Engineer. The memo shall identify the Project, the Materials, the date, net weight (gross and tare as appropriate), and identification of the vehicle and weigh technician. If approved by the Engineer an electronic weigh memo system may be used. Requests to use an electronic weigh memo system shall be submitted to the Engineer according to 00150.37, providing sufficient detail for the Engineer to perform

an evaluation. If approved, the Contractor shall provide training, technical support, reports, and weigh memo information to the Engineer at no additional cost to the Agency. The electronic weigh memo system shall be:

Add the following bullets after the bullet that begins “Capable of providing all the weigh…”:

- Use an electronic weigh memo system for weighing ACP mixture quantities specified in 00745.90, unless waived by the Engineer. Establish a live connection with the Agency’s e-ticket portal according to 00190.20(f)(4). When utilizing an electronic weigh memo system:
  - Ensure the identifying vehicle numbers displayed on the weigh memo correspond to those on the delivery vehicle. Ensure the numbers on the delivery vehicles are visible such that at least one can be safely read from within the work area. Delivery vehicles without identifying vehicle numbers shall be rejected.
  - Provide an alternate means of reporting weigh memo data to the Agency at point of delivery in the event there is no cellular data coverage at the point of ACP mixture delivery. The absence of cellular data coverage does not relieve the Contractor of the requirements in 00190.20(f)(3).

Add the following subsection:

00190.20(f)(4) Scale with Agency’s e-ticket Portal Live Connection - The use of the Agency’s e-ticket portal live connection is required for measurement of all ACP mixture quantities specified in 00745.90 unless otherwise directed. The Contractor shall establish a live connection to the Agency’s e-ticket portal with the assistance of HaulHub®. The Engineer may allow the use of the e-ticket portal for other Pay Items measured on the weight basis. The following is required for weigh memos provided through the Supplier’s e-ticket system:

- Conduct a test of each ACP mixture quantities specified in 00745.90 and any other proposed e-ticket material, with the Agency’s e-ticket portal at least 14 Calendar Days prior to transporting material. Perform at least four weigh memo tests for each Supplier approved for use on the Project. After the Engineer confirms the test weigh memos have been entered into the Agency’s e-ticket portal, void the e-tickets with the reason, “Calibration Testing”.
- Uptime reliability of the material Supplier’s e-ticket system must be 99.5% over any 30-Day rolling period. Uptime is defined as the ability to deliver electronic weigh memo data to the Agency’s e-ticket portal within 10 minutes of the electronic weigh memo creation.

The Supplier’s e-ticket system shall be:

- Capable of automatically recording and securely transmitting the same required “weigh memo” information identified in 00190.20(f)(3) to the Agency’s e-ticket portal.
- Fully integrated with the provided weigh scale system and the Agency’s e-ticket portal.
- Designed in such a way that the data electronically read from scales and transferred to the Agency’s e-ticket portal cannot be altered by the Contractor, Subcontractor, Supplier, Engineer, or other system users.

00190.20(g) Agency-Provided Weigh Technician - Add the following paragraph to the end of this subsection:

Pay costs for the weigh technician at $35.00 per hour.

00190.30 Plant Scales - Replace the paragraph that begins "If approved by the Engineer, an electronic…" with the following paragraph:

If approved by the Engineer, an electronic weigh memo system may be used in place of a printer system. See 00190.20(f)(3). This electronic weigh memo system is required for all ACP mixture quantities specified in 00745.90.

SECTION 00195 - PAYMENT

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

00195.10 Payment for Changes in Materials Costs - Replace this subsection with the following subsection:

00195.10 Asphalt Cement Material Price Escalation/De-escalation - An asphalt cement escalation/de-escalation clause will be in effect during the life of the Contract.

The Agency reserves all of its rights under the Contract, including, but not limited to, its rights for suspension of the Work under 00180.70 and its rights for termination of the Contract under 00180.90, and this escalation/de-escalation provision shall not limit those rights.

(a) Monthly Asphalt Cement Material Price (MACMP) - The monthly asphalt cement material price (MACMP) is established by the Agency each month. For the actual MACMP, go to the Agency website at:

https://www.oregon.gov/ODOT/Business/Pages/Asphalt-Fuel-Price.aspx

The MACMP is based on selling prices of asphalt cement published by Poten & Partners, Inc. for primarily PG 64-22 paving grades in the Portland, Oregon area and typical non-modified paving grades in the Boise, Idaho area. The MACMP for a given month is the average of the range of published prices for each area reported for the week ending on the first Friday in that month. If any portion of the Project Site is located within the boundaries of ODOT Maintenance Districts 1 through 10, the MACMP will be based on the prices for the Portland, Oregon area. For Projects entirely in ODOT Maintenance District 13 or 14, the MACMP will be based on the prices for the Boise, Idaho area. For Projects entirely in ODOT Maintenance District 11 or 12, the Contractor may elect to have the MACMP based on the prices of either the Portland, Oregon area or the Boise, Idaho area. If electing to use Boise, Idaho area prices for determination of the MACMP, the Contractor shall notify the Engineer in writing of the Contractor's election before or within 7 Calendar Days after the date of the preconstruction conference. This election, once acknowledged by the Engineer, will be binding for the entire duration of the Contract. If no such written notification is made, the Portland, Oregon area prices will be used as the basis of the MACMP. The area selected as the basis of the MACMP, once chosen, will become the sole area to be used as the basis for all asphalt cement used on the Project.

If the prices cease to be available from Poten & Partners, Inc. for any reason, the Agency, in its discretion will select and begin using a substitute price source or index to establish the MACMP each month. The Agency does not guarantee that asphalt cement will be available at the MACMP.

(b) Base Asphalt Cement Material Price (Base) - The base asphalt cement material price for this Project is the MACMP published on the Agency website for the month immediately preceding the Bid Opening date.

(c) Monthly Asphalt Cement Adjustment Factor - The monthly asphalt cement adjustment factor will be determined each month as follows:

- If the MACMP is within ± 5% of the Base, there will be no adjustment.
- If the MACMP is more than 105% of the Base, then:

  Adjustment Factor = (MACMP) - (1.05 x Base)

- If the MACMP is less than 95% of the Base, then:

  Adjustment Factor = (MACMP) - (0.95 x Base)

(d) Asphalt Cement Price Adjustment - A price adjustment will be made for the items containing asphalt cement listed below. The price adjustment as calculated in (c) above will use the MACMP for the month the asphalt is incorporated into the Project. The price adjustment will be determined by multiplying the asphalt incorporated during the month for subject Pay Items by the Adjustment Factor.

The Pay Items for which price adjustments will be made are:

Pay Item(s)

PG 70-22ER Asphalt in Lvl. 4, 1/2 Inch ACP

Add the following subsection:

00195.11 Fuel Cost Price Escalation/De-escalation - A fuel escalation/de-escalation clause will be in effect during the life of the Contract.

The Agency reserves all of its rights under the Contract, including, but not limited to, its rights for suspension of the Work under 00180.70 and its rights for termination of the Contract under 00180.90, and this escalation/de-escalation provision will not limit those rights.

(a) Monthly Fuel Price (MFP) - A monthly fuel price (MFP) is established by the Agency each month. For the actual MFP, go to the Agency website at:

https://www.oregon.gov/ODOT/Business/Pages/Asphalt-Fuel-Price.aspx

The MFP for a given month is the average rack price obtained from the Oil Price Information Service (OPIS) listing dated the first Friday of that month for ultra low sulfur distillate No. 2 diesel fuel for Portland, Oregon. If the average rack price is not posted by

OPIS or is otherwise not available to the Agency for the first Friday of any month for any reason, the Agency may use the average rack price posted by OPIS immediately before or after the first Friday of that month. If the average rack prices cease to be available from OPIS for any reason, the Agency in its discretion will select and begin using a substitute price source or index to establish the MFP each month. The Agency does not guarantee that fuel will be available at the MFP.

(b) Base Fuel Price (Base) - The base fuel price for this Project is the MFP published on the Agency website for the month immediately preceding the Bid Opening date.

(c) Monthly Fuel Adjustment Factor - A monthly fuel adjustment factor is determined each month as follows:

- If the MFP is within ± 10% of the Base, there will be no adjustment.
- If the MFP is more than 110% of the Base, then:

  Adjustment Factor = (MFP) - (1.10 x Base)

- If the MFP is less than 90% of the Base, then:

  Adjustment Factor = (MFP) - (0.90 x Base)

(d) Fuel Price Adjustment - A fuel price adjustment for fluctuations in the cost of fuel will apply only to the major fuel usage Pay Items shown in the following list and at the respective fuel factors listed:

Item	Fuel Factor
REMOVAL OF INLETS	25.00 GAL./EACH
DITCH EXCAVATION	0.33 GAL./CUYD
GENERAL EXCAVATION	0.33 GAL./CUYD
STONE EMBANKMENT	0.33 GAL./CUYD
LOOSE RIPRAP, CLASS 50	0.33 GAL./CUYD
LOOSE RIPRAP, CLASS 200	0.33 GAL./CUYD
SOIL-CEMENT ELEMENTS	0.33 GAL./LS
ROCK EXCAVATION	0.33 GAL./CUYD
BOULDER EXCAVATION	0.33 GAL./CUYD
TRENCH FOUNDATION	0.33 GAL./CUYD
18 INCH CULVERT PIPE, 10 FT DEPTH	10.00 GAL./FOOT
24 INCH SANITARY SEWER PIPE, 10 FT DEPTH	10.00 GAL./FOOT
24 INCH SANITARY SEWER PIPE, 20 FT DEPTH	20.00 GAL./FOOT
12 INCH STORM SEWER PIPE, 5 FT DEPTH	5.00 GAL./FOOT
12 INCH STORM SEWER PIPE, 10 FT DEPTH	10.00 GAL./FOOT
18 INCH STORM SEWER PIPE, 5 FT DEPTH	5.00 GAL./FOOT
12 INCH DUCTILE IRON PIPE, 5 FT DEPTH	10.00 GAL./FOOT
18 INCH DUCTILE IRON PIPE, 5 FT DEPTH	20.00 GAL./FOOT
CONCRETE SANITARY SEWER MANHOLES	30.00 GAL./EACH
CONCRETE STORM SEWER MANHOLES	30.00 GAL./EACH
CONCRETE MANHOLES, LARGE PRECAST	30.00 GAL./EACH
CONCRETE MANHOLES, LARGE PRECAST	30.00 GAL./EACH

CONCRETE INLETS, TYPE D	30.00 GAL./EACH
CONCRETE INLETS, TYPE D (MODIFIED)	30.00 GAL./EACH
CONCRETE INLETS, TYPE G-2	30.00 GAL./EACH
CONNECTION TO EXISTING STRUCTURES	30.00 GAL./EACH
EXTRA FOR MANHOLES OVER EXISTING SEWERS	30.00 GAL./EACH
TRENCH RESURFACING	0.33 GAL./SQYD
8 INCH DRAIN PIPE	10.00 GAL./FOOT

The following Pay Items associated with the following Bridges and Structures:

Bridge No. 24318 19 Gal/$1,000

Item

PROVIDE DRILLING EQUIPMENT
RAILROAD FLAGGER SERVICES
TEMPORARY WORK BRIDGES
TEMPORARY WORK ACCESS AND CONTAINMENT
TEMPORARY RETAINING WALL "A"
TEMPORARY RETAINING WALL "B"
DRAINAGE GEOTEXTILE, TYPE 1
8 INCH DRAIN PIPE
SHORING, CRIBBING, AND COFFERDAMS
STRUCTURE EXCAVATION
GRANULAR STRUCTURE BACKFILL
DRILLED SHAFT CONCRETE
DRILLED SHAFT REINFORCEMENT, GRADE 80
CSL TEST ACCESS TUBES
CSL TESTS
DRILLED SHAFT EXCAVATION, 48 INCH DIAMETER
DRILLED SHAFT EXCAVATION, 96 INCH DIAMETER
REINFORCEMENT, GRADE 60
REINFORCEMENT, GRADE 80
COATED REINFORCEMENT, GRADE 60
COATED REINFORCEMENT, GRADE 80
DECK CONCRETE, CLASS HPC(IC)4500
GENERAL STRUCTURAL CONCRETE, CLASS 4000
SURFACE TEXTURING
ARCHITECTURAL TREATMENT
TEST PANELS
REINFORCED CONCRETE BRIDGE APPROACH SLABS
BRIDGE APPROACH SLEEPER SLABS
STEEL PLATE GIRDER
STEEL PLATE GIRDER WITH HAUNCH
BEARING DEVICES, 15 INCH WIDE, 15 INCH LONG, 3 INCH THICK
BEARING DEVICES, 18 INCH WIDE, 18 INCH LONG, 3 1/2 INCH THICK
BEARING DEVICES, 23 INCH WIDE, 23 INCH LONG, 5 1/2 INCH THICK
BEARING DEVICES, 28 INCH WIDE, 28 INCH LONG, 3 1/2 INCH THICK
PVC CONDUIT SYSTEM, 3 INCH DIAMETER
STRIP SEALS
TYPE "F" CONCRETE RAIL, 42 INCH

The Contractor is cautioned to consider that its operations may require more or less fuel.

A price adjustment (±) to the Contractor for fuel cost changes will be made monthly if the MFP differs more than 10% or more from the Base. This adjustment will be the product of the monthly fuel adjustment factor and the estimated monthly fuel used. The monthly fuel used will be determined by multiplying the quantities of Work accomplished during the month for subject Pay Items, by the appropriate fuel factors.

Fuel cost adjustments will continue to be made as specified and will not be revised for any reason, including the Contractor's election to use an alternative fuel (natural gas, wood pellets, propane, or other).

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

If the Contractor elects not to participate in the steel escalation/de-escalation program for this Project, no response from the Contractor is required.

The Contractor may elect to participate in the steel escalation/de-escalation program for this Project under 00195.12 through 00195.12(d) by marking each check box for each Pay Item in the list below the Contractor is selecting for participation in the program. The completed list must be submitted in writing, signed and dated by the Contractor, to the Project Manager before or within 7 Calendar Days after the date of the preconstruction conference.

PARTICIPATE	PAY ITEM DESCRIPTION	COST BASIS (CB)
☐	12 INCH DUCTILE IRON PIPE, 5 FT DEPTH	6.40%
☐	18 INCH DUCTILE IRON PIPE, 5 FT DEPTH	6.72%
☐	DRILLED SHAFT REINFORCEMENT, GRADE 80	40.00%
☐	REINFORCEMENT, GRADE 60	40.00%
☐	REINFORCEMENT, GRADE 80	40.00%
☐	COATED REINFORCEMENT, GRADE 60	40.00%
☐	COATED REINFORCEMENT, GRADE 80	40.00%
☐	STEEL PLATE GIRDER	30.00%
☐	STEEL PLATE GIRDER WITH HAUNCH	30.00%

Regardless of the number of Pay Items listed by the Agency or selected by the Contractor, or if no Pay Items qualify for the steel escalation/de-escalation program for this Project or the Contractor elects not to participate in the steel escalation/de-escalation program for this Project, the steel price escalation/de-escalation clause (and program) contained in 00195.12 through 00195.12(d) are included in this Contract and are the only steel price escalation/de-escalation clause (and program) that apply to this Contract.

Contractor's Signature _____ Date _____

00195.50(b) Retainage - Replace the paragraph that begins “As provided in…” with the following paragraph:

As provided in 00170.65(c)(3) in addition to any retainage, a withholding of 25% of amounts earned will be withheld and released according to ORS 279C.845 when the Contractor fails to file the certified statements required in ORS 279C.845, FHWA Form 1273, and 00170.65.

00195.50(c)(1) Cash, Alternate A - Replace this subsection, except for the subsection number and title, with the following:

Retainage will be deducted from progress payments and held by the Agency until final payment is made according to 00195.90, unless otherwise specified in the Contract.

Except as otherwise provided, the Agency will deposit the cash retainage withheld in an interest bearing account, established through the State Treasurer for the benefit of the Agency, as required by ORS 279C.560(5). Interest earned on the account shall accrue to the Contractor. Amounts retained and interest earned will be included in the final payment made according to 00195.90, unless otherwise specified in the Contract.

Any retainage withheld on Work performed by a Subcontractor will be released to the Contractor according to 00195.50(d).

00195.50(c)(2) Cash, Alternate B (Retainage Surety Bond) - Replace this subsection, except for the subsection number and title, with the following:

The Contractor may submit a Surety bond in lieu of all or a portion of the retainage required under the Contract. The Agency will accept this Surety bond unless the Agency first finds in writing good cause for rejection based on unique project circumstances in accordance with ORS 279C.560(1)(c).

The Surety bond must be in substantially the form specified in ORS 701.435 (4) (Oregon House Bill 4006, 2024), and executed by a Surety bonding company that is authorized to transact Surety business in the State of Oregon and may not be a Surety obligation of an individual. The Surety bond and any proceeds of the Surety bond must be made subject to all claims and liens and in the same manner and priority specified for retainage under ORS 279C.550 to 279C.570 and ORS 279C.600 to 279C.625. Agency will reduce the cash retainage held by an amount equal to the value of the Surety bond and pay the amount of the reduction to Contractor according to ORS 279C.570. Any retainage withheld on Work performed by a Subcontractor will be released to the Contractor according to 00195.50(d).

When the Agency accepts a Surety bond in lieu of retainage from the Contractor, the Contractor shall accept Surety bonds from Subcontractors or Suppliers from which the Contractor has withheld retainage. At any time before final payment a Subcontractor may submit a Surety bond to the Contractor and request that the Contractor submit a Surety bond as described above for the portion of the Contractor’s retainage that pertains to the Subcontractor. The Surety bond the Subcontractor provides to the Contractor must meet the Agency requirements specified in the paragraph above. When a Contractor at a Subcontractor’s request obtains and submits a Surety bond under this subsection, the Contractor may withhold from payments to the Subcontractor an amount equivalent to the

portion of the Contractor's Surety bond premium for which the Subcontractor is responsible in accordance with ORS 279C.560 (Oregon House Bill 4006, 2024).

Within 30 Days after a Subcontractor's request the Contractor shall provide a Surety bond as described above, and the Agency will accept the Surety bond unless:

- The Agency finds in writing good cause for rejection based on unique project circumstances in accordance with ORS 279C.560;
- A Surety bond is not commercially available;
- The Subcontractor refuses to pay to the Contractor the Subcontractor's portion of the Surety bond premium; or
- The Subcontractor refuses to provide the Contractor with a Surety bond that meets the requirements of ORS 279C.560(1)(b).

Notwithstanding 00195.50(d), within 30 Days of receiving a Surety bond from Contractor at a Subcontractor's or Supplier's request, Agency will release to the Contractor the amount held as retainage that is equivalent to the amount the Contractor submitted as a Surety bond. Contractor shall, within 30 Days after receiving a Surety bond from a Subcontractor or Supplier, release to the Subcontractor or Supplier the amount the Contractor holds as retainage that is equivalent to the amount of the Surety bond submitted, in accordance with ORS 279C.560(8).

00195.50(c)(3) Bonds, Securities, and Other Instruments - Replace this subsection, except for the subsection number and title, with the following:

Contractor may deposit bonds, securities or other instruments with the Agency or in a bank or other financial institution, to be held by Agency instead of cash retainage for the benefit of the Agency, which the Agency will accept unless the Agency first finds in writing good cause for rejection based on unique project circumstances, in accordance with ORS 279C.560(1)(c).

If the Contractor deposits bonds, securities or other instruments, and Agency does not reject the bonds, securities or other instruments as permitted by ORS 279C.560(1)(c), the Agency will reduce the cash retainage by an amount equal to the value of the bonds, securities and other instruments. Interest or earnings on the bonds, securities and other instruments accrue to the Contractor.

Bonds, securities and other instruments deposited instead of cash retainage shall be of a character approved by the Director of the Oregon Department of Administrative Services, including, but not limited to:

- Bills, certificates, notes or bonds of the United States;
- Other obligations of the United States or agencies of the United States;
- Obligations of a corporation wholly owned by the federal government;
- Indebtedness of the Federal National Mortgage Association;
- General obligation bonds of the State of Oregon or a political subdivision of the State of Oregon;
- Irrevocable letters of credit issued by an insured institution, as defined in ORS 706.008.

00195.50(f) Prompt Payment Policy - Replace this subsection, except for the subsection number and title, with the following:

Payments shall be made promptly according to ORS 279C.560, 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 modified as follows:

00197.20(e) Standby Time - Replace this subsection, except for the subsection number and title, with the following:

If ordered by the Engineer, standby time will be paid at 50% of the hourly rental rate calculated according to this Subsection, excluding the hourly operating rate. Rates for standby time that are calculated at less than $1 per hour will not be paid. Payment will be limited to not more than 8 hours in a 24-hour period or 40 hours in a 1 week period.

00197.80 Percentage Allowances - Replace the table that shows Subsection and Percent with the following:

Subsection	Percent
00197.10 Materials	19
00197.20 Equipment	19
00197.30 Labor	29
00197.40 Special Services	19

Replace the paragraph that begins "When a Subcontractor performs ordered…" with the following paragraph:

When a Subcontractor performs ordered Force Account Work, the Contractor will be allowed a supplemental markup of 10% on each Force Account Work order.

SECTION 00199 - DISAGREEMENTS, PROTESTS, AND CLAIMS

Comply with Section 00199 of the Standard Specifications.

SECTION 00210 - MOBILIZATION

Comply with Section 00210 of the Standard Specifications modified as follows:

00210.90 Payment - Replace the paragraph that begins “No separate or additional…” with the following paragraph:

No separate or additional payment will be made for any costs associated with obtaining and maintaining access to Doc Express® and AASHTOWare Project™ or the use of Doc Express® and AASHTOWare Project™.

SECTION 00220 - ACCOMMODATIONS FOR PUBLIC TRAFFIC

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

00220.01(b) Abbreviations - Delete this 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.
- 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. Modify the "Typical Abrupt Edge Delineation" configuration by replacing the tubular markers with temporary plastic drums on 40 foot maximum spacing along the abrupt edge.
- When paving operations create an abrupt edge, protect traffic by installing signing according to the "Divided Highway or Freeway One Lane Closure" detail shown on the Standard Drawings.
- When paving operations create an abrupt edge, protect traffic by installing signing according to the "Divided Highway or Freeway Two Lane Closure" detail shown on the Standard Drawings.
- Provide a licensed tow truck service for responding to stranded or disabled vehicles within the Project limits. Provide the tow truck service during the hours designated in 00220.40(h), and as directed by the Engineer.

00220.02(b) Temporary Pedestrian Accessible Route Plan - Replace the title of this subsection with “**Temporary Pedestrian Accessible Route”**

Replace the paragraph that begins "For the safety and accessibility …" with the following paragraph:

For the safety and accessibility of pedestrians, provide and maintain TPAR for pedestrian pathways impacted by construction or construction staging, and the following:

Replace the bullet that begins "TPAR shall meet …" with the following bullet:

- Meet the requirements of Part 6 of the MUTCD.

Replace the bullet that begins "Mount signs between the panels…" with the following bullet:

- Mount signs between the panels of a Type II barricade, on a PCD, or on a single-post temporary sign support, as shown. Place signs facing pedestrian traffic.

Add the following bullet(s) to the end of the bullet list:

- Maintain access to bus stops and Pedestrian Accessible Routes.

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

Traffic Lanes may be closed on the Columbia River Highway (I-84) when allowed, shown, or directed during the following periods of time except as specified in 00220.40(e)(2):

Columbia River Highway (I-84) between N 2nd Street and Metzler Ave and Cascade Ave in City of Hood River

Westbound Single Lane Closures – One Traffic Lane in westbound direction on the Columbia River Highway (I-84) may be closed during the following times:

- January and February:
  - At all times
- March, April, November, and December:
  - Weekly, Sunday night at 8:00 p.m. through Friday morning at 9:00 a.m.
  - Nightly, Friday night through Sunday morning, between 8:00 p.m. and 9:00 a.m.
- May, June, July, August, September, and October
  - Weekly, Monday night at 7:00 p.m. through Friday morning at 8:00 a.m.
  - Nightly, Friday night through Monday morning, between 8:00 p.m. and 9:00 a.m.

Eastbound Single Lane Closures – One Traffic Lane in eastbound direction on the Columbia River Highway (I-84) may be closed during the following times:

- January and February:
  - At all times
- March, April, November, and December:
  - Weekly, Sunday night at 6:00 p.m. through Friday morning at 8:00 a.m.
  - Nightly, Friday night through Sunday morning, between 7:00 p.m. and 9:00 a.m.
- May, June, July, August, September, and October:

- Nightly, all days, between 7:00 p.m. and 8:00 a.m.

Single Lane Closures – One Traffic Lane may be closed on all other adjacent Roadways within the Project Site not listed above, when allowed, shown, or directed during the following periods of time except as specified in 00220.40(e)(2):

- Daily, Monday through Thursday, between 9:00 a.m. and 4:00 p.m.
- Friday, between 9:00 a.m. and 3:00 p.m.
- Nightly, Sunday night through Friday morning, between 6:00 p.m. and 7:00 a.m.
- Nightly, Friday night through Sunday morning, between 6:00 p.m. and 8:00 a.m.

00220.40(e)(2) Opened Lanes - Replace the paragraph that begins "Keep all Traffic Lanes and …" with the following paragraph:

Keep all Traffic Lanes and pedestrian facilities open during the following periods. Remove all barricades and objects from the Roadway during the periods that Traffic Lanes are to remain open.

00220.40(e)(2)(a) Holidays - Replace the paragraph that begins "When a holiday falls …" with the following paragraph:

When a holiday falls on Sunday, the following Monday is recognized as a legal holiday. When a holiday falls on Saturday, the preceding Friday is recognized as a legal holiday.

00220.40(e)(2)(b) Special Events - Add the following to the end of this subsection:

The following special events will occur during this Project:

- Hood River Hops Fest - in October
- Hood River County Fair - 2nd to last week of July (Wed-Sat)
- Hood River Valley Harvest Festival - Fri-Sun in 2nd week in October
- Hood River - Columbia Gorge Marathon & Half Marathon - in October

Verify dates of events.

Add the following subsection:

00220.40(f) Limited Duration Ramp and Lane Closures:

(1) Westbound I-84 Single Lane Closures: - One Traffic Lane in the westbound direction on the Columbia River Highway (I-84) may be closed when allowed, shown, or directed during the following periods except as specified in 00220.40(e)(2). The I-84 westbound right lane and left lane may not be closed at the same time.

(a) Right Lane - From September 1 through May 31, for up to 30 consecutive Calendar Days to finish work on the bridge approaches including tie-in to the existing roadway surface.

(b) Left Lane - From September 1 through May 31, for up to 45 consecutive Calendar Days to finish the remaining roadway and roadside construction, guardrail installation, paving, and striping.

(2) Westbound I-84 entrance ramp from N 2nd Street – The Westbound I-84 onramp from N. 2nd Street may be closed when allowed, shown, or directed during the following periods of times except as specified in 00220.40(e)(2):

- At all times.

Do not close the lane or ramp until the area and the detour route are signed according to the TCP and the requirements of Section 00221 and Section 00222; and all Materials and Equipment are on hand or guaranteed to be delivered so that the Work can be done in an efficient manner with a minimum period of road closure.

Add the following subsection:

00220.40(g) Road Closure Using Rolling Slowdown Method - Use a rolling slowdown method (RSM) for slowing traffic and closing all Traffic Lanes on the Columbia River Highway for periods not to exceed 20 minutes while setting the girders on BR 24318. This Work is allowed only between 11:59 p.m. and 4:00 a.m.

Provide written notification to the Engineer and all affected emergency services at least 14 Days before using the RSM. Calculate the location where the pilot cars will begin the RSM and the speed the pilot cars will travel to accommodate the needed time to complete the Work within 20 minutes.

Perform a RSM as shown on the Supplemental Drawings. Use one pilot car for each lane to be slowed. Use only pilot cars to control the flow of traffic on the freeway. Use one additional pilot car as a chase vehicle to follow the last free-flowing vehicle ahead of the blockade. Direct pilot cars to enter the Roadway at the posted speed, form a moving blockade, and slowly reduce traffic speeds to create a gap in traffic to accomplish the work without completely stopping traffic.

Place a PCMS a minimum of 1/2 mile in advance of the start of the rolling slowdown. Place flagger(s), and appropriate devices and signing, at the terminal of all closed on-ramps within the controlled delay area. Establish and utilize radio communications to adjust the speed of the blockade, as necessary. Maintain radio communications at all times among the pilot cars, flaggers, and the construction crew.

Begin Work immediately after the chase vehicle has passed the Work Area. If work is not completed when the pilot cars approach the Work Area, immediately cease all work except what is necessary to clear and reopen the Roadway to traffic. Allow traffic to clear before performing another RSM.

Add the following subsection:

00220.40(h) Tow Truck Operating Hours - During times a lane is closed on the Columbia River Highway (I-84), provide an operated tow truck within the Project limits meeting the requirements of 00223.28. Use the operated tow truck to keep the open traffic lanes of I-84 unobstructed and open to traffic. During traffic lane closures on I-84, do not remove the

operated tow truck from the Project or use the operated tow truck other than to keep the traffic lanes of I-84 open, unless otherwise approved or directed.

Add the following subsection:

00220.41 Bridge Work - Before starting any grading or Pavement removal at Bridge ends or removal of Pavement from Bridge decks, arrange so that all Equipment, labor, and Materials required to complete the Pavement replacement Work and Bridge deck waterproofing Work are on hand or are guaranteed to be delivered. Once grading and Pavement removal begins, vigorously prosecute and complete this Work. Complete paving and membrane waterproofing Work in the shortest possible time.

Temporarily taper or bevel longitudinal and transverse grade changes or drop-offs resulting from grading and Pavement removal and membrane waterproofing Work with asphalt concrete mixture to provide a smooth and safe transition. Construct tapers according to 00620.40.

Add the following subsection:

00220.45 Load Restrictions on Bridges - For Structure(s) No. 02443, limit the combined weight of Equipment, vehicles, and supplies placed in a closed Traffic Lane or Shoulder on the Bridge according to 00253.46.

00220.60(a)(1) Contractor Responsibility - Replace this subsection, except for the subsection number and title, with the following:

If this Work is not completed and in place, the Agency may do the Work according to 00220.60(d).

(a) Do the following at no additional cost to the Agency:

- Keep surfaces being used by Public Traffic free of all dirt, mud, gravel, materials, and debris.
    - Repair damage to surfaces caused by the Contractor's operations.
    - Maintain all detour and stage construction Surfacing as specified or directed.

(b) Before periods of no active Work that last longer than seven consecutive Days, unless otherwise directed, do the following:

- Provide temporary pedestrian surfaces meeting the requirements of the MUTCD and Section 00228.
- Provide traversable bicycle and pedestrian routes with surfaces free of dirt, mud, gravel, and debris.

(c) Before periods of no active Work that is anticipated to last or lasts longer than 30 consecutive Days, unless otherwise directed, do the following:

- Pave Traffic Lanes at least 12 feet wide, with 2-foot-wide paved Shoulders for each direction of traffic.
- Do not leave abrupt edges.
- Remove or cover temporary construction signs unless otherwise directed.

- Clean, install, and reinstall all necessary pedestrian, motor vehicle, and bicycle channelization and pavement markings, unless otherwise directed.

00220.60(a)(2) Agency Responsibility - Replace the paragraph that begins "The Agency is responsible …" with the following paragraph:

The Agency is responsible to do the following at Agency expense:

00220.60(b) During Suspensions - Replace the paragraph that begins "During suspensions of the Work …" with the following paragraph:

During suspensions of the Work, maintain Surfacings that the Contractor is responsible for under 00220.60(a)(1), and maintain Work Zone traffic control according to the Specifications and the following:

00220.70 Opening to Traffic - Replace the paragraph that begins "When it is in the public interest, the …" with the following paragraph:

When it is in the public interest, the Engineer may order any portion of the Work opened to traffic. If the portion opened to traffic has been finished in an acceptable manner, it will be designated as "accepted for traffic", and the Contractor will be relieved of maintaining it for legal, Public Traffic. If the portion of the Work to be opened to traffic has not been finished in an acceptable manner, maintain that portion of the Work under traffic in a condition serviceable and adequate for traffic until it is finished in an acceptable manner, except as specified in 00220.60(b).

Replace the paragraph that begins "Maintain portions of the Work designated …" with the following paragraph:

Maintain portions of the Work designated "accepted for traffic" if so ordered. Maintain portions of the Work opened to traffic but not "accepted for traffic" at no additional compensation, except watering ordered to protect the Work or to alleviate dust will be paid for according to Section 00340.

Replace the paragraph that begins "If the Contractor delays the completion …" with the following paragraph:

If the Contractor delays the completion of Shoulders, sidewalks, curb ramps, drainage Structures, or other feature of the Work, the Engineer may order all or any portion of the Work to be opened to traffic. In this case, the Contractor is responsible for maintenance as described in 00220.60(a)(1), during the period the Work is opened to traffic, until Final Acceptance. Conduct the remaining operations to cause the least obstruction to traffic, and pay all additional costs caused by the presence of traffic.

SECTION 00221 - COMMON PROVISIONS FOR WORK ZONE TRAFFIC CONTROL

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

00221.05 Regulations and Codes - Replace this subsection with the following subsection:

Provide all electrical Equipment, Materials, and Work conforming to NEC requirements and all other laws that apply.

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

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

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

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

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

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

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

Meet all requirements of the Contract documents and comply with the Project transportation management plan (TMP) if requesting a Contractor-modified Agency TCP, or a Contractor developed TCP. Provide the following information:

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

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

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

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

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

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

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

00221.10 General - Replace the paragraph that begins "All Work Zone TCD shall…" with the following paragraph:

Provide Work Zone TCD complying with the crashworthiness requirements of the *National Cooperative Highway Research Program* (NCHRP) *Report 350* or with the AASHTO *Manual for Assessing Safety Hardware* (MASH).

00221.20 Safety Apparel - Replace the paragraph that begins "Workers, except flaggers, working …" with the following paragraph:

Workers, except flaggers, working within Highway Right of Way and exposed to traffic or construction Equipment are required to wear high visibility safety apparel that meets the Performance Class requirements of the most current version of ANSI/ISEA 107, *American National Standard for High Visibility Safety Apparel and Headwear Devices*. Wear safety apparel that at least meets the following minimum requirements:

00221.40 General - Replace the paragraph that begins "Existing operational TCD's shall remain…" with the following paragraph:

Maintain existing TCD's in operation throughout the Contract or until replaced by new, permanent TCD as appropriate.

00221.60 Temporary Traffic Control Devices - Replace the paragraph that begins "TCD delivered to the Project Site found…" with the following paragraph:

Repair or replace TCD delivered to the Project Site found to be in “marginal” or “unacceptable” condition, at no additional cost to the Agency.

00221.90(b) Temporary Protection and Direction of Traffic - Replace the bullet that begins “Providing, Surfacing, maintain…” with the following bullet:

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

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

- Mobilization of the mobile barrier to and from the project.
- Moving the mobile barrier from one location of actual use to another or to and from the Contractor’s storage site.

00221.98 Payment, Method "B" - Lump Sum Basis - Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

Payment will be payment in full for furnishing, installing, moving, operating, maintaining, inspecting, and removing Materials and TCD, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

SECTION 00222 - TEMPORARY TRAFFIC CONTROL SIGNS

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

00222.10 Temporary Signs - Replace the paragraph that begins "Furnish temporary signs meeting …" with the following paragraph:

Furnish temporary signs meeting the requirements of the "Acceptable" category shown in the ATSSA *Quality Guidelines for Temporary Traffic Control Devices and Features* handbook, available from the ATSSA website. Use Materials and fabricate signs according to Section 00940, Section 02910 and the following:

00222.11(b) Portable Sign Supports - Replace the paragraph that begins "Use portable sign supports …" with the following paragraph:

Use portable sign supports from the QPL and according to the following:

00222.12(b) Permanent Signs - Replace the paragraph that begins "Sign covers for permanent signs …" with the following paragraph:

Provide sign covers for permanent signs according to Section 00941.

00222.13 Sign Flags - Replace the paragraph that begins "Sign flags shall be …" with the following paragraph:

Provide sign flags that are:

00222.15(b) Portable Changeable Message Signs - Add the following paragraph to the end of this subsection:

For PCMS mounted on rollers, use 2-line PCMS from the QPL.

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

- Install a 54-inch "TRUCKS LEAVING HIGHWAY XXXX FT" sign, when construction vehicles are leaving a Roadway, 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, when construction vehicles are entering a Roadway, 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 a "PROJECT IDENTIFICATION" (CG20-8) sign with an "ODOT" logo rider on the Columbia River Highway. Place the sign according to sign spacing "A" from the "TCD Spacing Table" shown on the Standard Drawings or as modified by the Supplemental Drawings, in advance of the "ROAD WORK AHEAD" sign at each end of the Project, facing incoming traffic. The Engineer will determine the sign legend.
- Install "ROAD WORK AHEAD" (W20-1-48) signs with a 36 by 24-inch "FINES DOUBLE" (R2-6aP) rider on the Columbia River Highway, according to the "TCD Spacing Table" shown on the Standard Drawings or as modified by the Plans except do not install the "FINES DOUBLE" rider on concrete barrier mounted signs.
- Install beyond each end of the Project, facing outgoing traffic, an "END ROAD WORK" (CG20-2A-24) sign a distance of (A ÷ 2) according to the "TCD Spacing Table" shown on the Standard Drawings or as modified by the Plans.
- When the horizontal clearance for the Roadway is less than 19 feet, install horizontal clearance (CW21-12-48) signs, identifying the narrowest width of the Roadway. Locate these horizontal clearance signs as shown or as directed.
- 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.

- For paving operations on freeways, place “ABRUPT EDGE” (CW21-9) and “ROAD WORK XX MPH” (CW20-1a) signs as shown. Use an “XX” value equal to 15 mph below the current posted regulatory speed. If a speed is posted for a temporary regulatory speed reduction, that speed is the current posted regulatory speed.
- When construction requires bicycles to use the Traffic Lanes on Structures, install a "Bicycle ON ROADWAY" (CW11-1) symbol sign according to "Sign Spacing A", from the "TRAFFIC CONTROL DEVICES SPACING TABLE" shown on the Standard Drawings, in advance of the Structure or the initial point where the bicycle facility is impacted by construction. Keep the signs in place until completion of the bikeway final surface.

- Install a 72 by 24-inch "CONSTRUCTION VEHICLE DO NOT FOLLOW" (CW23-14) sign on rigid substrate on the back of all Material or Equipment delivery vehicles.
- During open trenching, barrier setup, roadway construction, paving and striping operations on the Columbia River Highway, install temporary signing and other required TCD as shown. Install temporary speed zone signing according to and as shown in the Temporary Speed Zone Order.
- During pilot car operations, install a 15 by 24-inch "WAIT FOR PILOT CAR" (CR4-20) sign at stop-controlled side roads and accesses intersecting the Highway within the limits of the pilot car operation.
- During pilot car operations, install a 12 by 12-inch "WAIT FOR PILOT CAR" (CR4-20a) sign in private residential driveways accessing the Highway within the limits of the pilot car operation. Place the sign in the driveway facing the private residence and so the sign face is not visible to Public Traffic on the Highway. Do not use the sign for apartments, condominiums or business accesses.
- At accesses, side roads, or residential driveways where "WAIT FOR PILOT CAR" (CR4-20) signs are installed, do not allow traffic to be stopped or held for longer than 20 minutes.
- In addition to the signs, public notification (e.g. flyers, door hangers) may be used to inform the residents that may be affected by the pilot car operations and the "WAIT FOR PILOT CAR" signs.
- For each location of the "WAIT FOR PILOT CAR" sign, closely monitor for traffic compliance, operation, and safety at least once per hour during pilot car operations. If operational issues are observed, or if notified of operational issues, at stop-controlled accesses or side roads utilizing the "WAIT FOR PILOT CAR" (CR4-20) sign, remove the sign and replace it with a flagger.

Add the following subsection:

00222.40(f) Temporary Speed Zone Reduction - Install a temporary regulatory speed zone, as directed. Use regulatory signs for all required temporary speed zone signage.

00222.41(d) Temporary Sign Supports - Replace the bullet that begins "Provide reflective sheeting …" with the following bullet:

- Furnish reflective sheeting on TSS posts as shown in the Standard Drawings.

00222.45(b) Portable Changeable Message Signs - Replace the bullet that begins "Messages shall not scroll …" with the following bullet:

- Do not use messages that scroll horizontally or vertically across the face of the sign.

Add the following bullets to the end of this subsection:

- During paving operations, provide one 2-line PCMS on the finish roller. Display the following messages on the PCMS:

Panel 1	Panel 2
WORKERS IN ROAD	SLOW TO XX MPH

- During paving operations, provide one 2-line PCMS on the intermediate roller. Display the following messages on the PCMS:

Panel 1	Panel 2
SLOW FOR WORKERS	WORKERS IN ROAD

- At least seven Calendar Days before the I-84 west entrance ramp closure at 2nd St, place one or more PCMS displaying the following message as shown, or as directed:

Panel 1	Panel 2
RAMP TO I-84 W CLOSURE	CLOSURE (Time Frame) (Time Frame)

00222.45(c) Radar Speed Trailers - Replace the bullet that begins "Use a blackout speed threshold …" with the following bullet:

- Use a blackout speed threshold of 85 mph, that does not allow the radar speed trailer to display a speed or message when the measured speed exceeds 85 mph.

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

- Place a radar speed trailer approximately 1000 feet beyond the end of the lane closure taper, as shown on Standard Drawing TM880
- Install a 30 by 36-inch “SPEED LIMIT XX” (R2-1) sign below the trailer display panel. The “XX” value is the legal speed limit as determined by a Speed Zone Order signed by the State Traffic Engineer.
- Install a 36 by 36-inch “ROAD WORK XX MPH” (CW20-1a) sign below the trailer display panel. Use a value of 40 for “XX” on the sign
- When the Work Area for the open trenching, roadway construction, or paving and striping activities extends approximately 1/2 mile beyond the start of the operations, place a second radar speed trailer as shown on Standard Drawing TM880. Install a 36 by 36-inch “ROAD WORK XX MPH” (CW20-1a) sign above or below the trailer display panel. Use a “XX” value equal to 15 mph below the current posted regulatory speed. If a speed is posted for a temporary regulatory speed reduction, that speed is the current posted regulatory speed.

Add the following:

00222.46 Mobile Barrier - During mobile barrier operations, provide one 2-line PCMS on the rear of the mobile barrier trailer according to the mobile barrier manufacturer’s recommendations. Display the following messages on the PCMS:

Panel 1	Panel 2
SLOW FOR WORKERS	WORKERS IN ROAD

00222.80(a) Area Basis - Add the following sentence to the end of the paragraph that begins "Temporary signs will…":

No measurement of quantities will be made for “CONSTRUCTION VEHICLE DO NOT FOLLOW” (CW23-14) signs.

Add the following sentence to the end of this subsection:

Temporary signing quantities include temporary regulatory speed zone signage.

00222.80(b) Unit Basis - Add the following sentence to the end of this subsection:

PCMS installed on finish rollers or intermediate rollers will be measured on the unit basis.

00222.90 Payment - Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

Payment will be payment in full for furnishing, installing, moving, operating, maintaining, inspecting, and removing the Materials and TCD, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified, except as covered in 00221.90(b).

Add the following to the end of this subsection:

No separate or additional payment will be made for furnishing, installing, and maintaining 72 by 24-inch "CONSTRUCTION VEHICLE DO NOT FOLLOW" (CW23-14) signs. Payment will be included in 00221.90(b).

Add the following Pay Item to the Pay Item list:

(e) Portable Changeable Message Signs, Roller Mounted ..... Each

Add the following to the end of the paragraph that begins "Items (b) and (c)…":

Payment for PCMS mounted on rollers will be made separately under payment for the item "Portable Changeable Message Signs, Roller Mounted".

Item (e) includes furnishing, mounting, operating, moving, maintaining, and removing the portable changeable message signs. No additional payment will be made for the roller or roller operator.

Add the following paragraph after the paragraph that begins "Items (b) and (c) includes…":

Item (c) includes portable changeable messages signs attached to mobile barrier trailer(s).

SECTION 00223 - WORK ZONE TRAFFIC CONTROL LABOR AND VEHICLES

Comply with Section 00223 of the Standard Specifications modified as follows:

00223.00 Scope - Replace this subsection, except for the subsection number and title, with the following:

In addition to the requirements of Section 00221, this Work consists of providing flaggers, traffic control supervisors, and providing, operating, and maintaining associated Work Zone traffic control vehicles.

00223.22 Flagger Station Lighting - Replace the paragraph that begins "Use flagger station lighting …" with the following paragraph:

Use flagger station lighting from the QPL and according to the following:

Replace the bullet that begins "Illuminates the flagger so that …" with the following bullet:

- Illuminate the flagger station so that it is visible, and is discernable as a flagger station, from a distance of 1,000 feet.

Replace the bullet that begins "Illuminates the flagger from above …" with the following bullet:

- Illuminate the flagger station from above at a height of 18 feet ± 3 feet.

00223.23 Automated Flagger Assistance Device - Replace the paragraph that begins "Furnish an automated flagger …" with the following paragraph:

Provide an automated flagger assistance device (AFAD) from the QPL. Submit the following information for approval for the use of an AFAD to the Engineer, according to 00150.37, a minimum of 21 Calendar Days in advance of using an AFAD. The Engineer will respond within 14 Calendar Days after receipt of the submittal.

00223.26 Pedestrian Transport Vehicle - Replace the bullet that begins "A roof or post-mounted rotating …" with the following bullet:

- A roof or post-mounted rotating amber light or strobe light that is visible for 360 degrees. Provide a light that is visible and functioning at all times while operating within the Project limits.

Add the following subsection:

00223.28 Tow Truck - Use a Class "C" tow truck according to the following:

- 27,500 pounds minimum manufacturers gross vehicle weight rating.
- 25 Ton boom rating - dual or single boom.
- Minimum 150 feet of 5/8" cable.
- Tandem rear axle truck chassis (3 axle truck).
- Air brakes and capable of supplying air to towed vehicles.
- In good operating condition.
- Equipped with roof or post mounted rotating red or amber lights or strobe lights that are visible for 360°.

- Equipped with all Equipment and materials necessary to perform the required operation.
- Portable, self-contained two-way radio and repeaters, as required, with a range suitable for communication throughout each Work Zone, unless otherwise directed.

00223.31(a) Traffic Control Supervisor - Replace the paragraph that begins "When the Schedule of Items …" with the following paragraph:

When the Schedule of Items includes an item for a TCS, provide a TCS who meets the requirements of 00223.30. Do not designate the Project superintendent as the TCS. The TCS is required to possess a current ODOT "Oregon Certified Traffic Control Supervisor" card. A TCS with a current card from another state's transportation department, or from the American Traffic Safety Services Association, may obtain an Oregon Certified TCS card upon successful completion of ODOT's Recertification Class.

Replace the paragraph that begins "Before beginning Work …" with the following paragraph:

Before beginning Work on the Project, the TCS is required to:

Replace the bullet that begins "File with the Engineer and …" with the following bullet:

- File with the Engineer and local police, their name and a telephone number where the TCS can be contacted at all times.

Replace the bullet that begins "If the Contractor requests to …" with the following bullet:

- If the Contractor requests to use a modified Agency TCP or a TCP developed by the Contractor, ensure stamped Working Drawings showing the revisions are submitted according to 00221.06 and 00150.35.

Replace the paragraph that begins "The TCS shall not act as …" with the following paragraph:

The TCS cannot perform the duties of a flagger or pilot car operator, except in the event of an emergency. The TCS may relieve the flagger or pilot car operator for a period of less than 15 minutes, not to exceed 1 hour per construction work shift.

Replace the paragraph that begins "Make arrangements so that the …" with the following paragraph:

Make arrangements so that the TCS is available every Day, on call at all times, and available upon the Engineer's request at other than normal working hours.

Replace the paragraph that begins "The TCS shall report to the …" with the following paragraph:

The TCS is required to report to the Project Site within 1 hour after being notified in the event of a Work Zone incident during non-work periods. Have appropriate personnel, Equipment, and Material available at all times to expeditiously correct any deficiency in the TCM for the Project.

Replace the paragraph that begins "Notify the Engineer of an alternate …" with the following paragraph:

Notify the Engineer of an alternate TCS who can assume the duties of the assigned TCS in the event of that person's inability to fulfill the duties of the position. Provide an alternate TCS adequately trained and certified according to 00223.30 and 00223.31. Notify the Engineer at least 12 hours before designating the TCS for the following 12-hour period. Make succeeding notifications within 24 hours every time a subsequent TCS is appointed to the Project.

Add the following paragraph and bullets to the end of this subsection:

Provide a TCS who is available and on site at all times that a temporary regulatory speed zone reduction is in effect for the pipe removal and installation on I-84 using mobile barrier, paving and striping activities on I-84 west operations. In addition to the duties listed in this subsection, the TCS duties also include the following:

- Inspect temporary TCD used during pipe removal and installation on I-84 using mobile barrier, paving and striping activities on I-84 west operations immediately following initial placement or installation of TCD. Inspect TCD at least one additional time during each construction work shift.
- When law enforcement is providing enforcement services for the Project, coordinate and communicate work locations and schedules with the Engineer and law enforcement agency before and during each work shift.

Add the following paragraph to the end of this subsection:

Provide a TCS that has completed at least 4 hours of training on use and operation of the mobile barrier within the past 2 years. Obtain training from the mobile barrier manufacturer or mobile barrier vendor listed in 00226.16.

00223.31(b) Traffic Control Inspection Without TCS - Replace the paragraph that begins "When the Schedule of Items does …" with the following paragraph:

When the Schedule of Items does not include an item for a TCS, or when TCS is not on-site for a work shift, designate a trained person who is on the Project Site during work hours and on call at all other times, and who:

Replace the bullet that begins "Notifies the Engineer of any …" with the following bullet:

- Notifies the Engineer of any corrective measures made to the TCP if the TCP is not functioning as required, or to accommodate site conditions. Follow the TCP and do not implement changes to the TCP before revisions are approved by the Engineer.

Replace the bullet that begins "Shall report to the Project …" with the following bullet:

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

Replace the bullet that begins "Designate an area for …" with the following bullet:

- Designates an area for pedestrians to wait for, load and unload the transport vehicle.

00223.32 Automated Flagger Assistance Device Operator - Replace this subsection, except for the subsection number and title, with the following:

Use a certified flagger who has been trained in the operation of the AFAD.

The AFAD operator duties include:

- Attending the AFAD at all times during the operation of the device.
- Not flagging traffic and operating an AFAD at the same time.
- Operating a single AFAD. Each AFAD is required to have a separate AFAD operator.

Add the following subsection:

00223.35 Railroad Flagger Services - Work near or within Railroad property requires Railroad flagger services provided by a third party flagging vendor. Provide Railroad flagger services from Union Pacific's approved third party list of Railroad flagger vendors. A list of Union Pacific's approved Railroad flagger vendors can be found at the following website:

https://www.up.com/real_estate/third-party-flagging/index.htm

Add the following subsection:

00223.38 Tow Truck Operator - Provide a tow truck operator who has:

- The mental and physical ability to safely operate the tow truck
- The training and experience required to operate the tow truck
- ANSI Performance Class 2 or 3 upper body garment to be worn while on the Roadway retrieving a disabled vehicle
- Valid Commercial Driver License

00223.40 Flaggers - Replace this subsection, except for the subsection number and title, with the following:

Locate flaggers far enough in advance of the Work Area to permit adequate time for the motorist to respond to the flagger's instructions. All flaggers, including advance flaggers, are required to use a STOP/SLOW paddle. Do not use roll-up STOP/SLOW paddles for non-emergency flagging operations.

During advance flagging operations, the advance flagger is required to only display the "SLOW" face of the paddle. Cover the "STOP" face of the paddle with a sign cover according to 00222.12(a).

Position flaggers, as directed, at locations where traffic can enter the Highway within the limits of the Work Zone.

Direct vehicles entering the Highway to follow the pilot car line.

Direct pedestrians to wait for flagger instructions. Stop and hold motor vehicle traffic to allow pedestrians to enter the TPAR or exit the TPAR. Ensure pedestrians are clear of all Traffic Lanes before flaggers release motor vehicle traffic.

Direct pedestrians to use the pedestrian transport vehicle to pass through or around the Work Zone. Direct pedestrians to wait for the pedestrian transport vehicle in designated areas identified under 00223.31.

If a TPAR is designed and installed with a width less than 5 feet, and 5-foot-by-5-foot passing spaces at 200-foot intervals are not provided, inform pedestrians of the narrowed TPAR. Before allowing pedestrians in wheelchairs or similar devices to use the TPAR, direct the flagger at the opposite end of the TPAR to stop and hold opposing pedestrian traffic until the pedestrian in the wheelchair has reached the other end of the narrowed TPAR.

Provide flaggers at flagging stations continuously or until the Engineer determines flagging is no longer required.

00223.41 Flagger Station Lighting - Replace this subsection, except for the subsection number and title, with the following:

Provide continuous flagger station lighting for nighttime flagging as follows:

- Locate the light Equipment on the same side of the Roadway as the flagger station between 5 and 10 feet from the edge of the Traffic Lane, on or beyond the Roadway Shoulder, or as directed.
- Position and orient the flagger station lighting to direct the maximum amount of light toward the flagger station and away from the approaching traffic in the near lane.
- Aim all of the luminaires directly at the flagger station.
- Increase the output wattage or number of luminaires as the luminance from, and number of, surrounding and background lights increases. Do not provide a total output greater than 2,500 watts, unless otherwise directed.

00223.43 Automated Flagger Assistance Device - Replace this subsection, except for the subsection number and title, with the following:

Use the AFAD to control traffic through the Work Zone and as follows:

- Position the AFAD operator’s control location a safe distance from traffic.
- Install and operate the AFAD according to the manufacturer’s instructions and as shown.
- Do not use the AFAD to control more than one lane of approaching traffic. If necessary, close additional Traffic Lanes, left turn lanes or right turn lanes approaching the AFAD to limit approaching traffic to one lane.
- Provide flagger station lighting when using an AFAD during nighttime hours. Provide flagger station lighting according to 00223.22 and 00223.41.
- Do not use an AFAD to replace a continuously operating temporary traffic control signal. The Engineer may order adjustments to the operation of the AFAD or substitute flagging for the AFAD based on traffic delay, field conditions, and safety concerns.

- When providing an AFAD for each direction of traffic, use AFADs of the same type and from the same manufacturer.
- When an AFAD is not in use during a work shift either turn it off or switch the yellow lens to flash mode. When the AFAD is not in use for more than one work shift, remove it and all accompanying signing from the Roadway.

Add the following subsection:

00223.48 Tow Truck - Position the tow truck in a location as directed. Use the tow truck to remove disabled vehicles from the Traffic Lanes as needed. Tow the vehicles to the nearest off-ramp and out of traffic, or to an alternate site previously arranged with the Engineer. Return the tow truck immediately to the assigned station.

00223.80 Measurement - Replace the bullet that begins ”The replacement of TCD and TCM…” with the following bullet:

- The replacement of flagger station lighting damaged by Public Traffic and replaced by the Contractor.

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

No additional measurement will be made for automated flagger assistance devices damaged by Public Traffic and replaced or repaired by the Contractor.

00223.80(a)(1) Traffic Control Supervisor - Add the following bullet to the end of the bullet list:

- Freeway or Divided Highway Speed Reduction (Paving Operations) according to TM880 is active.

Add the following subsection:

00223.80(a)(4) Railroad Flagger Services - The quantity of Railroad flagger services will be measured on the unit basis. A unit is considered to be up to 12 consecutive hours in a Day. When more than one flagger is required due to Work at separate locations, each Railroad flagger will be measured as a separate unit. A maximum of two units per Day is allowed at each separate location or operation where Railroad flagger services are required by the Railroad unless otherwise approved or directed.

Add the following subsection:

00223.80(b)(6) Tow Truck - The quantity for tow trucks will be measured on the time basis, of the actual number of hours tow trucks are operated.

00223.90 Payment - Replace the paragraph that begins "Item (c) includes furnishing…" with the following paragraph:

Item (c) includes providing, operating, moving, and removing the flagger station lighting. No separate or additional payment will be made for backup unit in event it is used or not.

Replace the paragraph that begins "Item (f) includes furnishing…" with the following paragraph:

Item (f) includes furnishing, operating, maintaining, repairing, replacing moving and removing each AFAD device, regardless of size or type. No separate or additional payment will be made for AFAD replacement or repair. The AFAD operator will be paid for as a flagger.

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

Payment will be payment in full for furnishing, installing, moving, operating, maintaining, inspecting, and removing the Materials and TCD, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified, except as covered in 00221.90(b).

Add the following Pay Item(s) to the Pay Items list:

(g) Railroad Flagger Services ..... Each
(i) Tow Truck..... Hour

Payment for item (g) performed beyond the quantity shown in the Contract Schedule of Items will be made at the Contract unit price if the Engineer determines that the Contract unit price does not exceed the value of the Work as determined according to Section 00197. If the Engineer determines that the Contract unit price exceeds the value of the Work, payment for the Additional Work will be made according to 00195.20.

Payment for item (g) includes all Equipment, labor, and Incidentals necessary to complete the Work as specified.

Payment for item (i) performed beyond the quantity shown in the Contract Schedule of items will be made at the Contract unit price if the Engineer determines that the Contract unit price does not exceed the value of the Work as determined according to Section 00197. If the Engineer determines that the Contract unit price exceeds the value of the Work, payment for the Additional Work will be made according to 00195.20.

Item (i) includes fully operated tow truck, two-way radios, and warning lights on each vehicle.

SECTION 00224 - TEMPORARY TRAFFIC CHANNELIZING DEVICES

Comply with Section 00224 of the Standard Specifications modified as follows:

00224.00 Scope - Replace this subsection, except for the subsection number and title, with the following:

In addition to requirements of Section 00221, this Work consists of providing, installing, moving, maintaining, inspecting, and removing channelizing devices including, but not limited to, tubular markers, conical markers, surface mounted tubular markers, plastic drums, and delineators throughout the Project area as shown or specified.

00224.14 Delineators - Replace the paragraph that begins "Use new delineators from …" with the following paragraph:

Use new delineators from the QPL or salvaged reflectorized delineators (W-1) or (Y-1), as appropriate, and according to the requirements of Section 00840 and the following:

00224.90 Payment - Replace the paragraph that begins "Item (a) includes …" with the following paragraph:

Item (a) includes providing and installing the complete assembly of each device in its initial location and for removing the device from the surface.

Replace the paragraph that begins "Item (b) includes …" with the following paragraph:

Item (b) includes providing new or refurbished devices to replace damaged or missing devices.

Replace the paragraph that begins "In item (e), the type …" with the following paragraph:

In item (e), the type of barricade is inserted in the blank.

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

Payment will be payment in full for furnishing, installing, moving, operating, maintaining, inspecting, and removing the Materials and TCD, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified, except as covered in 00221.90(b).

SECTION 00225 - TEMPORARY PAVEMENT MARKINGS

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

00225.40 Temporary Pavement Markers - Replace the paragraph that begins "Temporary pavement markers..." with the following paragraph:

Maintain temporary pavement markers in place until the permanent markings are complete. Replace damaged or missing markers when directed by the Engineer. On the final Pavement wearing Course and along final alignment, place permanent markings a maximum of 28 Calendar Days after placing temporary pavement markers, or as directed.

00225.45 Pavement Marking Removal - Replace the bullet that begins "Do not use grinding to …" with the following bullet:

- Do not use grinding to remove stripes, durable markings, legends, or bars from the wearing Course or existing surfaces, unless the area is paved over, obliterated, or the pavement markings are replaced to match the original striping configuration.

00225.60 Temporary Traffic Pavement Markings - Replace the paragraph that begins "Temporary pavement markings …" with the following paragraph:

Maintain temporary pavement markings in place until the permanent markings are complete. Replace missing or damaged temporary markings when directed by the Engineer. On the final Pavement wearing Course and along final alignment, place permanent markings a maximum of 28 Calendar Days after placing temporary pavement markings, or as directed.

Replace the paragraph that begins "If permanent pavement …" with the following paragraph:

If permanent pavement markings are not placed within 28 Calendar Days after placing temporary pavement markings, replace missing or damaged temporary pavement markings on wearing Course and along final alignment at no additional cost to the Agency, unless otherwise directed.

00225.80 Measurement - Replace the paragraph that begins "**(a) Unit Basis** - Temporary …" with the following paragraph:

(a) Unit Basis - Temporary reflective pavement markers, temporary flexible pavement markers, and temporary pavement legends, will be measured on the unit basis, by actual count.

00225.90 Payment -

Replace the paragraph that begins “Item (a)…” with the following paragraph:

Item (a) includes installation and removal of temporary pavement markers having either one or two reflective faces.

Replace the paragraph that begins “Item (b)…” with the following paragraph:

Item (b) includes installation of flexible temporary pavement markers and removal of flexible temporary pavement markers and temporary flexible pavement marker covers.

Add the following paragraph after the paragraph that begins “Item (b)…”:

Items (c) and (e) include removal of the temporary tape.

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified, except as covered in 00221.90(b).

SECTION 00226 - TEMPORARY ROADSIDE BARRIERS AND IMPACT ATTENUATORS

Comply with Section 00226 of the Standard Specifications modified as follows:

00226.00 Scope - Replace this subsection, except for the subsection number and title, with the following:

In addition to the requirements of Section 00221, this Work consists of providing, installing, moving, operating, maintaining, and removing guardrail, barrier, and impact attenuators for temporary traffic control, as shown and directed.

00226.11(a)(2) Temporary Concrete Barrier - Replace the paragraph that begins "The concrete barrier shall …" with the following paragraph:

Provide concrete barrier with functioning scuppers, unless otherwise approved.

00226.12 Temporary Impact Attenuators - Replace this subsection, except for the subsection number and title, with the following:

Provide temporary impact attenuators from the QPL and as shown on the Standard Drawings.

Add the following subsection:

00226.16 Mobile Barrier - Use a mobile barrier from the QPL or conditional use list.

00226.23 Truck Mounted Attenuator - Replace the title of this subsection with "**Temporary Impact Attenuator, Truck Mounted"**.

Replace the paragraph that begins "The support vehicle …" with the following paragraph:

Provide a support vehicle for a TL-2 rated TMA with a minimum weight of 9,900 pounds. Provide a support vehicle for a TL-3 rated TMA with a minimum weight of 22,000 pounds.

Replace the paragraph that begins "If used in a mobile …" with the following paragraph:

If a TMA support vehicle is used in a mobile operation, maintain a consistent distance from the mobile operation, as shown in Table 00226-1, or as directed.

Add the following subsection:

00226.24 Mobile Barrier - Use a semi-tractor truck according to the mobile barrier manufacturer's recommendations to haul and operate the mobile barrier and conforming to the following:

- Equipped to perform with all mobile barrier functions and operations.
- Equipped with portable, self-contained two-way radios with a range suitable for communications throughout each Work Zone, unless otherwise directed.

Equip mobile barrier with a temporary impact attenuator, truck mounted.

Add the following subsection:

00226.30 Mobile Barrier - Provide semi-tractor truck operator to haul and operate the mobile barrier and a mobile barrier technician qualified to set up and operate the features of the mobile barrier. Each person has to have completed at least 4 hours of training on use and operation of the mobile barrier within the past 2 years. Obtain training from the mobile barrier manufacturer or mobile barrier vendor listed in 00226.16. Provide a mobile barrier technician on-site while the mobile barrier is in use.

00226.41(c) Glare Shields - Replace the bullet that begins "Firmly attach the base plate …" with the following bullet:

- Firmly attach the base plate anchor bolts to the Temporary Barrier to withstand a 1,000-pound vertical pull and to prevent horizontal and rotational displacement. The maximum spacing between anchor bolts on modular units is 30 inches.

Replace the bullet that begins "Modular or single element …" with the following bullet:

- Use modular or single element glare shields from the same manufacture and of like appearance throughout the entire installation when installed in a continuous run.

00226.43 Truck Mounted Attenuator - Replace the title of this subsection with "**Temporary Impact Attenuator, Truck Mounted**".

Replace the paragraph that begins "When workers or construction Equipment…" with the following paragraphs:

Use a temporary truck mounted impact attenuator (TMA), when workers or construction Equipment are exposed to Public Traffic on a Freeway or Multi-Lane Highway and are not located behind a rigid barrier system, as follows unless otherwise shown or directed:

- Each Shoulder or each lane closure where the preconstruction posted speed is 45 mph or more.

Place the TMA in advance of the exposed workers or Equipment, located as shown in the TMA Support Vehicle Placement tables, or as directed. If the TMA is not available when the Work requires its use, postpone the Work until the TMA is available.

Add the following subsection:

00226.46 Mobile Barrier - Configure, place, and move the mobile barrier according to the manufacturer's recommendations, according to the TCP, or as directed.

00226.63 Truck Mounted Attenuators - Replace this subsection with the following subsection:

00226.63 Temporary Impact Attenuator, Truck Mounted - Repair damage to support vehicles that TMAs are mounted on at no additional cost to the Agency.

Add the following subsection:

00226.66 Mobile Barrier - Maintain the mobile barrier according to the manufacturer's recommendations. Perform routine maintenance of the mobile barrier at no additional cost to the Agency. Be responsible for all necessary service and maintenance of the mobile barrier while in use.

00226.80(b)(2) Temporary Barrier - Add the following to the end this subsection:

The quantities will be limited to those shown in Table 00226-1. The estimated quantity of Temporary Barrier is:

TABLE 00226-1

Stage/Phase	Location (STA to STA)	Temporary Barrier (foot)	Temporary Barrier, Minimum Deflection (foot)
Stage I	"Lwb2" STA 1146+32 to STA 1148+07	0	175
	"Lwb2" STA 1148+07 to STA 1158+82	1075	0
	"Lwb2" STA 1158+82 to STA 1160+57	0	175
	"Lwb2" STA 1166+63 to STA 1180+38	0	1375
Stage II	"Lwb2" STA 1146+74 to STA 1147+99	0	125
	"Lwb2" STA 1147+99 to STA 1160+49	1250	0
	"Lwb2" STA 1166+65 to STA 1181+15	0	1450
Stage III	"Lwb2" STA 1168+90 to STA 1172+52	362.5	0
	"Lwb2" STA 1172+52 to STA 1175+15	0	262.5
		600	0

Stage/Phase	Location (STA to STA)	Temporary Barrier (foot)	Temporary Barrier, Minimum Deflection (foot)
	"Lwb2" STA 1175+15 to STA 1181+15		
	Total Quantity	3287.5	3562.5

Add the following subsection:

00226.80(c) Time Basis - The quantity of mobile barrier will be measured on the time basis, of the number of Days the mobile barrier is in actual use on the Project according to the approved Traffic Control Plan. One mobile barrier will be allowed per Day unless otherwise approved.

00226.90 Payment -

Add the following Pay Item to the end of the Pay Item list:

(o) Mobile Barrier ..... Day

Replace the paragraph that begins "In items (a) and (b), the …" with the following paragraph:

In items (a) and (b), the type of guardrail or terminal is inserted in the blank.

Replace the paragraph that begins "Item (e) includes Type 5 …" with the following paragraph:

Item (e) includes Type 5 delineators, including removing and replacing Type 5 delineators on the barriers, as necessary. Item (e) also includes providing, installing, connecting, securing, unsecuring, maintaining, temporary storage, and final removal of the Temporary Barrier, including Minimum Deflection Temporary Barrier.

Replace the paragraph that begins "Item (f) includes Type …" with the following paragraph:

Item (f) includes Type 5 delineators, including removing and replacing Type 5 delineators on the barriers, as necessary. Item (f) also includes providing, installing, connecting, securing to the Bridge deck, unsecuring, maintaining, temporary storage, and final removal of the Minimum Deflection Bridge Temporary Barrier.

Add the following paragraphs after the paragraph that begins "In items (g) and (h)…":

Payment for items (g) performed beyond the quantity shown in the Contract Schedule of Items will be made at the Contract unit price if the Engineer determines that the Contract unit price does not exceed the value of the Work as determined according to Section 00197. If the Engineer determines that the Contract unit price exceeds the value of the Work, payment for the Additional Work will be made according to 00195.20.

Replace the paragraph that begins "In items (g) and (h) …" with the following paragraph:

In items (g) and (h), the type of attenuator is inserted in the blank.

Replace the paragraph that begins "In item (i), the …" with the following paragraph:

In item (i), the words "Sand Module" or the type of attenuator is inserted in the blank.

Add the following paragraphs after the paragraphs that begins "Item (l) includes…":

Item (o) will be payment in full for all labor, training, Equipment, and Materials required for mobile barrier, regardless of length and number of moves. Item (s) will also be payment in full for operation of the semi-tractor truck in conjunction with the mobile barrier, training, service, maintenance, and all Incidentals necessary to complete the Work as specified.

Items (g) and (i) include truck mounted temporary impact attenuators attached to mobile barrier(s).

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

Payment will be payment in full for furnishing, stockpiling, installing, moving, operating, maintaining, inspecting, placing, and removing the Materials and TCD, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified, except as covered in 00221.90(b).

Add the following paragraph to the end of this subsection:

No separate or additional payment will be made for TMAs when the Contractor elects to use them where they otherwise are not required.

SECTION 00231 - TEMPORARY ACCESS ROAD

Section 00231 is not a Standard Specification and is included in this Project by Special Provision.

Description

00231.00 Scope - This Work consists of constructing, maintaining, and removing temporary, unpaved access roads and proposed work pad for the use of Contractor and Agency Equipment and personnel as needed, shown, or directed.

Materials

00231.11 Geotextile - Furnish subgrade geotextile, embankment geotextile, or riprap geotextile, at the Contractor's option that meets the requirements of Section 02320, with documentation according to 02320.10(c).

00231.12 Geogrid - Furnish subgrade reinforcement geogrid, if used, that meets the requirements of Section 02320.

00231.13 Road Material - Furnish crushed Aggregate Base, stone embankment, or other suitable Granular Material capable of supporting the weight of Equipment intended to use the temporary access road and proposed work pad.

00231.14 Chain Link Fabric - Furnish chain link fabric, if used, that meets the requirements of Section 03010.30.

Construction

00231.41 Clearing - Clearing brush and vegetation for temporary access roads is allowed in the areas shown or where directed. Preserve and protect trees as shown or directed.

00231.42 Temporary Access Road and Proposed Work Pad - Construct temporary access roads and proposed work pad to the width, grade, profile, and depth of base sufficient to support the weight of Equipment using the road as shown and directed. Install geotextile or geogrid prior to placement of road material.

00231.43 Not for Public Traffic - Do not direct or allow Public Traffic to use temporary access roads constructed according to this Section.

00231.45 Verification of Original Ground - Test the density of the original ground according to TM 158, in the presence of the Engineer, before beginning construction of the temporary access road and after removing it. If post-removal density testing indicates that the original ground has been weakened by construction activities, or the presence or use of the temporary access road, correct the deficient condition in an approved manner and at no additional expense to the Agency.

Maintenance

00231.60 Surface Maintenance - Maintain temporary access roads so that the road surfaces remain firm, smooth, free of ruts or standing water, and are graded to prevent concentrations of runoff water. Promptly remove accumulations of mud or debris.

Finishing and Cleaning Up

00231.70 General - When a temporary access road and proposed work pad is no longer needed, do the following:

- Remove all Materials.
- Restore areas occupied by the temporary access road and proposed work pad to the original ground contours or as directed.
- Restore area occupied by the temporary access road as shown or directed.
- Dispose of excess materials according to 00330.41(a)(5).

Measurement

00231.80 Measurement - Except for permanent seeding, no measurement of quantities will be made for Work performed under this Section.

Permanent seeding will be measured according to 01030.80.

Payment

00231.90 Payment - The accepted quantities of Work performed under this Section, except for permanent seeding work, will be paid for at the Contract Lump Sum amount for the item "Construct and Remove Temporary Access Road".

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

No separate or additional payment will be made for removing and disposing of temporary access road materials and proposed work pad, or for restoring the areas to original ground contours.

SECTION 00245 - TEMPORARY WATER MANAGEMENT

Section 00245 is not a Standard Specification and is included in this Project by Special Provision.

Description

00245.00 Scope - This Work consists of providing, installing, operating, maintaining, and removing temporary water management facilities in regulated Work areas.

00245.01 Abbreviations:

TWM - Temporary Water Management
TWMF - Temporary Water Management Facility
TWMP - Temporary Water Management Plan

00245.02 Definitions:

Temporary Water Management Facility - A TWMF that conveys water around or through Work areas, removes water from Work areas, and treats and discharges water at locations outside Work areas.

00245.03 Temporary Water Management Plan - The Agency TWMP is a concept plan. 28 Calendar Days before beginning Work in regulated Work areas, submit stamped Working Drawings of a Contractor-developed TWMP, according to 00150.35, based on either the Agency's concept plan or an independent plan that meets water quality and environmental guideline requirements and does not negatively affect neighboring properties or water rights.

Include the following minimum information in the TWMP:

- The sequence and schedule for dewatering and re-watering, including when to contact the Engineer prior to dewatering and re-watering.
- How the Work area is isolated from the active stream flow upstream, through, and downstream.

- How the stream flow is routed and conveyed around or through the isolated Work area.
- How fish passage is provided around the Work area, if required.
- How the isolated Work area is de-watered.
- How the pumped water is treated, if necessary, before it is discharged downstream.
- Description of all construction stages, including appropriate contact points for each stage.
- A list of on-site backup Materials and Equipment.
- Provide the name of the TWM Subcontractor (if applicable) and Contractor's superintendent, and their 24-hour contact phone number 10 Days before the pre-Work meeting. If changes in the appointment of the TWM Subcontractor or Contractor's superintendent occur during the term of the Contract, provide written notice to the Engineer within 5 Calendar Days of the change.
- Calculations of water withdraw pump's capacity.
- Details of the proposed water intake screen used to isolate in-water Work area and how it meets the requirements of 00290.34(c)(3).

Any change to the TWMP during construction requires approval prior to implementation.

Obtain the Engineer's written approval before beginning Work in in-water Work areas.

00245.04 Pre-Work Meeting - Before beginning any TWM Work, attend a pre-work meeting at the Project Site with the Engineer no more than 8 Calendar Days prior to implementation of TWM. Required meeting attendees include:

- Engineer
- Contractor
- TWM Subcontractor (if applicable)
- Agency Environmental Coordinator or their appointed representative

The pre-Work meeting agenda typically includes the method of TWM, the TWMP, fish salvage plan and strategy, describe environmental risks, turbidity monitoring, energy dissipation, dewatering and re-watering plan and strategy, site clean-up expectations, and the circumstances when contacting the Engineer is required.

Materials

00245.10 Materials - Furnish Materials meeting the following requirements:

Pipe	00445.11
Plastic Sheeting	00280.14(a)
Riprap	00390.11
Sandbags	00280.15(a)
Water Intake Screening	00290.34(c)

Furnish bulk bags as follows:

- Approximately 35” x 35” x 35” with a 45” diameter.
- Approximately 27 cubic feet (one cubic yard).
- Durable, weather resistant bags woven tightly enough to prevent leakage of filler material.
- Filled with streambed gravel.

Furnish streambed gravel that is uncrushed, clean, hard, durable material that is well graded from the maximum to minimum size.

- 50% of the streambed gravel: 1-to-2-inch round gravel.
- 50% of the streambed gravel: ¾-inch minus round gravel.

Provide pumps that are:

- Self-priming.
- Equipped with a variable speed governor.
- Equipped with a power source.
- Able to pump water that contains soft and hard solid.

Construction

00245.40 Fish Removal - Qualified Agency, ODFW, or ODOT consultant biologists will remove fish and other aquatic organisms from the isolation Work areas. Coordinate fish removal with the Engineer at least 28 Calendar Days before beginning Work in regulated Work areas. Allow access into the isolation Work areas before, during and after installation of the TWMF to perform the specified tasks as follows:

- **Before Installation of TWMF** - Before any in-water Work, including installing TWMF, qualified personnel will remove fish and other native aquatic organisms from within the proposed isolated Work area.

- **After Installation of TWMF** - After installing TWMF and the reduction of the water level through the isolated Work area has begun, qualified personnel will remove all fish and aquatic organisms as the water level is reduced. Do not completely de-water the isolation area until all fish and aquatic organisms have been removed.

00245.41 Installation - During installation of the temporary water management facility, maintain a downstream water flow rate of at least 50 percent of the upstream water flow rate.

00245.42 Operation - Operate temporary water management as follows:

- Protect fish and fish habitat according to 00290.34.
- Maintain and control water flow downstream of the isolated Work area for the duration of the diversion to prevent downstream de-watering.
- Clean, maintain and repair water intake screening to ensure adequate flows and protection of aquatic organisms.

- In the event of containment failure immediately notify the Engineer so arrangements can be made to remove fish and aquatic organisms from the isolation Work areas prior to the continuation of Work within the ordinary high water limits.
- When using a pump for bypassing water during temporary water management, physically monitor the pump in-person and maintain the pump at all times including non-work hours. Provide a back-up pump on-site and ready for use as necessary. Provide the Engineer with a daily report documenting monitoring activities.

Maintenance

00245.60 Maintenance - Monitor water turbidity according to 00290.30(a)(8).

Finishing and Cleaning Up

00245.70 Removal - Prior to removal of the TWMF, obtain approval from the Engineer after completion of all Work within ordinary high water limits. Remove the TWMF and re-water and restore the stream flow. Maintain downstream water flow during removal of the facility. Staged or metered re-watering may be required as determined by the Engineer.

Measurement

00245.80 Measurement - No measurement of quantities will be made for temporary water management facilities.

The estimated quantities of Materials required for the temporary water management facility are:

Temporary Water Management Facility at Station “Lwb2” 1154+37 :

Pipe	40 Feet
Plastic Sheeting	60 Square Yard
Riprap	2 Cubic Yard
Sandbags	550 Each

Temporary Water Management Facility at Station “Lwb2” 1164+00:

Pipe	260 Feet
Plastic Sheeting	300 Square Yard
Bulk Bags	100 Each
Streambed Gravel	100 Cubic Yard

The quantities of bypass pump monitoring will be measured on the time basis, of the actual number of Days the bypass pump is in operation and a daily monitoring report is received.

Turbidity monitoring will be measured according to 00290.80.

Payment

00245.90 Payment - The accepted quantities of temporary water management facilities will be paid for at the Contract lump sum amount for the item "Temporary Water Management Facility at Station _____ ".

The location of the facility is inserted in the blank.

The accepted quantities of bypass pump monitoring will be paid for at the Contract unit price, per Day, for the item “Bypass Pump Monitoring”.

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

Turbidity monitoring will be paid for according to 00290.90.

No separate or additional payment will be made for TWMP, maintaining, operating, monitoring, moving, or removing the facility.

SECTION 00252 - TEMPORARY WORK BRIDGES

Section 00252 is not a Standard Specification and is included in this Project by Special Provision.

Description

00252.00 Scope - This Work consists of designing (if applicable), constructing, maintaining, and removing temporary work bridges or trestles necessary to construct the new structure.

Materials

00252.10 Material - Furnish materials for temporary work bridges or trestles meeting the requirements of the applicable Sections of Part 00500.

Construction

00252.40 Construction - Provide stamped Working Drawings and calculations of the work bridges or trestles according to 00150.35.

Design work bridges or trestles according to AASHTO *Guide Design Specifications for Bridge Temporary Works*.

Construct work bridges or trestles at the locations shown and according to AASHTO *Construction Hand Book for Bridge Temporary Works*.

Construct the work bridges or trestles so they satisfy all the requirements of applicable permitting agencies.

Maintenance

00252.60 Maintenance - Maintain work bridges or trestles in a safe and functional condition.

Provide and place suitable approved barriers on or near the work bridges or trestles to prevent public access.

Finishing and Cleaning Up

00252.70 Structure Removal - When the temporary work bridges or trestles are no longer needed, remove them according to Section 00310.

Satisfy all requirements of applicable permitting agencies during work bridge or trestle removal.

Restore all areas occupied by the work bridges or trestles to original condition.

Measurement

00252.80 Measurement - No measurement of quantities will be made for Work performed under this Section.

Payment

00252.90 Payment - The accepted quantities of Work performed under this Section will be paid for at the Contract lump sum amount for the item "Temporary Work Bridges".

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

No separate or additional payment will be made for designing, constructing, maintaining, or removing temporary work bridges.

SECTION 00253 - TEMPORARY WORK ACCESS AND CONTAINMENT

Comply with Section 00253 of the Standard Specifications modified as follows:

00253.00 Scope - Add the following paragraphs to the end of this subsection:

On Structure No. 02443, provide temporary work access, containment, barges, heating, and ventilating system(s) for Bridge Removal on spans 1 through 9.

On Structure No. 24318, provide temporary work access, containment, system(s) for bridge construction on spans 1 through 4.

00253.03(a) Work Access Submittal - Replace the bullet that begins "Maximum wind speed …" with the following bullet:

- Maximum wind speed where work access structure(s) may remain on the Structure

00253.03(b) Work Containment Submittal - Replace the bullet that begins "Maximum wind speed …" with the following bullet:

- Maximum wind speed where containment wall materials may remain on the Structure.

00253.04 Design Services - Replace the paragraph that begins "If barges will be …" with the following paragraph:

If barges are used, provide marine design services by an engineer licensed in the State of Oregon to practice in the field of Naval Architecture and Marine Engineering or other Professional Engineer licensed in the State of Oregon with relevant naval architecture experience as accepted by the Engineer.

00253.07 Work Bridge Structural Design Requirements - Replace this subsection, except for the subsection number and title, with the following:

Unless otherwise specified in Section 00252, design work Bridges according to *AASHTO Guide Design Specifications for Bridge Temporary Works*. Furnish materials for temporary work Bridges meeting the requirements of the applicable Sections of Part 00500. Comply with all requirements of applicable permitting agencies according to Section 00290.

00253.08(a) Contractor-Designed - Replace the bullet that begins "Detail the anchoring system …" with the following bullet:

- Detail the anchoring system that is used to connect the temporary platform or scaffolding to the existing Structure.

Add the following subsection:

00253.09 Work Platform, Scaffolding and Containment Structural Design Requirements -

Design work platforms, scaffolding, and containment Structures for dead load, live load, and wind load. Obtain basic wind speed as shown on Standard Drawing TM671 and applied in the most critical direction. For Structures with fundamental frequency less than 1 Hz, design for wind loads accounting for structural dynamic effects.

Provide designs with a factor of safety of at least six for wire ropes and connecting hardware and at least four for all other components for containment Structure and work platform components.

Verify structural adequacy of the Bridge with added loading from containment Structures and work platforms using AASHTO *Standard Specifications for Highway Bridges*, Group II, III, V, and VI load combinations.

00253.40 General - Add the following paragraph to the end of this subsection:

Containment and work platforms do not extend more than 4 feet below bottom of existing Structure.

Add the following subsection:

00253.46 Loads Placed on Structure Roadway, Shoulders, and Sidewalks - When a Traffic Lane, Shoulder or sidewalk is closed the following loading may be applied to the Structure(s):

When a Traffic Lane or Shoulder closures are allowed on Structure No._02443:

- Equipment, vehicles, and Materials may be placed in the closed:
  - Traffic Lane
  - Shoulder
  - Sidewalk
- Equipment, vehicles, and Materials may NOT be placed in or on:
  - Active Traffic Lane
- No more than one vehicle operating under D.O.T. overload permit will be allowed within the closed area on each span of the Structure.

The combined effect of all loads in the closed area(s) will be limited to the lesser of:

- 25,000 pounds in any 100 square feet of surface area of the Structure;
- total of 200,000 pounds for each span of the Structure;
- Bending moment and maximum shear produced by one lane of HS-20 on each span of the Structure.

00253.90 Payment - Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

SECTION 00256 - TEMPORARY RETAINING WALLS

Section 00256 is not a Standard Specification and is included in this Project by Special Provision.

Description

00256.00 Scope - This Work consists of designing, furnishing, constructing, maintaining, and removing temporary retaining walls at locations shown or specified.

Temporary retaining wall locations and limits shown are approximate. Adjust wall stationing, vertical alignments, and horizontal alignments as necessary to facilitate construction and staging requirements. Construct the following temporary retaining walls at the location(s) listed in Table 00256-1:

Table 00256-1

Temporary Retaining Wall name	Location
Temporary Retaining Wall 'A'	Bent 1 Bridge Approach Slab Embankment
Temporary Retaining Wall 'B'	Bent 5 Bridge Approach Slab Embankment

00256.04 Working Drawings, Calculations, and Design Submittals - Submit temporary retaining wall stamped Working Drawings and design calculations according to 00150.35, except as modified by this Section. Design temporary retaining walls according to Section 15.3.27, and other applicable sections, of the most current version of the ODOT *Geotechnical Design Manual* (GDM) at the time of Advertisement.

Submit nine sets of the stamped Working Drawings, and five copies of the design calculations, summary, and checklist.

(a) Defined Temporary Retaining Wall Systems - Construct the following temporary retaining walls listed in Table 00256-2 below:

Table 00256-2

Temporary Retaining Wall name	Retaining Wall System
Temporary Retaining Wall 'A'	Geotextile-Reinforced MSE Wall
Temporary Retaining Wall 'B'	Geotextile-Reinforced MSE Wall

(b) Atypical Temporary Retaining Wall Systems - Temporary retaining wall systems that are not on the list of retaining walls according to Section 15.2.4.2 of the ODOT GDM are considered atypical retaining wall systems. If proposing an atypical temporary retaining wall system, submit stamped Working Drawings according to 00150.35. The review and response time allowed for the Agency to return the Working Drawings is 120 Calendar Days. Submit calculations and other data to satisfy the requirements of the Special Provisions and include sufficient detail and explanation of the design for the Agency to process and comment on the Working Drawings. If the Engineer requests additional information or explanation related to the review of the atypical retaining wall system, the Engineer may restart the 120 Calendar Day review period.

Include the following additional information in the atypical retaining wall system submittal:

- If applicable, a list of projects that used the atypical retaining wall system. Include reference contacts.
- A list of supervisory personnel that will be on-site during construction of the atypical retaining wall system and documentation of their experience and qualifications to perform the Work.

Perform temporary retaining wall design according to the most current version at the time of Advertisement of one or more of the following design standard:

- ODOT *Geotechnical Design Manual* (GDM)
- AASHTO *Standard and Guide Design Specifications*
- U.S. Department of Transportation Federal Highway Administration (FHWA) design manuals

Geotechnical and structural analysis and design for the temporary retaining wall includes but is not limited to the items listed in the temporary retaining wall design checklist. Submit a completed temporary retaining wall design checklist and a written temporary retaining wall design summary, prepared by the retaining wall design engineer, to accompany the stamped Working Drawings and calculations. Include the following in the design summary:

- Identification of the design manuals and specific methodologies used for the analysis and design.
- Identification of the methods of analysis and all computer programs used.
- Soil and material properties used in the retaining wall design. Include any additional boring logs and laboratory test data performed.
- Design loading assumptions and loading diagrams for each wall (including all construction staging loads).
- Design performance requirements, including design life, allowable settlement, and alignment tolerance.
- Performance requirements and methods and frequency for monitoring performance requirements during construction. Performance requirements include actual threshold limits of tolerable differential foundation settlement and lateral movement that could result in structural damage to adjacent construction.
- Construction requirements (specifications), including Materials, Equipment, and labor necessary for construction of the atypical temporary retaining wall system.
- Quality control plan, including required performance and verification tests.
- If applicable, temporary wall removal plan.
- All other applicable information for design, detail, sequencing, and construction of the temporary retaining wall.

Materials

00256.10 General - Furnish Materials with design properties according to the design requirements and reviewed Working Drawings for the temporary retaining wall and applicable subsections of Sections 00596A and 00596B.

Labor

00256.30 Personnel Qualifications - Perform the temporary retaining wall construction Work using personnel experienced in retaining wall construction work. Submit a list to the Engineer for approval identifying the on-site supervisors and Equipment operators assigned to the Project and their experience relevant to the Project. The Engineer will respond within 21 Calendar Days after receipt of the submittal.

Do not begin Work on any temporary retaining walls until the qualifications have been approved. The Engineer may suspend the temporary retaining wall construction if the Contractor substitutes unapproved personnel during construction. Submit requests for substitution of on-site supervisors, Equipment operators, or testing personnel to the Engineer, who will have 7 Calendar Days to respond to each request. Additional costs resulting from the suspension of Work due to the changing of personnel will be at no additional cost to the Agency, and no adjustment in Contract Time resulting from the suspension of Work will be allowed.

Construction

00256.40 General - Construct temporary retaining walls according to the reviewed Working Drawings and the applicable subsections of Section 00596A and Section 00596B.

Maintenance

00256.50 General - Maintain temporary retaining walls in a safe and functional condition as long as the walls are in service. Keep all wall facing elements intact. Repair or replace damaged wall elements as necessary to maintain the retaining walls integrity and safe operational function. Submit stamped Working Drawings for replacement of damaged wall elements or for any wall repairs to the Engineer for review.

Finishing and Cleaning Up

00256.70 General - Temporary retaining walls may be incorporated into the finished embankment only if approved by the Engineer. Bury or remove portions of temporary walls as necessary and according to Section 00310 to accommodate cover requirements.

In areas where temporary retaining walls are to be completely removed, partially removed, or abandoned, restore and mitigate the affected area to meet applicable permitting and project requirements.

Measurement

00256.80 Measurement - No measurement of quantities will be made for Work performed under this Section.

Payment

00256.90 Payment - The accepted quantities of Work performed under this Section will be paid for at the Contract lump sum amount for the item "Temporary Retaining Wall _____ ".

The temporary wall name is inserted in the blank.

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

No separate or additional payment will be made for maintaining, removing, repairing, or replacing temporary retaining walls.

TEMPORARY RETAINING WALL DESIGN CHECKLIST

Instructions - This checklist was developed to facilitate the design, review, and construction of temporary retaining walls. It is intended to remind the Design Engineer of Record to design and to check for specific aspects of construction. It is not a substitute for plan and design criteria or specification requirements.

The checklist is to be completed and signed by the temporary retaining wall Design Engineer of Record. Submit a checklist with each temporary retaining wall submittal. Answer every question. Attach explanations of all “No” or ”N/A” responses to this checklist. Submit this checklist with the submittals.

	YES	NO	N/A
A. General			
1. Are the temporary wall stamped Working Drawings and supporting calculations prepared, stamped and signed by an engineer registered to practice in Oregon?	____	____	____
2. Are the temporary retaining wall location, construction sequence, and removal plan compatible with the project construction staging?	____	____	____
B. Design Standards			
1. Does the temporary retaining wall design comply with the standards identified in ODOT GDM 15.3.27 and related sections?	____	____	____
2. Is the design standard and edition identified in the temporary retaining wall design calculations and summary?	____	____	____
C. Loading			
1. Have the anticipated design loads, including live load and construction surcharge loads, and changing conditions, for different stages of construction been considered and included in the calculations?	____	____	____
2. Have the appropriate load and resistance factors or factors of safety on the retaining wall been identified, for all applicable load combinations or load cases?	____	____	____
3. Have construction equipment loads been included in the calculations for the temporary walls?	____	____	____
4. Have the construction loads for different stages of construction been considered and included in the calculations?	____	____	____

5. Have loading diagrams been included? ____ ____ ____

D. Geotechnical and Structural Analysis

1. Has Internal stability been evaluated? ____ ____ ____
2. Has external stability been evaluated? ____ ____ ____
3. Has global stability been evaluated? ____ ____ ____
4. Are all existing, adjusted or new utilities in proximity with the proposed temporary retaining wall shown on the temporary wall stamped Working Drawings and is protection of these utilities addressed? ____ ____ ____
5. Has a rational method for determining the ultimate bearing capacity of the foundation materials been presented and described in the calculations? ____ ____ ____
6. When spread footings are founded near the top of a slope or in a slope, have the ultimate bearing capacity calculations been modified accordingly? ____ ____ ____
7. Are wall settlement and lateral deflection estimates provided, including consideration of any settlement effects on adjacent structures or facilities? ____ ____ ____
8. Are mitigation measures required to limit the amount(s) of wall settlement? ____ ____ ____

E. Materials

1. Have the soil parameters and groundwater elevations used in the design calculations been provided and confirmed by the design EOR? ____ ____ ____
2. Are retaining wall material specifications and dimensions identified in the stamped Working Drawings and calculations? ____ ____ ____

F. Temporary Retaining Wall Working Drawings

1. Is the field verified ground topography above and below the wall shown? ____ ____ ____
2. Are all existing, adjusted or new utilities, structures, “no work zones”, and Right-of-Way in proximity to the proposed retaining wall shown on the temporary retaining wall stamped Working Drawings? ____ ____ ____

3. Are plan view, elevation and cross sections drawn to scale, with dimensions defining location and size of the retaining wall including top and bottom of wall elevations, horizontal and vertical alignment, original and final ground lines, excavation and fill limits? ____ ____ ____

_____ _____

Design Engineer of Record Signature Date

SECTION 00280 - EROSION AND SEDIMENT CONTROL

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

00280.00 Scope - Replace the paragraph that begins "This Work also consists of providing temporary …" with the following paragraphs and bullets:

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

Conditions requiring NPDES 1200 permits are as follows:

- Projects with one acre of ground disturbance or more on Agency owned land are regulated under the Agency's 1200-CA permit.
- When Project Work on Agency owned land disturbs less than one acre, but ground disturbances on non-Agency owned lands combined with Project ground disturbances on Agency owned land total one acre or more the Agency Project Work will be regulated by the Agency's 1200-CA permit. The Contractor is responsible for acquiring the 1200-C permit for all areas of disturbance on non-Agency owned land.

When the combined areas of disturbance of all Project related activities is less than one acre, no NPDES 1200 permit coverage is required.

The area of ground disturbance on Agency owned land is 5.3 acres.

Delete the paragraph that begins “When contaminants, pollutants or hazardous materials…”.

Add the following paragraph to the end of this subsection:

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

00280.01 Abbreviations - Replace this subsection with the following subsection:

00280.01 Abbreviations and Definitions:

BMP - Best Management Practices
EMP - Environmental Management Plan
ESC - Erosion and Sediment Controls
ESCP - Erosion and Sediment Control Plan
ESCM - Erosion and Sediment Control Manager

Effective Functioning - Preventing Erosion, controlling Runoff, or controlling Sediment in each location where an ESC is needed so Erosion-related impacts of site construction are mitigated as required.

Erosion - The wearing away of the land surface by water, wind, ice, gravity or other geological agents.

Perimeter Controls - Perimeter Controls include sediment fences, ditches, filter berms in flatter areas, and other methods for preventing Sediment and other construction-generated pollutants from leaving the construction site.

Permanent Stabilization - Maintenance-free measures or methods necessary to prevent Erosion or Sediments from leaving the Project Site.

Runoff - That portion of precipitation that flows from drainage area on the land surface, in open channels or in stormwater conveyance systems.

Sediment - Fragmented material originated from weathering and Erosion of Rock and unconsolidated deposits. Sediment also includes fragmented materials from man-made materials. The material is transported by, suspended in, or deposited by water.

Temporary Stabilization - Covering soil or other measures to prevent Erosion until Permanent Stabilization measures are in place and established.

00280.02 Definitions - Replace this subsection with the following subsection:

00280.02 Submittals - Submit documentation that the compost material meets the requirements of Section 03020 for its intended use and is available for use according to the Project schedule in 00180.41 according to 00150.37, within 30 Calendar Days of Award of the Contract.

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

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

Replace the bullet that begins "When using a Contractor developed …" with the following bullet:

- When using a Contractor developed ESCP, develop, provide, and stamp the ESCP by a professional with one of the following credentials. Include their name and credentials in the ESCP.

Replace the paragraph that begins "Ensure that the Contractor's construction ESCP …" with the following paragraph:

Ensure that the Contractor's construction ESCP and implementation schedules are prepared by an individual who meets qualifications of 00280.30. Provide a signed copy of the ESCP with individual's name, title, state certifications, and employing firm if different than Contractor's firm.

Add the following paragraphs to the end of this subsection:

When required on the Project fill in the required information listed on the ESCP cover sheet prior to the beginning of construction and submit revised cover sheet to Engineer 10 Days before the preconstruction meeting. Monitor weather, stormwater runoff, and receiving waters, and document monitoring observations. Immediately upon discovery, notify Engineer if a 1200-CA permit non-compliance occurs. Provide updates and revisions of the ESCP, including ESCP cover sheet, necessary to keep it representative of current site conditions and compliant with the 1200-CA permit.

When contaminants, pollutants or hazardous materials are discovered in the Project location in soils or groundwater comply with 00290.20(f), and provide an environmental management plan (EMP) as required by the 1200-CA permit if applicable.

00280.14(a) Plastic Sheeting - Replace the bullet that begins "**Plastic Sheeting** - Minimum 6-mil thick…" with the following bullet:

- **Plastic Sheeting** - Minimum 20-mil thick UV stabilized black color polyethylene plastic sheeting that meets or exceeds the performance properties outlined in ASTM D882, D6988/E252/D8136 and D1922.

Replace the bullet that begins "**Rock** - Class 50…" with the following bullet:

- Class 50 riprap according to Section 00390.

00280.14(e) Slope and Channel Liner Matting - Replace the bullet that begins "Type A - Slope…" with the following bullets:

- **Type A: Hydraulically-Applied** - Hydraulically-applied material composed of long strand, thermally processed wood fibers, crimped, interlocking fibers and performance enhancing additives meeting the following criteria:
  - Flexural rigidity when wet, and equal to or greater than 5 oz-yd.

- Permissible shear stress 1.0 lbs/sqft or greater
- Thermally processed wood fibers - 73%
- Crosslinked hydro-colloid tackifiers and activators - 10% + 1%
- Crimped, interlocking fibers - 5% +1%
- Moisture content - 12% + 3%
- Fully Biodegradable
- A cure time of less than 2 hours during wet weather.

00280.15(a) Check Dams - Replace the bullet that begins "**Type 5: Prefabricated System** - Prefabricated …" with the following bullet:

- **Type 5: Prefabricated System** - Prefabricated check dam system according to the manufacturer's recommendations and on the QPL. Field fabricated systems are not acceptable.

00280.16(a) Construction Entrances - Replace the bullet that begins "**Geotextile**…" with the following bullet:

- **Geotextile** - Riprap geotextile meeting the requirements of 02320.20 Table 02320-2. Provide documentation according to 02320.10(c).

Replace the bullet that begins "**Prefabricated Construction Entrance** …" with the following bullet:

- **Prefabricated Construction Entrance** - Provide reusable prefabricated construction entrance mats (track out mats) with the following characteristics:

00280.16(b) Tire Wash Facility - Replace the bullet that begins "**Geotextile**…" with the following bullet:

- **Geotextile** - Riprap geotextile meeting the requirements of 02320.20 Table 02320-2. Provide documentation according to 02320.10(c).

00280.16(c) Sediment Fence - Replace the bullet that begins "**Geotextile**…" with the following bullet:

- **Geotextile** - Geotextile meeting requirements of 02320.20 Table 02320-3. Provide documentation according to 02320.10(c).

00280.16(d) Inlet Protection - Replace the bullet that begins "**Geotextile**…" with the following bullet:

- **Geotextile** - Type 1 geotextile meeting the requirements of 02320.20 Table 02320-1 Provide documentation according to 02320.10(c).

Replace the bullet that begins "Sand bags conforming…" with the following bullet:

- Sandbags according to 00280.15(a).

Replace the bullet that begins "**Type 6: Aggregate Barrier**…" with the following bullet:

- **Type 6: Aggregate Barrier** - Clean, well-graded, angular Aggregate with maximum size between 4 inches and 1 inch, meeting the requirements of 00330.16, except no more than 5 percent of the material (by weight) passing the No. 40 sieve.

00280.16(i) Concrete Washout - Replace the paragraph that begins "Furnish impermeable, spill resistant …" with the following paragraph:

Provide impermeable, spill resistant, leak proof concrete washout basin of sufficient size and quantity to retain all concrete wash water and concrete waste developed during construction, meeting the following requirements:

00280.16(k) Active Treatment System - Add the following sentence to the end of this subsection:

Obtain approval of the active treatment system from DEQ prior to use.

00280.30 Erosion and Sediment Control Manager -

Add the following bullet to the beginning of the bullet list under "The ESCM duties include:"

- Be present at the Project Site during all ground disturbing activities.

Replace the bullet that begins "Monitor rainfall, snow melt and runoff …" with the following bullet:

- Visually monitor rainfall, snow melt and runoff at the Project Site.

Replace the bullet that begins "Monitor water quality in receiving streams in …" with the following bullet:

- Visually monitor water quality in receiving streams in the vicinity of the Project Site.

Replace the bullet that begins "Monitor water in sediment traps receiving …" with the following bullet:

- Monitor the pH of the water in sediment traps receiving runoff from soils amended with cementitious material for acidity or alkalinity.

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

- Monitor locations identified in Section 00294 for compliance.

00280.41(a) Disturbance Limits - Replace this subsection, except for the subsection number and title, with the following:

Prior to any ground disturbing activity, delineate all construction site clearing limits with high visibility markings and do not disturb areas outside the clearing limits. Prior to beginning construction activities, delineate and protect riparian areas including trees, root zones and vegetation to be preserved and delineate and protect vegetated buffer zones according to 00280.41(e). Protect post-construction stormwater facilities, unless used during construction as sediment trap, then repair according to 00280.46(h).

00280.41(c) Wet Season Work and Temporary Work Suspension - Replace this subsection with the following subsection:

00280.41(c) Temporary Work Interruption - Update the ESCP and schedule for Work proposed between October 1 and May 31 to ensure that all appropriate controls, including ESC during Work interruption, are implemented and maintained. Submit the updated ESCP and schedule to the Agency and receive approval before beginning any Work between October 1 and May 31.

Between October 1 and May 31, limit excavation and bare ground activities to only those required for immediate operations. Stabilize stockpiles at the end of each workday by diverting flows, placing covers, or installing Sediment barriers.

00280.41(d) Disturbance Restrictions - Replace this subsection, except for the subsection number and title, with the following:

Limit the amount of disturbed areas to what can be effectively controlled.

00280.41(f) Hauling Material - Replace this subsection, except for the subsection number and title, with the following:

Cover loads carrying soil or sediment that may generate dust. Haul saturated loads in watertight beds or drain saturated loads prior to leaving the Project Site.

00280.41(g) Underground Injection Controls (UIC) - Replace this subsection, except for the subsection number and title, with the following:

Do not allow storm water from work area to enter Underground Injection Control (UIC) inlets, UIC catch basins or UIC wells.

00280.44(a) Plastic Sheeting - Add the following paragraphs after the paragraph that begins "Cover exposed Soil...":

Cover approved location of excavated Wetland Soils from ISM work with plastic sheet meeting the requirements of 00280.14(a). and secure plastic sheeting per DET6001 or as directed.

00280.44(d) Temporary and Permanent Mulching and Seeding - Replace the bullet that begins "**Mulching** - Evenly apply …" with the following bullet:

- **Mulching** - Evenly apply dry mulch and tackifier materials according to Section 01030. In areas not accessible to heavy Equipment, mulch by hand or by other approved methods. Areas not prepared according to 01040.48(d) require a greater rate of application to obtain complete coverage, at no additional cost to the Agency.

00280.48 Emergency Materials - Add the following paragraphs after the paragraph that begins "Provide, stockpile, and protect...":

Furnish and stockpile the following emergency Materials on the Project Site:

Item	Quantity
STRAW BALE	10 EACH
SEDIMENT BARRIER, TYPE 4	20 EACH
PLASTIC SHEETING	2000 SQYD

When emergency materials are used, restock emergency materials within 48 hours of use.

00280.61 Ineffective Controls - Replace this subsection, except for the subsection number and title, with the following:

If an ESC device does not meet Effective Functioning, repair, replace, or provide additional devices. Provide devices repaired, replaced, or added due to improper installation, insufficient maintenance, or damage from Contractor operations at no additional cost to the Agency.

00280.62 Inspecting and Monitoring - Delete the paragraph that begins “Inspect the Project Site…”.

00280.62(a) Inspection - Replace the paragraph that begins "Perform site inspection, complete…" with the following paragraph:

Inspect the Project Site and all ESC devices for Effective Function and potential erosion or sediment movement and complete all applicable parts of the ODOT Erosion Control Monitoring Form, and submit the form to the Agency as follows:

00280.62(b) Rainfall - Replace this subsection, except for the subsection number and title, with the following:

Provide and install a temporary rain gauge at the Project Site. Upon approval, storm event information may be derived from weather stations that are representative of precipitation levels at the site.

The closest on-line rain gauge is located at:

https://forecast.weather.gov/MapClick.php?lon=-121.539&lat=45.71

00280.64(a) Corrective Action Timelines - Delete the bullet that begins “If completion of corrective action is not feasible…”

Delete the bullet that begins “Provide a schedule for clean-up and corrective actions…”

Delete the bullet that begins “Provide all corrective action documentation and photographs…”

00280.64(b) Corrective Action Documentation - Add the following bullets to the beginning of the bullet list:

- If completion of corrective action is not feasible within 24 hours, document the reasons why the time line cannot be met.
- A schedule for clean-up and corrective actions that restores Effective Functioning as soon as feasible. If schedule cannot be met document the reasons for the delay.
- All corrective action documentation and photographs to Agency within 24 hours of completion of corrective actions.

00280.90 Payment - Replace the paragraph that begins "In item (f), the word …" with the following paragraph:

In item (f), the word "Hydromulch", "Straw", or "Compost" is inserted in the blank.

Replace the paragraph that begins "In items (g), the …" with the following paragraph:

In item (g), the type is inserted in the blank.

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

00280.91 Payment - Add the following Pay Items to the Pay Item list:

(q) Active Treatment System..... Lump Sum

Replace the paragraph that begins “In items (a), (f), (g)…” with the following paragraph:

In items (a), (f), (g), (j), and (k), the type is inserted in the blank.

Replace the paragraph that begins “Emergency Materials that are incorporated…” with the following paragraph:

Materials listed in 00280.48 that are incorporated into the Project will be paid for under the appropriate items listed in the Contract Schedule of Items.

Replace the paragraph that begins “Payment will be payment …” with the following paragraph:

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

SECTION 00290 - ENVIRONMENTAL PROTECTION

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

00290.00 Scope - Replace the paragraph that begins “If any provision of the Specifications …” with the following paragraph:

If any provision of the Specifications appears to conflict with one or more Laws, the more stringent requirement applies, unless the Engineer directs otherwise in situations where the Specifications are more stringent.

00290.20(c)(2) Clean Fill - Add the following paragraph to the end of this subsection:

Manage all excavated soil that does not meet the definition of clean fill according to Section 00294.

00290.20(c)(3)d. Concrete and Masonry - Replace the paragraph that begins "If the Engineer provides written …" with the following paragraph:

If the Engineer provides written approval, concrete may be reused as Aggregate as directed.

00290.20(c)(3)f. Off-Site Disposal - Replace the paragraph that begins "Subject to local zoning codes …" with the following paragraph:

Subject to local zoning codes and the requirements of 00280.05, materials that meet the definition of clean fill may be placed on other properties in a manner consistent with environmental requirements, and with the written permission of the property owner. Provide the Engineer a copy of the signed agreement with the owner before placing the clean fill material. Do not place the clean fill material at locations that are visible from a public Highway, road, or street unless the site is zoned and licensed for landfill.

00290.20(d) Hazardous Waste Management - Replace the bullet that begins "Fill in the Comments section with …" with the following bullet:

- Fill in the Comments section with the following statement:
"[Contractor name] is responsible for the following: All hazardous waste management on-site for the duration of this construction Project, for delivery of the waste to a permitted recycling or disposal facility, and for all forms and fees associated with the hazardous waste management including cancellation of the RCRA site identification number at the end of the Project. ODOT is the owner of the waste and maintains long-term responsibility for the waste as required by RCRA, excluding all wastes generated solely from materials brought to the site by the Contractor that remain the property of the Contractor."

Replace the bullet that begins "All employees involved in the handling …" with the following bullet:

- The Contractor is responsible to ensure that all employees involved in the handling and waste management of CEG hazardous waste comply with the federal and State Laws for hazardous waste management. Train all employees involved in the handling of SQG and LQG hazardous waste according to federal and State Laws. For LQG hazardous waste projects, keep employee training records on-site and readily available.

Replace the bullet that begins "If hazardous waste is treated on-site …" with the following bullet:

- If hazardous waste is treated on-site, obtain approval from DEQ and the Engineer for each specific treatment or recycling process, treat wastes within accumulation tanks or closed containers that meet RCRA requirements, conduct treatment within the storage time for the applicable generator category, maintain current copies of all required notifications and waste analysis plans readily available on-site and request DEQ technical assistance prior to starting any on-site recycling or treatment.

00290.20(f) Unexpected Contamination - Replace the paragraph that begins "The Engineer will attempt to resolve …" with the following paragraph:

The Engineer will attempt to resolve the unanticipated situation expeditiously according to 00140.40. Delays to Work due to the discovery of unexpected contamination may be considered for exclusion from Contract Time according to 00180.50(e).

00290.20(g) Spills and Releases - Replace the bullet that begins "Provide a written report to the Engineer …" with the following bullet:

- Provide a written report to the Engineer, using the DEQ Spill/Release Report form, within 10 Calendar Days of completing spill response, but no more than 30 Calendar Days after the initial event. If the spill was reported to DEQ, submit the report to DEQ concurrently. Include a description of how to prevent future releases.

00290.30 Pollution Control - Replace the paragraph that begins "Prevent, control, and abate…" with the following paragraph:

Prevent, control, and abate pollution of the environment.

00290.30(a)(1) General - Replace this subsection, except for the subsection number and title, with the following:

- Do not allow any foreign substances or objects to enter waters of the State and U.S. that exceed regulated or permit limits.
- Do not cause turbidity in waters of the State and U.S. that exceeds regulated or permit limits.

Add the following subsection:

00290.30(a)(7) Water Quality:

- Do not discharge water contaminated by pollutants including sediment, drilling fluids and waste, concrete, grout, or water contained within a work area isolation, into any waters of the State or U.S. or conveyances draining thereto until it has been treated using Materials such as those listed in 00280.15 or 00280.16 or by pumping to a vegetated upland location. Do not allow Project discharges to increase the concentration of any pollutant in the receiving water to a level that exceeds the limits prescribed by OAR 340-041.

- Do not use permanent stormwater quality treatment facilities to treat construction runoff unless prescribed by an ESCP approved under Section 00280.
- If construction discharge water is released using an outfall or diffuser port, do not exceed velocities more than 4 feet per second, and do not exceed an aperture size of 1 inch.
- Implement containment measures adequate to prevent pollutants from entering waters of the State or U.S. Such pollutants include but are not limited to construction and demolition materials, waste spoils, fuel or petroleum products, detergents, silt, welding slag and grindings, concrete sawcutting by-products and sandblasting abrasives.
- Do not allow curing concrete or grout to be submerged within waters of the State or U.S. less than 24 hours after placement, except within work area isolation. Do not end-dump riprap into the waters of the State or U.S. Place riprap from above the ordinary high water line.
- Monitor weather and streamflow forecasts and conditions to anticipate high flows that may unintentionally inundate any portion of the Project Site.
- If high flow conditions occur or are anticipated to occur that may unintentionally inundate any portion of the Project Site, remove all potentially affected Equipment, Materials, and debris from the potential inundation area. Cease Work in the area until water recedes and the risk of further high water events passes. The Engineer retains the authority to temporarily halt or modify the Work in case of excessive turbidity or damage to natural resources.
- If Work in or around waters of the State or U.S. violate permit conditions or any requirement of this subsection, stop such Work and notify the Engineer.

Add the following subsection:

00290.30(a)(8) Meter Turbidity Monitoring - In addition to the requirements of 00280.62(c) to monitor the receiving stream to identify water quality issues, during Work in waters of the State or U.S., implement best management practices (BMPs) to minimize turbidity, and monitor turbidity using a turbidity meter that has been maintained and calibrated according to the manufacturer's specifications and according to the following:

- Measure upcurrent and downcurrent turbidity at two-hour intervals and perform work based on turbidity measurements according to the following:
  - Take upcurrent samples at a location representative of background turbidity approximately 100 feet from the work area.
  - Take downcurrent samples at a location approximately 100 feet from the work area at approximately mid-depth of the water body and within any visible turbidity plume.
  - If the downcurrent reading is less than 5 nephelometric turbidity units (NTU) higher than the upcurrent reading, continue to Work and take readings every two hours.
  - If the downcurrent reading is greater than or equal to 5 and less than 30 NTU higher than the upcurrent reading, modify work procedures and repair or upgrade BMPs, continue Work, and continue to take readings every two hours. If after four hours the downcurrent reading is still greater than or equal to 5 NTU higher than the upcurrent reading, stop all work in water and repair or upgrade BMPs. Resume work in water only after the downcurrent reading is less than 5 NTU above the upcurrent reading.

- If the downcurrent reading is greater than or equal to 30 and less than 50 NTU higher than the upcurrent reading, modify work procedures, repair or upgrade BMPs and continue Work. If, at the subsequent two-hour reading, the downcurrent reading is still more than 30 NTU higher than the upcurrent reading, stop all work in water and repair or upgrade BMPs. Resume work in water only after the downcurrent reading is less than 5 NTU above the upcurrent NTU reading.
- If the downcurrent reading is 50 NTU or more higher than the upcurrent reading, stop all work in water, repair or upgrade BMPs, and inform the Engineer. Resume work in water only after the downcurrent reading is less than 5 NTU above the upcurrent NTU, as determined by continued readings made no more than two hours apart.
- Document all turbidity monitoring observations on form 734-2755, “Turbidity Monitoring Report”, or another form approved by the Engineer. Submit reports to the Engineer weekly during work in water and keep copies of the reports at the Project Site.
- Meter turbidity monitoring may be temporarily suspended if all of the following conditions are met:
  - Temporary water management and work area isolation measures have been installed and are functioning as designed.
  - The Engineer, after consultation with DEQ, has authorized the suspension of turbidity monitoring. The Engineer will provide information to be documented on the turbidity monitoring form, including the date of the DEQ authorization and the name of the DEQ employee providing the authorization.
- Resume the turbidity monitoring protocol if Work during a temporary suspension of meter turbidity monitoring causes a release of a visible turbidity plume.

00290.32 Noise Control - Replace the bullet that begins "Notify nearby residents whenever extremely …" with the following bullet:

- Notify nearby residents whenever extremely noisy Work is planned to occur.

Add the following paragraphs to the end of this subsection:

Review City of Hood River, Municipal Code, Chapter 8.09 that describes noise control regulations. Obtain and be responsible for necessary permits described in City of Hood River, Municipal Code, Chapter 8.09. Comply with the applicable noise control requirements for Project Work.

00290.34 Protection of Fish and Fish Habitat - Add the following paragraph:

Meet with the Agency Biologist, Resource Representative, Engineer, and inspector on site, before moving equipment on-site or beginning any work, to ensure that all parties understand the locations of sensitive biological sites and the measures that are required to be taken to protect them.

00290.34(a) Regulated Work Areas - Add the following to the end of this subsection:

The regulated work area is the area at or below the ordinary high water (OHW) elevation shown on the plans.

Perform work within the regulated work area only during the in-water work period. The in-water work period is from July 15 to September 30 and November 15 to March 15.

Do not exceed 4736.34 cubic yards total volume of material filled or discharged into waters of the State and waters of the U.S..

Do not exceed 1533.50 cubic yards total volume of material excavated from the waters of the State and waters of the U.S..

Submit a schedule to complete all work within the regulated work area within the in-water work period at least 10 Days prior to the preconstruction conference.

Add the following subsection:

00290.34(c) Aquatic Species Protection Measures Required by Environmental Permits:

(1) General Requirements:

- Do not install fish ladders (for example: pool and weirs, vertical slots, fishways) or fish trapping systems.
- Do not apply surface fertilizer within 50 feet of any stream channel.

Use heavy equipment as follows:

- Choose equipment that has the least adverse effects on the environment (for example: minimally sized, low ground pressure).
- Secure absorbent material around all stationary power equipment (for example: generators, cranes, drilling equipment) operated within 150 feet of wetlands, waters of the State, waters of the U. S., drainage ditches, or water quality facilities to prevent leaks, unless suitable containment is provided to prevent spills from entering waters of the State or waters of the U.S.
- Do not cross directly through a stream for construction access, unless shown or approved. If shown or approved, cross perpendicular to the stream and do not block stream flow. When a crossing is no longer needed, completely remove the crossing and restore the soils and vegetation to the original condition.
- Store fuel and maintain all equipment in staging areas that are at least 150 feet away from any waters of the State, waters of the U.S., or storm inlet or on an impervious surface that is isolated from any waters of the State, waters of the U.S., or storm inlet.
- If temporary access roads are needed within 150 feet of any body of water, use existing routes unless new routes are shown or approved.
- Before beginning work on temporary access routes that are not shown, submit a proposal to the Engineer for approval.

(2) Work Area Isolation - Provide work isolation according to Section 00245. Provide safe passage around or through the isolated work area for adult and juvenile migratory fish unless passage did not previously exist.

(3) Water Intake Screening - Install, operate, and maintain fish screens on each water intake used for project construction, including pumps used to isolate an in-water work area. When drawing or pumping water from any stream, protect fish by equipping intakes with screens having a minimum 27 percent open area and meeting the following requirements:

- Furnish perforated plate openings 3/32 inch or smaller.
- Furnish mesh or woven wire screen openings 3/32 inch or smaller in the narrowest direction.
- Furnish profile bar screen or wedge wire openings 1/16 inch or smaller in the narrow direction.

Choose size and position of screens to meet the following criteria in Table 00290-1:

Table 00290-1

Type	Approach Velocity [1] (Ft./Sec.)	Sweeping Velocity [2] (Ft./Sec.)	Wetted Area of Screen (Sq. Ft.)	Comments
Ditch Screen	≤ 0.4	Exceed approach velocity	Divide max. water flow rate (cfs) by 0.4 fps	If screen is longer than 4 feet, angle 45° or less to stream flow
Screen with proven self-cleaning system	≤ 0.4	-	Divide max. water flow rate (cfs) by 0.4 fps	-
Screen with no cleaning system other than manual	≤ 0.2	-	Divide max. water flow rate (cfs) by 0.2 fps	Pump rate 1 cfs or less
[1] Velocity perpendicular to screen face at a distance of approximately 3 inches [2] Velocity parallel to screen				

Furnish ditch screens with a bypass system to transport fish safely and rapidly back to the stream.

(4) Site Restoration - Restore damaged streambanks to a natural slope, pattern, and profile suitable for establishment of permanent woody vegetation unless precluded by pre-project conditions (for example: natural rock substrate):

- Replant all damaged streambanks before the first April 15 following construction.
- If use of large wood, native topsoil, or native channel material is required for the site restoration according to the roadside development plans, stockpile all large wood, native vegetation, weed-free topsoil, and native channel material displaced by construction. Cut trees or large wood and trees into pieces of no less than 20 feet in length, or as shown on the roadside development plans or as directed. Stockpiled native wood and vegetation remain the property of the Agency.

- Stabilize all disturbed soils, including obliteration of temporary access roads, following any break in work unless construction will resume in 4 Calendar Days.

(5) Surface Water Diversions - Surface water may be diverted to meet construction needs other than work area isolation, consistent with Oregon law, only if water from sources that are already developed, such as municipal supplies, small ponds, reservoirs, or tank trucks, is unavailable or inadequate, and meeting the following conditions:

- When alternative surface sources are available, divert from the stream with the greatest flow.
- Install, operate, and maintain a temporary fish screen.
- Do not exceed a pumping rate and volume of 10 percent of the available flow. For streams with less than 5 cubic feet per second, do not exceed drafting of 18,000 gallons per Day. Do not use more than one pump for each site.

(6) Hydro-Acoustic - Unless otherwise shown or approved, steel piling may be installed below the ordinary high water as follows:

- Minimize the number and diameter of pilings, as feasible.
- Repairs, upgrades, and replacement of existing pilings consistent with these conditions are allowed. In addition, up to 5 single pilings or 1 dolphin consisting of 3 to 5 pilings may be added to an existing facility.
- Whenever feasible, use vibratory hammer for piling installation. Otherwise, use the smallest drop or impact hammer necessary to complete the job, and set the drop height to the minimum necessary to drive the piling.
- For all pile installed or removed, maintain a pile installation and removal log and submit the log when the related work is completed. Include types, sizes, locations, installation or removal methods, and dates in the log.
- When using an impact hammer to drive or proof steel piling within a body of water, or as directed, use one of the following sound attenuation devices to effectively dampen sound:

    - Completely isolate the pile from the waters of the State and waters of the U.S. by dewatering the area around the pile according to Section 00245.
    - If water velocity is 1.6 feet per second or less, surround the pile being driven with a bubble curtain that distributes small air bubbles around 100 percent of the piling perimeter for the full depth of the water column and is in accordance to the guidance in the Appendix of The ODOT-FHWA Federal Aid Highway Program Programmatic User's Guide titled *NMFS and USFWS Impact Pile Driving Sound Attenuation Specifications*. The FAHP User's Guide is available on the Agency's website at:

      https://www.oregon.gov/ODOT/GeoEnvironmental/Pages/Manuals.aspx

    - If water velocity is greater than 1.6 feet per second, surround the piling being driven by a confined bubble curtain (for example: a bubble ring surrounded by a fabric or metal sleeve) that will distribute air bubbles around 100 percent of the piling perimeter for the full depth of the water column and is in accordance to the

guidance in the Appendix of The ODOT-FHWA FAHP User's Guide titled *NMFS and USFWS Impact Pile Driving Sound Attenuation Specifications*.

(7) Drilling, Boring, or Jacking - If drilling, boring, or jacking is used, the following conditions apply:

- Design, build, and maintain facilities to collect and treat all construction and drilling discharge water using the best available technology applicable to site conditions. Provide treatment to remove debris, nutrients, sediment, petroleum hydrocarbons, metals, and other pollutants likely to be present. An alternate to treatment is collection and proper disposal offsite.
- Isolate drilling operations from wetted stream to prevent drilling fluids from contacting waters of the State or waters of the U.S.
- Use casing to prevent loss of drilling fluid to the subsurface formation. Do not drill without a containment method to keep drilling fluids and slurry isolated.
- If it is necessary to drill through an over-water bridge deck, use containment measures to prevent drilling debris from entering the stream channel.
- If drilling fluid or waste is released to surface water, wetland or other sensitive environment, cease all drilling pending written approval from appropriate regulatory agencies through the Engineer to resume drilling.
- Recover all waste and spoils if precipitation is falling or imminent. Recover, recycle, or dispose of all drilling fluids and waste to prevent entry into flowing water.

    - Recycle drilling fluids using a tank instead of drill recovery/recycling pits, whenever feasible.
    - When drilling is completed, make attempts to remove the remaining drilling fluid from the sleeve (for example: by pumping) to reduce turbidity when the sleeve is removed.

(8) Treated Wood - Treated wood includes any wood treated with any pesticide or wood preservatives. Do not use lumber, pilings, or other wood products that are treated or preserved with pesticidal compounds below the ordinary high water (OHW) or as part of an in-water or over-water structure, except as described below:

- Store treated wood shipped to the Project out of contact with standing water and wet soil, and protected from precipitation.
- Visually inspect each load and piece of treated wood. Reject for use in or above aquatic environments if visible residues, bleeding of preservative, preservative-saturated sawdust, contaminated soil, or other matter is present.
- Use pre-fabrication to the extent feasible. When field fabrication is necessary, perform all cutting and drilling of treated wood, and field preservative treatment of wood exposed by cutting and drilling, above the OHW. Use tarps, plastic tubs, or similar devices to contain the bulk of any fabrication debris, and wipe off any excess field preservative.
- Furnish all treated wood structures, including pilings, that have design features to avoid or minimize impacts and abrasion by livestock, pedestrians, vehicles, vessels, and floats.

- Treated wood may be used to construct a bridge, over-water structure or an in-water structure, with the exception of the work containment system, provided that all surfaces exposed to leaching by precipitation, overtopping waves, or submersion are coated with a water-proof seal or barrier are maintained. Apply and contain coatings and paint-on field treatment to prevent contamination. Surfaces that are not exposed to precipitation or wave attack, such as parts of a timber bridge completely covered by the bridge deck, are exempt from this requirement.
- During demolition of treated wood, ensure that no treated wood debris falls into the water. If treated wood debris does fall into the water, remove it immediately.
- Store removed treated wood debris in appropriate dry storage areas, at least 150 feet away from the regulated work area.

(9) Piling Removal - Remove temporary or permanent piling according to the following:

- Dislodge the piling with a vibratory hammer, whenever feasible.
- Once loose, place the piling onto the construction barge or other appropriate dry storage site.
- When piles are not completely removed, locate each unremoved pile and submit the locations to the Agency. Submit pile locations accurate to within 10 feet of the actual pile location.

a. Non-Treated Piling - Use the following methods to remove non-creosote piling:

- If a pile in uncontaminated sediment cannot be removed or breaks, cut or push the pile or stump off at least 3 feet below the surface of the sediment and cover with a cap of clean, native substrates that match surrounding streambed materials.
- If a pile in contaminated sediment cannot be removed or breaks above the sediment line, cut the pile or stump off at the sediment line. If the pile breaks below the sediment line, make no further effort to remove it.
- Fill holes left by each pile with clean, native sediments whenever feasible.
- Do not excavate to remove piling.

b. Treated Piling - To minimize toxic release, sediment disturbance, and total suspended solids, use the following methods to remove treated piling:

- Install a floating surface boom to capture floating surface debris.
- Keep all equipment out of the water, grip piles above the waterline, and complete all work during low water and low current conditions.
- Dislodge the piling with a vibratory hammer, whenever feasible. Do not intentionally break a pile by twisting or bending.
- Slowly lift the pile from the sediment and through the water column.
- Place the pile in a containment basin on a barge deck, pier, or shoreline without attempting to clean or remove any adhering sediment.
- If a pile in uncontaminated sediment cannot be removed or breaks, cut or push the pile or stump at least 3 feet below the surface of the sediment and cover with a cap of clean, native substrates that match surrounding streambed materials.

- If a pile in contaminated sediment cannot be removed or breaks above the sediment line, cut the pile or stump off at the sediment line. If the pile breaks below the sediment line, make no further effort to remove it.
- Fill the hole left by each removed or partially removed pile with clean, native sediments and cap with clean, native substrates that match surrounding streambed materials immediately after removal.
- Dispose of all removed piles, floating surface debris, contaminated supplies, and sediment spilled on work surfaces at a permitted upland disposal site.

(10) Ditch and Culvert Cleaning - Complete ditch cleaning, culvert and trash rack cleaning by working from the top of bank, unless work area isolation would result in less habitat disturbance.

- Do not work more than 20 feet upstream or downstream the culvert or trash rack.
- Remove only the minimum amount of wood, sediment, or other natural debris necessary to maintain the facility's function, without disturbing spawning gravel or changing the configuration of the original ditch, unless the new configuration is part of the project design.
- Place all large wood, cobbles, and gravels recovered from during culvert and trash rack cleaning downstream from the structure.
- Complete drift removal in the following priority, as directed:

  - Pull and release whole logs or trees downstream.
  - Pull whole logs and trees and place in the riparian area, as directed.
  - Remove whole logs or trees only if roadside development plans have been developed for replacement in-kind.
  - Pull, cut only as necessary, and release logs and trees downstream.

(11) Temporary Power, Communication and Water Lines - Before installing temporary power, communication, or water lines across streams or bodies of water, submit a proposed plan to the Engineer for approval. Do not begin installation before receiving approval from the Engineer. Utilize the following design methods in the listed order of priority for proposed plans for installation of temporary power, communication, and water lines and stream crossings:

1. Aerial lines, including lines hung from existing bridges.

2. Directional drilling, boring and jacking that spans the channel migration zone and any associated wetland.

3. Trenching is restricted to intermittent streams and may only be used when the stream is naturally dry. For all sections of trenches below the ordinary high water line, backfill with native material and cap with clean gravel suitable for fish use in the project area.

Align each crossing as perpendicular to the watercourse as possible. For drilled, bored, or jacked crossings, ensure that the line is below the total scour prism. Return any large

wood displaced by trenching or plowing as nearly as possible to its original position, or otherwise arranged to restore habitat functions.

(12) Injured Fish Notification - If a dead or injured fish is found in the project area, immediately notify the Agency. If the injured fish is in a location where further injury or stress may take place, attempt to move the fish to a safer location, if one is available, near the capture site while keeping the fish in the water and reducing its stress as much as possible. Do not disturb the fish after it has been moved. If the fish is dead or dies while being captured or moved, save the fish and any tags. The Agency will notify appropriate regulatory agencies about the injured or dead fish and provide additional direction to the Contractor.

00290.36(a) Migratory Birds - Replace the paragraph that begins "Comply with the Migratory Bird Treaty Act …" with the following paragraph:

Comply with the Migratory Bird Treaty Act (16 U.S.C. 703-712) that protects most species of birds in Oregon and prohibits the removal of nests containing eggs or dependent young (i.e., active nest) without a permit. Migratory birds include most birds in Oregon; the few exceptions include rock pigeons, house sparrows, and European starlings.

Replace the paragraph that begins "Except where allowed by the Contract …" with the following paragraph:

Except where allowed by the Contract and by permit, do not disturb an active migratory bird nest, do not inhibit the ability of adult birds to care for eggs or dependent young, and do not impact the supporting structure where an active nest is built.

Add the following to the end of this subsection:

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

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

00290.41 Protection of Waters of the U.S. or State - Add the following to the end of this subsection:

Permits have been obtained for this project from the US Army Corps of Engineers (Corps), Department of Environmental Quality (DEQ), and the Department of State Lands (DSL). Keep a copy of Corps, DEQ, and DSL permits at the project site during construction. Changes to the project that may increase the amount of fill placed or material removed in waters of the U.S. or State, or the acreage of waters impacted are not authorized. The following waters of the U.S. or State are present and have been determined to be unavoidable as indicated in Table 00290-2:

Table 00290-2

Impact Waters of the US or State	Removal Volume (cu yds.)	Fill Volume (Cu yds)	Station	Duration of Impact (Temporary or Permanent)	Area of impact (Acres)
Tsuruta Creek/WBO	0.7		1164 to 1165.5	Permanent	6.25
Wetland A	1532.8		1164 to 1165.5	Permanent	1237.08
Wetland A	134		1164 to 1165.5	Temporary	1196.1
Wetland A		1952	1164 to 1165.5	Temporary	9086
Adams Creek		4.33	1152+28	Temporary	78
Tsuruta Creek/WBO		1311.95	1164 to 1165.5	Temporary	6130
Wetland A		1550.59	1164 to 1165.5	Permanent	1528.2

00290.41(a) Identifying Waters of the U.S. or State, Including Wetlands - Replace the paragraph that begins "Wetlands known to be …" with the following paragraph:

Wetlands known to be on the Project Site are shown and identified either as "permanently filled or excavated" or as "temporarily impacted". Wetlands to be protected are shown as "no Work Zones".

00290.41(b) Disturbing Waters of the U.S. or State, Including Wetlands - Replace the paragraph that begins "If Wetlands are shown, …" with the following paragraph:

If Wetlands are shown, meet with the Agency Wetland Specialist, the Engineer, and Inspector on-site prior to moving Equipment onto the site or beginning any Work, to ensure that all parties understand the locations of Wetlands and the measures that are necessary to protect them.

Add the following subsection:

00290.42 Work Containment Plan - A Work Containment Plan (WCP) is required on this Project for bridge construction, bridge demolition and soil mass improvement activity(ies).

Develop and submit a WCP for approval at least 28 Calendar Days prior to mobilization for bridge construction, bridge demolition and soil mass improvement activity(ies). Maintain a copy of the WCP on the Project Site at all times during construction, readily available to employees and inspectors. Ensure that all employees comply with the provisions of the WCP. Design the WCP to avoid or minimize disturbance to protected features (sensitive cultural or natural resources, regulated work areas, aquatic life or habitat in regulated work areas) related to Contractor operations.

Before developing the WCP, meet with Agency to review the Contractor’s activities that require the WCP to ensure that all parties understand the locations of protected features to be avoided and the measures needed to avoid and protect them.

Notify the Engineer at least 10 Calendar Days before beginning work access or containment construction activities.

The Agency reserves the right to stop Work and require the Contractor to change the WCP methods and Equipment before any additional Contract Work, at no additional cost to the Agency, if and when, in the opinion of the Agency, such methods jeopardize sensitive cultural or natural resources, regulated work areas, or aquatic life or habitat in regulated work areas.

Provide a WCP that identifies how the Contractor's construction operations will protect regulated features during mobilization, construction, maintenance, and demolition. Include a narrative describing compliance with Section 00290.

00290.50 Protection of Cultural Resources - Replace the paragraph that begins “Comply with all Laws…” with the following paragraph:

Comply with all Laws governing preservation of cultural resources. Cultural resources include, but are not limited to:

- Historic buildings (i.e. typically 50 years of age and older)
- Historic structures (i.e. bridges)
- Sites (i.e. sites with artifacts)
- Objects (i.e. monuments)
- Districts (i.e. historic districts, or linear historic districts like historic roads).

Replace the paragraph that begins “If cultural resources are…” with the following paragraph:

If cultural resources not previously identified in preconstruction are encountered on the Project area or in material sources, and their disposition is not addressed in the Special Provisions, do the following:

00290.51 Protection of Sensitive Cultural Sites - Add the following to the end of this subsection:

There are sensitive cultural sites or areas of high probability for cultural resources on this Project. At the time of preparation of the Plans, one site was identified.

The Region Environmental Coordinator for this Project is Paul Langdale.

The Agency Archaeology Representative for this Project is Dustin Kennedy.

The Engineer will coordinate all contact with the Agency Archaeology Representative and the Region Environmental Coordinator.

An Inadvertent Discovery Plan (IDP) has been developed for this project. The IDP is available from the Engineer.

Meet with the Engineer at least 10 Calendar Days prior to beginning ground disturbing activities to discuss sensitive cultural sites on the Project. Required attendees include:

- The Contractor's supervisory personnel.
- Subcontractors, including contract archaeological monitors, and supervisory personnel involved in ground disturbing activities.
- Agency archaeology representative or region environmental coordinator.
- When applicable, tribal representative(s) or monitor(s).

Archaeological and Tribal Monitors are required to be on-site during all ground-disturbing activities for this Project, unless otherwise notified. Notify the Engineer 10 Calendar Days before beginning ground-disturbing activities, or 14 Calendar Days if ground-disturbing activities are anticipated to occur simultaneously in more than two locations.

00290.90 Payment - Add the following paragraphs to the end of this subsection:

The work containment plan will be paid for at the Contract lump sum amount for the item "Work Containment Plan".

Payment will be payment in full for providing all Materials, Equipment, labor, and Incidentals necessary to complete the Work as specified. Payment includes providing and updating the Work Containment Plan.

The accepted quantities of turbidity monitoring will be paid for at the Contract lump sum amount for the item "Turbidity Monitoring".

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

No separate or additional payment will be made for work zone fencing.

SECTION 00294 - CONTAMINATED MEDIA

Section 00294 is not a Standard Specification and is included in this Project by Special Provision.

Description

00294.00 Scope - In addition to the requirements of Section 00290 and the Specifications, this Work consists of the following:

- Excavate, segregate, stockpile, transport, and dispose of Contaminated Soils , Shoulder Soils, and contaminated grubbing materials, as defined by 00294.01, from the following locations:

Contaminated Soil Location Table 00294-1

From Location/Station to Location/Station	Depth below grade (feet)	Approximate Quantity (cy)	Known Contaminants
"Lwb2" 1167 to "Lwb2" 1177+40.10, Rt, from edge of pavement to the roadwork limits ("East Median")	0 -1.5'	712	Lead, naphthalene, gasoline
Unpaved soil outside of "East Median"	0 - 1.5'	6,000	Lead, naphthalene

Approximate Total Quantity	**6,712** cy
Quantity to be reused on Project	6,000 cy
Quantity to be disposed at landfill	**1,068** Tons

- In areas where excavation is not required, leave contaminated Material , Shoulder Soils, and clearing and grubbing Material in place.
- Prepare a Health and Safety Plan (HASP) for work within the "East Median" contaminated areas of the Project.

The January 2026 ODOT report, titled Clean Fill Determination, I-84 (Westbound): Union Pacific Railroad Bridge documenting the contaminated media identified within the Project, is available from the Engineer.

- Prepare a written lead compliance plan for work within contaminated areas of the Project.

00294.01 Definitions:

Contaminated Soil - Soil that does not meet the DEQ definition of "Clean Fill", as defined by OAR 340-093-0030(18). This Contaminated Soil is a regulated waste, subject to OAR 340-093-0005 through OAR 340-093-0290. If the grubbing Material has been determined to be contaminated, it is considered and treated as Contaminated Soil for the purposes of this Section.

Shoulder Soil - Soil outside of the existing Highway Pavement and within Highway Right-of-Way generated during Highway maintenance or construction activities. This definition applies to excess Soil generated to a maximum depth of 1.5 feet below ground surface. This definition does not apply to Soil that is covered by existing impervious surfaces, including but not limited to curbs, sidewalks and parking lots constructed of asphalt or concrete.

ODOT Beneficial Use Determination (ODOT BUD) - The statewide ODOT Beneficial Use Determination (ODOT BUD), approved by DEQ (No. BUD-20181204), outlines a series of pre-approved non-residential reuse options for excess Soil Materials that do not meet DEQ's Clean Fill Standards in some circumstances. These options may vary based on project scope and location, and documentation may vary, as directed by the Engineer.

00294.02 Testing of Contaminated Soil , Shoulder Soil, and Groundwater - When additional testing of Contaminated Soil or groundwater is required to characterize the Material for reuse, recycle, or disposal, conduct the tests according to 00290.20(c).

Use analytical methods meeting DEQ's Clean Fill Guidance Screening Levels for each analyte. Perform all Contaminated Soil , Shoulder Soil, and groundwater sampling by an Oregon Registered Geologist or Professional Engineer who has experience characterizing contaminated media.

00294.03 Submittals - Submit the following documents:

- A Project-specific written lead compliance plan, meeting the project applicable requirements of 29 CFR 1926.62(e)(2), at least 10 Calendar Days before the pre-construction conference. When applicable, include compliance procedures for cadmium and chromium VI, according to 29 CFR 1926.1127 and 29 CFR 1926.1126.
- Modifications to the written lead compliance plan that are requested by the Engineer within 7 Calendar Days of the request.
- A site specific HASP for work in the “East Median” area at least 10 Calendar Days before the pre-construction conference.

Submit all modifications to the HASP that are requested by the Engineer or the qualified health and safety professional within 7 Calendar Days of the request.

- Current employee training certificates and medical surveillance information before beginning Work within the contaminated areas.

Submit the following documents within 48 hours of removal of contaminated media:

- Permits, permit applications, and documentation of compliance.
- All reuse, recycled, and disposal receipts.
- Final quantities of Soil reused, recycled, and disposed and their final location.
- All analytical test results.

Labor

00294.30 Personnel Qualifications - Provide employees meeting the following requirements:

- For removal of Contaminated Soil and Shoulder Soil, provide employees trained in:
  - Lead awareness according to 29 CFR 1926.62(l).
  - Chromium according to 29 CFR 1926.1126(j)(2).
  - Cadmium according to 29 CFR 1926.1127(m)(4).

Construction

00294.40 Contaminated Soil Excavation and Shoulder Soil - Excavate and handle Contaminated Soil or Shoulder Soil from Project excavations according to the following:

- Notify the Engineer 3 Calendar Days before beginning excavation activities within contaminated areas.
- Allow the Agency to collect Soil samples during excavation activities.
- Load Contaminated Soil or Shoulder Soil directly into trucks and transport directly to the recycling or disposal facility, or on-site reuse areas or, when approved by the Engineer, temporarily store Contaminated Soil or Shoulder Soil on-site.
- Store Contaminated Soil from "East Median" in covered water tight containers or place Contaminated Soil on minimum 6 mil thick polyethylene sheeting that has an impermeable berm around the edge. Cover the Contaminated Soil with minimum 6 mil thick polyethylene sheeting. Do not allow precipitation run-off to enter the excavated Contaminated Soil. Label all stored Material with the type of Material, the contaminants, and the dates of accumulation.
- Remove contaminated media from the exterior of all vehicles before they leave the Project Site
- Cover trucks transporting contaminated materials to prevent spillage during transit to the disposal facility according to OAR 340-093-0220.
- Where over excavation is required, backfill the excavation according to 00330.42.

00294.41 Contaminated and Shoulder Soil Soil Management - Reuse, recycle, or dispose of Contaminated Soil and Shoulder Soil according to any of the following:

(a) Landfill Disposal:

- Obtain the Engineer's approval of the disposal facility before disposing of the Contaminated Soil.
- Transport the Contaminated Soil or Shoulder Soil from "East Median" to a DEQ permitted municipal solid waste landfill or a permitted construction and demolition landfill for disposal. Dispose of temporarily stored Contaminated Soils or Shoulder Soil within 30 Days of beginning excavation work or before Second Notification, whichever occurs first.
- Complete and sign all manifests and bill-of-lading forms for handling, loading, transporting, and disposing of the Contaminated Soil and Shoulder Soil.
- Pay all filing and permit fees.

(c) Reuse On-Site:

- Temporarily stockpile the Contaminated Soil or Shoulder Soil from unpaved soil outside of "East Median".
- Reuse the Contaminated Soil or Shoulder Soil on the Project. Place the Contaminated Soil as directed by the Project Engineer where material meets specification requirements.
- Within 30 Calendar Days of completing on-site reuse or before Second Notification, whichever occurs first, transport all Contaminated Soil or Shoulder Soil that is not reused on the Project to a DEQ permitted municipal solid waste landfill or a permitted construction and demolition landfill.

Measurement

00294.80 Measurement - Work performed under this Section will be measured according to the following:

No measurement of quantities will be made for the following:

- HASP.
- Lead compliance plan.
- Segregate and stockpile Contaminated Soil.

The quantities of Contaminated Soil or Shoulder Soil disposed will be measured on the weight basis, based on weigh tickets from the recycling or disposal facility.

Clearing and grubbing will be measured according to 00320.80.

Payment

00294.90 Payment - The accepted quantities of Work performed under this Section will be paid for at the Contract unit price, per unit of measurement, for the following items:

Pay Item	Unit of Measurement
(a) Health and Safety Plan	Lump Sum
(b) Lead Compliance Plan	Lump Sum
(c) Segregate and Stockpile Contaminated Soil	Lump Sum
(e) Contaminated Soil Disposal	Ton

Item (c) includes segregating, handling, and stockpiling Contaminated Soil or Shoulder Soil within the Project Site for the purpose of analytical testing, on-site reuse, or disposal.

Item (e) includes all costs involved with the disposal of Contaminated Soil or Shoulder Soil at a recycling or disposal facility.

No separate or additional payment will be made for the excavation or reuse of Contaminated Soil or contaminated Shoulder Soil. Payment will be included in payment made for the appropriate items under which the excavation or reuse of Contaminated Soils or contaminated Shoulder Soil is required.

Clearing and grubbing will be paid for according to 00320.90.

Payment will be payment in full for removing and disposing of all Materials, and for providing all Equipment, labor, Plans, test results, and Incidentals necessary to complete the Work as specified.

SECTION 00295 - ASBESTOS MATERIALS

Section 00295 is not a Standard Specification and is included in this Project by Special Provision.

Description

00295.00 Scope - This Work consists of removing and disposing of materials containing asbestos. This Work may also consist of testing materials for the presence of asbestos and removing and disposing of materials containing asbestos.

00295.01 Asbestos Survey and Sampling -

This Work consists of testing materials for the presence of asbestos and removing and disposing of materials containing asbestos.

The suspected asbestos containing materials listed in Table 00295-2 were not sampled.

Table 00295-2

Location/Address	Material Description	Quantity (ft. or sq.ft.)	Friable or Non-Friable
Bridge 02443	Trowel surface for mastic joint under walk (Drawing #10194)	3,000 SF	Non-friable

The January 2026 ODOT report, titled Hazardous Structural Materials Report, I-84 (Westbound): Union Pacific Railroad Bridge documenting the asbestos identified within the Project is available from the Engineer. Maintain a copy of this report and all additional asbestos survey results on site at all times and readily available to employees and inspectors during demolition and repair activities.

00295.02 Definitions:

Asbestos Containing Material (ACM) - Any material containing more than 1% asbestos.

00295.03 Submittals - The following forms and reports are required:

- Asbestos survey report documenting sample locations and analytical results according to Oregon Administrative Rule (OAR) 340-248-0270 (3)(d).
- Completed and signed DEQ Notice for Removal of Non-Friable Asbestos to Agency and DEQ at least 5 Calendar Days before beginning non-friable asbestos removal.
- Completed and signed DEQ Waste Shipment Report Form according to the following:
    - Send the form along with the asbestos waste to the disposal facility.
    - Provide a copy of the form to the Engineer within 48 hours of transportation of the asbestos waste.

- Obtain the final signed form from the disposal facility along with the disposal receipts and submit them to the Engineer within 3 Calendar Days after receiving them from the waste disposal facility.

Labor

00295.30 Personnel Qualifications - Provide employees meeting the following requirements:

- A current Oregon DEQ Certified Supervisor meeting the requirements of OAR 340-248-0130.
- A current AHERA Inspector Training Certification according to 40 CFR 763, Part 763, Appendix C - TSCA Tile II

When a DEQ Certified Supervisor is required, ensure the supervisor is on site and overseeing the work whenever asbestos materials are disturbed or removed.

Materials Testing

00295.35 Testing of Suspect Asbestos Containing Material - When additional testing is needed for suspected ACM listed in Table 00295-2, complete the following with an Asbestos Hazard Emergency Response Act (AHERA) Inspector prior to removal of material listed in the Table 00295-2:

- Collect at least 2 samples of each material listed in Table 00295-2 to determine if asbestos is present.
- Submit samples to a National Voluntary Laboratory Accreditation Program (NVLAP) certified laboratory for analysis by polarized light microscopy (PLM) following EPA Method 600/R-93/116.
- Submit the laboratory test results to Engineer for review.

If asbestos is detected in any material sample then all similar material are considered asbestos containing material and all similar materials are to be removed according to 00295.40.

Construction

00295.40 Asbestos Removal - Comply with Section 00290, 29 CFR 1910, 29 CFR 1926.1101, 40 CFR 61, 40 CFR 763, OAR 340-248, ORS 468A and the following:

- Before beginning asbestos removal work, sign and submit all notifications and pay all fees to DEQ. Provide copies to the Engineer.
- Complete and sign all manifests and bill-of-lading forms for transporting and disposing the ACM.
- Maintain the ACM in an undamaged and non-friable condition by keeping the material wet during demolition or by using methods approved by DEQ.
- Keep material sealed during transport to the disposal facility. Transport and dispose of all ACM according to OAR 340-248-280 and OAR 340-248-290.

Measurement

00295.80 Measurement - The quantities of removing asbestos containing materials will be measured on either the length basis or the area basis.

No measurement of quantities will be made for bulk asbestos sampling, analytical testing, and reporting.

Payment

00295.90 Payment - The accepted quantities of Work performed under this Section will be paid for at the Contract unit price, per unit of measurement, for the following item(s):

Pay Item	Unit of Measurement
(b) Remove Asbestos Material, _____	Square Foot
(c) Bulk asbestos sampling, analytical testing, and reporting	Lump Sum

In item (a) and (b), the type of Material is inserted in the blank.

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

SECTION 00298 - WELL CONSTRUCTION, MONITORING, PRESERVATION AND ABANDONMENT

Section 00298 is not a Standard Specification and is included in this Project by Special Provision.

Description

00298.00 Scope - In addition to the requirements of Section 00290, construct, monitor, protect, preserve, and abandon monitoring wells according to the following:

Construct, protect, and preserve the monitoring wells indicated in Table 00298-1 below:

Table 00298-1

Location/Station (Well Designation)	Type	Depth below grade (feet)	Diameter (inches)	Other Well Design Information	Known Contaminants
Station “Lwb2” 1165+46 15’ Lt. (pH Monitoring Well #1)	pH Monitoring	20	2 min	Monitor groundwater pH	None
Station “Lwb2” 1165+58, 52’ Lt. (pH Monitoring Well #2)	pH Monitoring	57	2 min	Monitor groundwater pH	None

Abandon monitoring wells indicated in Table 00298-2 below:

Table 00298-2

Location/Station (Well Designation)	Type	Depth below grade (feet)	Diameter (inches)	Other Well Design Information	Known Contaminants
Station “Lwb2” 1165+46 15’ Lt. (pH Monitoring Well #1)	pH Monitoring	20	2 min	Monitor groundwater pH	None
Station “Lwb2” 1165+58, 52’ Lt. (pH Monitoring Well #2)	pH Monitoring	57	2 min	Monitor groundwater pH	None
Station “Lwb2” 1166+19, 38.1 Lt (SB21683-03)	Inclinometer casing	115	3 ID	grouted-in open PVC casing	None
Station “Lwb2” 1166+11.1, 51.4 Rt (SB21683-04)	Inclinometer casing	115	3 ID	grouted-in open PVC casing	None
Station “Lwb2” 1166+06, 6.6 Rt (TB21683-11)	Steel Vault	2	12	surface vault removal	None

00298.02 Subsurface Investigation - The Soils and geological explorations logs are available from the Engineer. The data shown for each boring applies only to that particular boring. Subsurface conditions may vary between borings. Contact the Engineer to view core samples and laboratory test results.

00298.03 Submittals - Submit the following:

(a) Well Construction and Monitoring Plan – At least 21 Calendar Days before the start of monitoring well construction, submit the following according to 00150.35:

- Description of well drilling methods, and construction procedures, including any temporary casing used, placement of filter pack and seal materials, drill cuttings and fluids disposal, and soil/rock sample disposition.
- Description of well construction materials, including well screen, riser pipe, centralizers, tailpiece (if used), filter pack and filter pack gradation, bentonite, drilling fluid additives (if used), drilling water, cement, and well protective measures. Include manufacturer’s data and analytical test results, if available.
- Description of quality control procedures to be used for placement of filter pack and seals in the boring, including depth measurements.
- Include sample of forms used for drilling logs, construction diagrams of wells, well development records, State well registration forms, water quality monitoring reports, and well abandonment records.
- Description of protective cover surface completion procedures.
- Description of well development methods to be used.
- Proposed equipment for water quality monitoring including measurement sonde and data acquisition system, including calibration certification.
- Description of well abandonment procedures.

- Stamped Working Drawings showing depth, location, layout, and all details necessary to install, maintain, monitor and remove instrumentation.
- Description of methods for installation and maintenance of instrumentation systems.
- Manufacturers' catalogs and printed installation instructions for instruments.

The Engineer will accept or reject the Well Construction and Monitoring Plan within 7 Calendar Days after receiving the complete Well Construction and Monitoring plan. Provide any additional information and submit a revised plan, if requested, for review. All procedural approvals given by the Engineer will be subject to trial in the field and will not relieve the Contractor of the responsibility to satisfactorily complete the Work. Submit requests for modification of adopted procedures to the Engineer. The Engineer will accept or reject revised plans or requested modifications within 7 Calendar Days after receiving the complete submittal.

(b) Well Construction Permits – Provide the Engineer with documentation of all Permit applications, permit fees, start cards, well reports, bonds, and letters of credit required by the Oregon Water Resources Department within 48 hours of completing the well construction.

(c) Drilling Logs and Well Construction Diagrams – Submit the following for each well within 48 hours of completing the well construction:

- Project name and location
- Well designation
- Location of well including coordinates
- Surface elevation
- Make and manufacturer’s model designation of drilling equipment and name of drilling contractor
- Date boring was drilled
- Drilling method(s)
- Reference data for all depth measurements
- Nominal hole diameter
- Total depth of boring
- Drilling conditions
- Sampling methods and sample depths (if performed)
- Soil descriptions and depth of each change of stratum
- Groundwater conditions
- Date of well construction
- Description of material from which the well is constructed, including well casing and riser pipe and screen material, centralizer composition, diameter and schedule of casing and screen, gradation of filter pack, brand name (if any), source, processing method, and method of placement of the filter pack, bentonite seal type, grout type, and type of protective cover
- Total depth of well

- Depth to top and bottom of screen, and filter pack
- Depth to top and bottom of any seals constructed in the well
- Type of cement and/or bentonite used, mix ratios of grout, method of placement and quantities used
- Elevations/depths/heights of key features of the well, including top of well casing and riser pipe, top and bottom of protective casing, ground surface, bottom of well screen, top and bottom of filter pack, and top and bottom of seal
- Other pertinent well construction details, including screen slot size and percent open area of screen, type of screen, and manufacturer of screen
- Static water level upon completion of the well
- Description of surface completion
- Name of driller and name of on-site supervisor preparing drilling log and well construction diagram

(d) Well Development Report – Provide a report, containing the following data for each well, within 5 Calendar Days of the completion of well development:

- Project name and location
- Well designation
- Date and time of well construction
- Date and time of well development
- Static water level from top of well casing before development and 24 hours after development
- Readings of pH, temperature, dissolved oxygen, and specific conductivity taken before, during, and after well development
- Depth of well from top of casing to bottom of well
- Screen length
- Description of development methodology
- Size/capacity of bailer
- Time spent developing the well by each method including pumping rate
- Volume and physical character of water removed, to include changes during development in clarity, color, particulates, and odor
- Volume of water added to the well, if any
- Source of any water added to the well
- Volume and physical character of sediment removed, to include changes during development in color and odor
- Recharge rate
- Name and job title of individual developing well

(e) Water Quality Monitoring Instrumentation Report- Submit the following for each well within 48 hours of completing the installation of the water quality monitoring instrumentation:

- Date of instrumentation installation

- For each instrument, submit final installation records after installation, calibration logs, copies of borehole logs, and copies of lab testing of soil samples as applicable.
- Recalibration of any instruments after installation.

(f) Water Quality Monitoring Reports – Maintain daily water quality monitoring records during the ISM work in Section 00345. Provide competent personnel to prepare the monitoring reports. Submit the reports, in a form satisfactory to the Engineer, within 24 hours of the end of each shift, and include the following:

- Description of the ISM work completed during the shift including identification of each soil-cement element
- Well designation
- Hourly pH measurements
- Date and time of each pH measurement
- Most recent average baseline pH measurement at the monitoring well, including date of baseline measurements

Submit a sample of the report form proposed for use as specified in 00298.03(a).

(g) Well Abandonment Records – Provide the Engineer with all Well Abandonment Report required by the Oregon Water Resources Department within 5 Calendar Days of the completion of well abandonment.

(h) Personnel Qualification Documentation – Submit documentation demonstrating the designated personnel in 00298.31 meet the listed minimum qualifications at least 14 Calendar Days before beginning well construction work.

The Engineer will approve or reject the personnel qualifications documentation within 7 Calendar Days after receiving the personnel qualifications.

Do not substitute designated personnel without prior written approval from the Engineer. Submit substitution requests in writing to the Engineer. The Engineer will respond to each request within 7 Calendar Days of receipt.

(i) Baseline Measurements – Submit baseline groundwater pH measurements to the Engineer before the start of ISM work.

Materials

00298.10 General – Do not deliver Materials to the Project Site until the Engineer has approved the Well Construction and Monitoring Plan. Protect the designated storage location or locations from theft, vandalism, passage of vehicles, and other sources of damage to Materials delivered to the Project Site. Protect materials from the elements and store Materials off the ground. Keep insides of pipes and fittings free of dirt and debris. Replace defective or damaged Materials with new Materials.

Acceptance of wells and well Materials is according to Section 00165, and as otherwise specified. Furnish documentation showing all Non-Field Tested Materials meet the requirements as specified or shown according to 00160.35.

00298.11 PVC Pipe – Furnish ASTM F480, Schedule 40 pipe, with flush threaded joint fittings. Wrap threaded joints with fluoropolymer tape and provide with nitrile O-ring gaskets.

00298.12 Well Screen – Furnish a well screen consisting of new commercially fabricated flush-joint threaded, minimum 2-inch nominal internal diameter, PVC Schedule 40 slotted, non-clogging design. Use screens conforming to ASTM D1785, Schedule 40, machine-slotted construction, flush threaded joint ends. Ensure slots are even in width, length, and separation. Provide required fittings conforming to ASTM F480, flush thread male by female. Provide a 0.01-inch screen slot size and screen length of 10 feet for each monitoring well. Seal the bottom section of the screen watertight by means of a flush threaded end cap of the same material as the well screen, within 6 inches of the open portion of the screen.

00298.13 Primary Filter Pack – Furnish clean, well-rounded, and washed 10x20 uniform silica Sand with less than 5 percent non-siliceous material and a uniformity coefficient less than 2.5. Ensure the filter pack does not contain organic matter, Silt, Clay, or other deleterious material and allows the free flow of water in the well, and also prevents the infiltration of aquifer materials.

00298.14 Secondary Filter Pack – Furnish clean, well-rounded, and washed quartz or granite Sand with gradation according to ASTM D5092. Ensure the secondary filter pack does not contain organic matter or friable materials.

00298.15 Annular Seal – Furnish Materials meeting the following requirements:

Limit mixing water to the least necessary amount to achieve a workable mixture that is uniform in composition and consistency using approved mixers or containers.

(a) Bentonite Seal – Furnish powdered, granular, pelletized, or chipped sodium or calcium montmorillonite in sealed containers from a commercial source, free of impurities. Ensure pellet size is less than one-fifth the diameter of the borehole annular space to prevent bridging.

(b) Neat Cement Grout – Furnish neat cement grout according to ASTM D5092. Ensure cement is according to ASTM C150. Quick setting admixtures are not allowed. Do not use drilling mud or cuttings as a sealing material.

(c) Cement and Bentonite Grout – Furnish cement grout with a mixture of a maximum of 7 gallons of approved water per 94 lb bag of Portland cement, conforming to ASTM C150, Type I. Add no more than 5 percent by weight of bentonite powder to reduce shrinkage and hold the cement in suspension prior to the grout set. Use sodium bentonite powder or granules for high-solids bentonite grout.

00298.16 Bottom Plugs- Furnish a flush threaded solid plug at the bottom of the well. Ensure plug material is the same as the well casing or screen to which it is attached. Wrap joins with fluoropolymer tape and provide nitrile O-ring gaskets.

00298.17 Locking Well Cap – Furnish a flush threaded, weatherproof, and non-removable locking well cap on the top of the well. Ensure the well cap is the same material as the well casing to which it is attached.

00298.18 Surface Seal – Furnish Commercial Grade Concrete meeting the requirements of Section 00440. Concrete may be field-mixed. Furnish bar reinforcement according to Section 00759.

00298.19 Protective Casing – Furnish steel protective casing conforming to ASTM A53, Type E or S, Grade B, at least 4 inches in diameter larger than the nominal well casing diameter. Provide a locking cap on the protective casing that fully encloses the casing collar.

Equipment

00298.20 Drilling - Provide well drilling equipment appropriate for the subsurface conditions as shown and specifically designed for well construction, that is free from leaks of fuel, hydraulic fluid, and oil which may contaminate the borehole, ground surface or drill tools. Drilling equipment includes all equipment necessary to make holes of the diameter and depth required, maintain an open hole, and construct monitoring wells. Before drilling holes, obtain approval in writing of drilling equipment.

00298.21 Water Quality Monitoring Instrumentation – Provide water quality monitoring equipment meeting the following requirements:

(a) Measurement Sonde – Provide a measurement sonde equipped with an internal wiper, a sensor capable of measuring groundwater pH within the monitoring well at preset time intervals and transmitting the data to be viewed and stored on site, and rated for the maximum depth of the monitoring well, for each monitoring well. Furnish one of the following for the measurement sonde, or an approved equivalent:

- In-Situ Aqua TROLL® 500 Multiparameter Sonde
- YSI, Inc. EXO1 Multiparameter Sonde

(b) Vibrating Wire Piezometers (VWP) – Groutable vibrating wire piezometers with a temperature sensor.

(c) Data Acquisition System – Provide an internal or external data acquisition system capable of communicating directly with the measurement sonde to provide data that can be viewed, stored, and downloaded on site or remotely, with have sufficient capacity to store the pH measurement data for the entire duration of the monitoring period without the need to clear the memory, and a power source sufficient to supply the data acquisition system and measurement sonde for the duration of the monitoring period**.**

(d) Data Acquisition System Enclosure – Provide a durable enclosure to protect the data acquisition system and any external power sources from the elements. Do not place the enclosure on the ground.

Labor

00298.30 Personnel Qualifications - Perform well and instrumentation construction; groundwater instrumentation systems monitoring and maintenance; and, well abandonment Work using experienced personnel which specialize in furnishing, constructing, calibrating and maintaining such systems.

The Engineer may suspend the well construction and instrumentation monitoring Work if the Contractor makes unapproved personnel substitutions during construction. Additional costs caused by the suspension of Work due to unapproved personnel substitutions is the Contractor's responsibility, and no adjustment of Contract Time will be made.

00298.31 Designated Personnel – Provide the following designated personnel:

(a) Well Construction and Groundwater Monitoring Manager:

(1) Minimum Qualifications - Civil Engineer, Geotechnical Engineer, or Engineering Geologist registered/licensed in the State of Oregon with experience in the installation and maintenance of instruments of the types specified in this special provision.

(2) Duties:

- Be responsible for all well and instrumentation related construction submittals, including well construction and monitoring plans, well construction permits, drilling logs and well construction diagrams, well development reports, water quality monitoring reports, and well abandonment records.
- Supervise and direct Well Construction Logger and Groundwater Instrument Technicians
- Be responsible for the instrument installation, monitoring, and abandonment.

(b) Well Construction Drill Crew – Provide one Well Construction Drill Crew consisting of at least one Drill Operator and at least one experienced Drill Helper. The drill operator must be licensed by the Oregon Water Resources Department (OWRD) as a Monitoring Well Constructor and have a minimum of five (5) years of experience as lead driller using mud rotary/rock coring equipment.

(c) Well Construction Logger – Provide at least one Well Construction Logger to observe well construction, identify soil samples, and log borings during well construction. The Well Construction Loggers must have at least 3 years of experience observing well construction, identifying soil samples, and logging borings.

(d) Groundwater Instrument Technician – Provide at least one Groundwater Instrument Technician to install, monitor, and maintain groundwater instrumentation. Groundwater Instrument Technicians must have at least 3 years of experience installing, monitoring, and maintaining groundwater monitoring instrumentation.

Construction

00298.40 Protect and Preserve Wells - Protect and preserve the wells during construction. Adjust the wells to finished grade with traffic rated metal covers. Notify the Engineer at least 72 hours before beginning work at or near the wells. Keep the wells capped. Do not allow foreign matter to enter the wells.

00298.41 Monitoring Well Construction:

(a) General – Construct the monitoring wells at the locations shown and according to OAR 690-240 and the approved Well Construction and Monitoring Plan.

Determine the presence and location of any underground utilities at well locations according to 00150.50 prior to beginning Work at each location. If an underground utility is in conflict with a well location, stop Work and notify the Engineer according to 00150.50(c).

Prevent aquifer contamination by the drilling operation and equipment, intra- and inter-aquifer contamination, and vertical seepage of surface water adjacent to the well into the subsurface, especially the monitoring well intake zone.

Verify the borehole is vertical and stable before beginning well construction.

(b) Decontamination – Clean the drill rig, drill rods, drill bits, augers, temporary casing, well developing equipment, tremie pipes, grout pumping lines, and other associated equipment with high-pressure hot water/steam prior to drilling at each monitoring well location.

Clean the screen and well casing with high-pressure hot water and detergent cleaning solution immediately prior to installation in the well, unless delivered to the site in sealed packaging with documentation from the manufacturer that appropriate decontamination was performed prior to shipping.

(c) Drilling – Use a drilling method which prevents the collapse of formation material against the well screen and casing during construction of the well. Size the inside diameter of any temporary casing used to allow accurate placement of the screen, riser, centralizers, filter pack, seal and grout.

Do not use jetting methods or drilling aids such as bentonite, other clay-based agents, or any other foreign material capable of affecting the characteristics of the groundwater. Ensure any drilling fluid additive used is inorganic in nature. Grease or oil on drill rods, casing, or auger joints are not permitted. PTFE tape or vegetable oil is permitted. Submit manufacturer's data, if available, including analytical test results of any additives.

Use precautions to prevent tampering with the well or entrance of foreign material. Prevent runoff from entering the well during construction. If there is an interruption in work, such as overnight shutdown or inclement weather, close the well opening with a watertight uncontaminated cover. Secure the cover in place or weighted down so that it cannot be removed except with the aid of the drilling equipment or through the use of drill tools.

Advance the borehole using hollow-stem auger or other non-drilling mud techniques. Provide boreholes, hollow-stem auger flights, or casing of sufficient diameter to allow at least 2 inches of annular space between the borehole wall and all sides of the centered riser pipe and screen. Level the drill rig prior to drilling, to ensure that the borehole is plumb with respect to the vertical. Recheck leveling frequently during drilling. Advance the borehole to at least 6 inches, but no more than 1-foot, below the bottom of screen elevations indicated in Table 00298-3.

Maintain a record of the volume of water or drilling fluid lost to the formation or screened zone of the well during drilling. Recover an equivalent volume of water during well development.

Manage and dispose of any drill cuttings or fluids removed from the borehole during drilling according to the requirements of the Project Permits and Sections 00290 and 00294.

(d) Screen, Well Casing and Riser Pipe Placement – Install well screens to the elevations indicated in Table 00298-3:

Table 00298-3

Location/Station	Well Designation	Top of Screen Elevation (feet)	Bottom of Screen Elevation (feet)
Station “Lwb2” 1165+46 15’ Lt.	pH Monitoring Well #1	73	63
Station “Lwb2” 1165+58, 52’ Lt.	pH Monitoring Well #2	48	38

Ensure personnel wear clean cotton or surgical gloves while handling the assembly. Deliver, store, and handle Materials in such a manner as to ensure that grease, oil, or other contaminants do not contact any portion of the well screen and casing assembly prior to installation.

Join the screen and well casing and riser pipe sections by flush threaded watertight joints and fastenings. Solvent glue or set screws are not permitted.

Use centralizers to ensure that the well screen and casing assembly is installed concentrically in the borehole. Center and plumb the well by the use of stainless steel centralizers spaced at intervals not exceeding 20 feet along the length of the casing, starting at the bottom of the screened interval. Do not place centralizers on the screened interval or within the bentonite seal. Verify the alignment of the well by passing a 5-foot-long section of rigid pipe ¼-inch smaller in diameter than the inside diameter of the casing through the entire well. If the pipe does not pass freely, the well is not accepted.

Extend the well casing and riser pipe to at least 18 inches above ground surface, but no more than 30 inches above ground surface. Install a cap on the top of the riser pipe, either vented or telescopic fit, constructed to preclude binding to the well casing caused by tightness of fit, unclean surfaces, or weather conditions. Make cap secure

enough to preclude the introduction of foreign material into the well yet allow pressure equalization between the well and the atmosphere.

When the assembly has been installed at the appropriate elevation and verified plumb, adequately secure and suspend the assembly in the borehole under slight tension during placement of the filter pack and annular sealing Materials. Cap the top of the well casing during filter pack placement.

(e) Filter Pack Placement – Place the primary filter pack and secondary filter pack to fill the entire annular space between the screen and casing assembly with a tremie pipe according to ASTM D5092. Placement of the primary filter pack and secondary filter pack by gravity or free fall methods is not allowed. Control speed of filter placement to prevent bridging and allow for settlement. Take frequent measurements inside the annulus during tremie pipe retraction to assure that the filter pack is properly placed.

After the screen and well casing have been concentrically placed in the hole, construct the approved primary filter pack around the screen by filling the entire space between the screen and the wall of the hole over the screened interval. Use flush jointed tremie pipe with a minimum nominal inside diameter of 1 inch and install the tremie pipe and casing at the same time to avoid tangling the tremie pipe with the centralizers. Clean the tremie pipe with high pressure hot water/steam prior to each use. Set the tremie pipe at a depth so that water and filter pack material fed at uniform rates are discharged as the filter pack Materials fill the hole from the bottom up. Raise the tremie pipe at a rate that will keep the bottom of the pipe no more than 5 feet above the top of the surface of the filter pack level, and no more than 2 feet below the surface of the filter pack level at all times.

Dumping filter pack material from the surface of the ground and agitating the well in an effort to settle the filter material is not allowed.

Construct the primary filter pack continuously and without interruption until the primary filter pack has been placed to 2 feet above the top of the screen. Directly measure the depth to the top of the filter pack and record.

Place a 2-foot-thick secondary filter pack in the annulus above the primary filter pack.

(f) Bentonite Seal – Place a minimum 3-foot-thick hydrated bentonite seal on top of the secondary filter pack. Control speed of bentonite placement to prevent bridging of pellets or chips, or segregation of slurry. Place bentonite chips and pellets in lifts of 6 to 12 inches with each lift allowed to hydrate for a minimum of 30 minutes prior to placing the next lift. Directly measure the depth to the top of the bentonite seal and record immediately after placement, without allowance for swelling. Add water to the annular space as directed by the on-site supervisor to ensure complete hydration of the bentonite. If the bentonite seal is located above any borehole fluid levels, place a 1-foot-thick layer of fine sand at the top of the bentonite seal.

(g) Annular Seal – Mechanically mix the grout and place in one continuous operation into the annulus above the bentonite seal to within 3 feet of the ground surface. Place grout as a slurry through a tremie pipe and inject from the bottom up.

Leave temporary casings or auger flights in the hole prior to grouting to prevent caving of the borehole. Withdraw temporary casing or augers slowly, in smooth gradual increments, as the grout is injected. Do not rotate hollow-stem augers during extraction.

Cure grout a minimum of 24 hours before installing the protective casing and surface seal and a minimum of 48 hours before beginning well development operations.

Add additional grout from the surface to maintain the level of grout as settlement occurs.

Thoroughly clean the tremie pipe with high pressure hot water/steam before use in each well.

(h) Surface Seal and Protective Casing – Construct a wire-mesh or bar reinforced concrete pad with a minimum radius of 3 feet from the protective casing and a minimum thickness of 4 inches, which is sloped away from the well around the well casing at the final ground level elevation according to Section 00759.

Install the protective casing around the well casing and riser pipe in a drilled or excavated hole at least 4 inches in diameter larger than the outside diameter of the protective casing, to a minimum depth of 3 feet below ground surface. Extend the protective casing to a minimum of 2 feet above the concrete pad, but no more than 3 feet, and no more than 6 inches higher than the top of the well riser pipe.

Clean the protective casing with high-pressure hot water/steam prior to installation. Seal and immobilize the protective casing in concrete around the outside of the protective casing, then fill the annulus between the protective casing and well casing below the ground surface with bentonite pellets or granules.

Drill a ¼-inch diameter drain hole in the protective casing 3 inches above the top of the concrete pad. Place coarse sand or pea gravel in the annular space between the protective casing and riser pipe, above the drain hole, to within 3 inches from the top of the riser pipe.

Mark the protective casing clearly and permanently with the well identification information.

(i) Water Quality Monitoring Instrumentation – Install water quality monitoring instrumentation to the elevations indicated in Table 00298-4:

Table 00298-4

Location/Station	Instrumentation Type	Elevation (feet)
Station “Lwb2” 1165+46 15’ Lt. pH Monitoring Well #1	pH monitoring sonde	68
	vibrating wire piezometer	65
Station “Lwb2” 1165+58, 52’ Lt.	pH monitoring sonde	43

pH Monitoring Well #2	vibrating wire piezometer	40

00298.42 Well Development – Perform well development according to ASTM D5521 except as modified herein. Surging and pumping/over pumping/backwashing are acceptable development methods. Air surging and jetting are prohibited. Do not begin well development until Drilling Logs and Well Construction Diagrams have been submitted and accepted by the Engineer.

Within 7 Calendar Days of completion of each well, but no sooner than 48 hours after cement grouting is completed, develop the well. Perform development using only mechanical surging or over pumping or a combination thereof. Conduct well development operations continuously until development water flows clear and free of drilling fluids, cuttings, or other materials. At such time, test representative water samples for pH, temperature, specific conductivity, and dissolved oxygen according to EPA 600/4-79/020. Take samples every 3 hours. Development is complete when:

- Well water is clear to the unaided eye
- Sediment thickness in the well is less than 1 percent of the screen length
- A minimum of five times the standing water volume in the well plus the volume of all added water and drilling fluid lost during drilling and construction of the well is removed, and
- Stabilization has occurred for the following parameters: temperature, pH, specific conductivity, and dissolved oxygen. Stabilization is defined as a variation of less than 5 percent of the previous measurement, measured between three consecutive readings with one casing volume of water removed between each reading.

00298.43 Water Quality Monitoring:

(a) General - Perform water quality monitoring during the ISM work in Section 00345, including demonstration programs, by installing pH sensors in the monitoring wells and measuring groundwater pH.

(b) Baseline Measurements – At least 7 Calendar Days before the start of ISM work, collect baseline groundwater level, temperature, and pH measurements in each monitoring well. Collect groundwater measurements every 1 hour for a period of at least 24 hours, during which no subsurface construction activities are allowed within 100 feet of the monitoring well location.

The average pH measured over the 24-hour period will be used as the baseline for evaluating construction related pH variation.

If pH measurements vary by more than 0.2 units during baseline measuring, an additional set of baseline measurements may be required, as directed by the Engineer.

(c) Monitoring During ISM Work – Collect groundwater measurements every 1 hour during each ISM work shift and report results within 24 hours.

Notify the Engineer immediately if groundwater pH measurements vary from baseline measurements by more than 0.2 units.

Notify the Engineer immediately and stop all ISM work if groundwater pH measurements vary from baseline measurements by more than 0.5 units, or if pH drops below 6.5 or rises above 8.5.

00298.44 Abandon Monitoring Wells - Abandon monitoring wells including surface seal and protective casing after completion of ISM work according to OAR 690-240. Notify the Engineer at least 72 hours before beginning abandonment work.

Measurement

00298.80 Measurement - No measurement of quantities will be made for Work performed under this Section.

Payment

00298.90 Payment - The accepted quantities of Work performed under this Section will be paid for at the Contract lump sum amount for the following items:

Pay Item	Unit of Measurement
(a) pH Monitoring Wells	Lump Sum
(b) Abandon Existing Wells	Lump Sum

Item (a) includes constructing pH Monitoring Wells #1 and #2; well development and protection; furnishing, installing, and monitoring instrumentation as shown or specified; and pH Monitoring Well abandonment.

Item (b) includes abandoning existing wells SB21683-03, SB21683-04, and TB21683-11.

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

No separate or additional payment will be made for constructing surface seals, or for bar reinforcement or concrete in surface seals.

SECTION 00305 - CONSTRUCTION SURVEY WORK

Comply with Section 00305 of the Standard Specifications modified as follows:

00305.00 Scope - Add the following to the end of this subsection:

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

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

- An automated machine guidance (AMG) work plan containing a detailed outline, list of the Pay Items and Work controlled by the 3D Construction Models, and a narrative outlining any differences between the Agency prepared 3D Engineered Models and the 3D Construction Models.
- A copy of the 3D Construction Models 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.

SECTION 00310 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

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

00310.80 Measurement - Replace the bullet "Length and Area…" with the following bullet:

- **Length and Area** - The length or area of the Structure or item actually removed, will be measured along the line and grade of the Structure or item for each continuous Structure or item removed. Measurement will be on the length or area basis, limited to the Neat Lines shown or directed.

  (Asphalt Pavement Sawcutting) (and) (Concrete Sawcutting) will be measured by the linear foot of sawcut, limited to the Neat Lines shown or directed unless otherwise specified. Methods other than sawcutting will not be measured.

  Additional concrete sawcutting beyond what is shown or directed by the Engineer will not be measured.

00310.92 Separate Item Basis -

Replace the Pay Item Asphalt Pavement Sawcutting with the following Pay Item:

Pay Item	Unit of Measurement
(g) Asphalt Pavement Sawcutting, _____ Inches Deep	.....Foot

Replace the paragraph that begins “Item (g) applies…” with the following paragraph:

In item (g), “less than 6”, “6 to 14”, or “greater than 14” is inserted in the blank.

Add the following paragraph to the end of the subsection:

No separate or additional payment will be made when methods other than sawcutting are utilized where sawcutting is shown or directed.

SECTION 00320 - CLEARING AND GRUBBING

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

00320.40(b)(3) Vegetation and Materials to be Saved - Replace the paragraph that begins “Do not work within the no Work …” with the following paragraph:

Do not work within the no Work Zones or critical root zone of marked trees unless written approval is obtained from the Engineer. Be responsible for all damage to and removal of trees, landscaping, vegetation or other natural materials designated to be saved. The Engineer will select a specialist who will evaluate the damage.

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

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

00320.90 Payment - Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

SECTION 00330 - EARTHWORK

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

00330.00 Scope - Replace the paragraph that begins "The term "earthwork" will be…" with the following paragraph:

The term "earthwork" is used as a general term to designate the Work included within the scope of this Section.

00330.01 Lines, Grades, and Cross Sections - Replace the paragraph that begins "All earthwork…" with the following paragraph:

Conform all earthwork to the lines, grades and Cross Sections established.

Replace the paragraph that begins "Roadbed Cross Sections …" with the following paragraph:

Roadbed Cross Sections are subject to variation from the Typical Sections , if directed, to:

00330.02 Definitions - Replace the paragraph that begins "**Construction Slide** - A Slide outside …" with the following paragraph:

Construction Slide - A Slide outside the designated limits of excavations, or below the foundation within designed limits of embankments or within embankments, that occurs after excavation or embankment construction starts and before Final Acceptance of the Contract.

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

Perform all earthwork under this Section except for Stone Embankment on the excavation basis.

00330.03(a) General - Replace this subsection, except for the subsection number and title, with the following:

Except as provided in 00330.00, perform all earthwork on either the excavation basis or the embankment basis. The basis of performance for each earthwork Pay Item is specified in the Special Provisions and the Contract Schedule of Items.

00330.04 Sources of Borrow - Replace this subsection, except for the subsection number and title, with the following:

(a) Agency-Furnished Borrow - Use Materials obtained from Agency-provided sources lying outside of, separated from and independent of planned Roadbed excavations, or other required excavations within the Project limits, only when called for by the Contract or when specifically directed. (See 00330.41(d).)

(b) Contractor-Furnished Borrow - Unless otherwise specified or directed, furnish all Borrow. Use sources that are wholly outside of and beyond the limits of Agency-Controlled Lands. Acquire at Contractor's own expense. The provisions of 00160.60 and 00160.80 apply.

00330.10 Selected Materials - Replace this subsection, except for the subsection number and title, with the following:

When the Contract contains a Pay Item "Extra for Selected ____ Material", furnish the Material from required excavations. The Specifications for the selected Materials are in the Special Provisions, if different than specified in these Specifications. If other provisions of this Section call for selecting or sorting Material for various parts of the Work, select and sort the Materials to meet the directed requirements.

00330.16(a) Requirements – Replace this subsection, except for the subsection number and title, with the following subsection:

Furnish an unweathered, hard, angular, durable, free-draining material, meeting the following gradation limits. Gradation acceptance is visual, except as otherwise specified or directed. If the 1" - 0 portion exceeds 10 percent of the total volume by visual inspection, sample and test the 1" - 0 material according to AASHTO T 11, wet sieve method.

Sieve Size	Percent Passing (by Weight)
6”	100
4”	75 - 100
1”	0 - 10
No. 4	0 - 3

(1) Fracture - Furnish stone embankment material with at least two fractured faces on at least 50% of the particles retained on the 1-inch sieve, as determined by visual inspection. If the material does not meet the fracture requirements based on the Engineer’s visual examination, sample and test material according to AASHTO T335.

(2) Aspect – Furnish stone embankment material with width/thickness ratio and length/width ratio of any single rock less than 3, as determined by visual inspection. The length, width, and thickness refer to the greatest, intermediate, and least dimensions of a particle, respectively, as defined in ASTM D2488.

00330.40(a) Quantities - Replace the paragraph that begins "The Agency makes no guarantee …" with the following paragraph:

The Agency makes no guarantee or representation by implication or otherwise, that any Material available on the Project site is suitable for incorporation into any portion of the Project. No Material is considered unsuitable on the sole basis that special or additional processing or handling is required to make it suitable for incorporation into the Project.

00330.40(c) Avoidance and Correction of Detrimental Operations - Replace the paragraph that begins "Perform all operations involved …" with the following paragraph:

Perform all operations involved in excavating, hauling and placing of earthwork Materials so no damage or detriment to the completed or partially completed Work results. At all times provide sufficient drainage of completed or partially completed earthwork to prevent damage or loss due to rainfall, surface water or any other cause. In all cases, take proper precautions to ensure that embankment construction and filling do not move, endanger or cause undue strain or stress to any Structure or adjacent ground. Do not construct temporary and final embankment slopes within any Cross Section steeper than the Slope staked for that Cross Section.

00330.41(a)(3) Unsuitable Materials - Replace this subsection, except for the subsection number and title, with the following:

Unsuitable Materials encountered in required excavations are classed as waste material and disposed of according to 00330.41(a)(5).

00330.41(a)(12) Outside Earthwork Limits - Replace this subsection, except for the subsection number and title, with the following:

Outside earthwork limits but within the Clear Zone, (see 00320.02(c)), remove partially buried natural objects, such as Boulders, that the Engineer determines would be dangerous to an errant vehicle. Place them within embankments as specified or dispose of them as directed.

00330.41(b) Foundation Excavation - Replace this subsection, except for the subsection number and title, with the following:

Excavate Unsuitable Materials in embankment foundations and elsewhere as designated. This Work is classed as "Foundation Excavation". Dispose of these materials according to 00330.41(a)(5) and replace with selected general backfill, selected granular backfill or other suitable Materials as directed.

00330.41(d) Borrow Excavation - Replace this subsection, except for the subsection number and title, with the following:

Whenever the Specifications or Contract Plans call for an Agency-provided Borrow source for earthwork materials, the Material excavated from such source and used in the Work as earthwork materials are classed as "Borrow Excavation". Excavate and use these materials according to the Contract provisions, or as directed.

00330.42(a) Embankment Foundation Preparation - Replace the paragraph that begins "In addition to the excavation …" with the following paragraph:

In addition to the excavation and replacement of Unsuitable Materials as provided in 00330.41(b), and before constructing embankments, prepare the areas where embankments are to be constructed as follows:

00330.42(a)(1) Unstable Areas - Replace this subsection, except for the subsection number and title, with the following:

Where the embankment foundation will not support hauling or compaction Equipment and only if directed, place an initial layer of selected Materials. Place the initial layer by dumping successive loads in a uniformly distributed layer of a thickness not greater than necessary to support the Equipment and not greater than 3 feet, unless otherwise authorized. Do not place the initial layer higher than 3 feet below Subgrade. Commence consolidation of the initial layer by routing construction Equipment uniformly over the entire layer. Meet the compaction requirements of 00330.43 for the initial layer, except for layer thickness. Meet all requirements of 00330.43 for subsequent layers.

00330.42(a)(3) Drainage - Replace this subsection, except for the subsection number and title, with the following:

Provide drainage and drainage Structures as shown or directed.

00330.42(a)(4) Backfilling Inside Roadbed Limits - Replace this subsection, except for the subsection number and title, with the following:

Break up concrete or asphalt floors, slabs, or walls, as specified in 00310.41(d), before backfilling or placing embankment. Backfill basements, trenches and holes within embankment limits with selected stone backfill Material. Backfill Material placed in basements may include pieces of broken concrete and masonry not exceeding 15 inches in any dimension provided they are placed and compacted according to 00330.42(c). Protruding reinforcement is not allowed in the broken concrete and masonry used as backfill.

00330.42(a)(7) Foundation Benching - Replace the paragraph that begins "Make the bottom bench …" with the following paragraph:

Make the bottom bench at least 10 feet wide. Penetrate each succeeding bench into the slope at least 3 feet horizontally beyond the vertical side of the previous bench. Ensure the bench is wide enough to operate placing and compaction Equipment. Bring each bench and embankment layer surface to a Slope flatter than 1V:10H. Perform the benching, placing and compaction operation simultaneously from the bottom up.

00330.42(c)(1) General - Replace the paragraph that begins "Except as provided in …" with the following paragraph:

Except as provided in 00330.42(a)(1), do not construct embankments or fillings when the embankment Material, the foundation or the embankment where it would be placed is frozen, not stable or not compacted, unless otherwise directed.

00330.42(c)(2)(c) Oversize Durable Rock Fragments - Replace the paragraph that begins "Placing isolated individual …" with the following paragraph:

Placing isolated individual Durable Rock fragments having dimensions greater than the specified layer thickness is allowed if:

00330.42(c)(2)(d) Durable Rock - Replace the paragraph that begins "If the visible quantity of Silt …" with the following paragraph:

If the visible quantity of Silt and Clay Materials passing the No. 200 screen is less than 20 percent by volume, as determined by the Engineer, the maximum Rock fragment size and layer thickness may be increased to 36 inches, but do not exceed the layer thickness of the average maximum size of the Rock fragments.

00330.42(c)(2)(e) Nondurable Rock - Replace the bullet that begins "The moisture content of …" with the following bullet:

- Compact the Material when the moisture content is within the requirements of 00330.43.

Replace the bullet that begins "Compact the Material to density …" with the following bullet:

- Compact the Material to density/deflection requirements specified in 00330.43 with a tamping-foot roller that meets the requirements of 00330.20. Perform a minimum of three Coverages on each embankment layer with the tamping-foot roller. Operate the roller at a uniform speed not exceeding 3 mph. No additional compensation will be made for additional roller Coverages to meet the requirements of 00330.43.

00330.42(c)(3) Embankment Slope Protection - Replace the paragraph that begins "Construct outer portions of …" with the following paragraph:

Construct outer portions of embankments exposed to erosion by stream flow or other erosive action with Rock fragments, or other desirable Materials, if directed, and such are available in the excavations. Also, if directed, place similar Material as a protective layer on the outside of the regular embankment slopes as embankment widening, closely following construction of the embankment. Compaction is not required for protective Materials placed as embankment widening. Place protective Materials with a reasonably smooth surface, resistant to washout or slippage.

Add the following paragraph to the end of this subsection:

Construct the outer 12 inches of embankments with suitable materials to establish slope stabilization through permanent seeding. If suitable material is not available, furnish suitable materials from a Contractor-provided source that conforms to the requirements of 00330.11 or 00330.13 and provides favorable conditions for germination of seed and growth of grass.

00330.42(c)(5) Embankment Construction Around Minor Structures - Replace this subsection, except for the subsection number and title, with the following:

Backfill prior excavations in the vicinity of curbs, walks, driveways, inlets, manholes and other such minor Structures with selected general backfill, or selected granular backfill as directed with no particles larger than 1 inch and that is compatible with the adjacent material, unless otherwise specified. Place backfill in layers according to 00330.42(c)(1), compact according to 00330.43, and with a moisture content according to 00330.43.

00330.42(c)(7) Embankment Construction at Bridge Ends - Replace this subsection, except for the subsection number and title, with the following:

At the ends of Bridges and for a distance of at least 100 feet from the Bridge, place and compact the embankments before beginning Bridge construction, unless otherwise directed. Unless the embankment is constructed according to 00330.42(c)(8), furnish and place selected stone backfill Material, meeting the requirements of 00330.15 when such is available from excavations, in all embankments within 100 feet of Bridges, or as directed.

00330.42(c)(8) Engineered Fills - Replace the paragraph that begins "Place the granular structure …" with the following paragraph:

Place the granular structure backfill, meeting the requirements of 00510.13, in maximum 6-inch Lifts and compact to 100 percent maximum density from the top of the selected stone backfill to the footing elevation shown. Place these Materials at the thickness and extent according to the details shown, or as directed.

Replace the paragraph that begins "The foundation compaction …" with the following paragraph:

The foundation compaction requirements in 00330.43 are subject to the higher requirements of this subsection. Compact according to the percentages required above.

00330.42(d) Stone Embankment - Replace the paragraph that begins "If the Contract Plans or …" with the following paragraph:

If the Contract Plans or Specifications require embankments, or parts of embankments, to be constructed of stone embankment Material, furnish and place the stone embankment Material according to this provision and as directed. Furnish Materials from Contractor-provided sources according to the requirements of 00330.16, unless otherwise specified.

Replace the bullet that begins "Material placed in the …" with the following bullet:

- Material placed in the upper 1-foot of embankments or within 1-foot of a culvert or other Structure, are not more than 3 inches in size.

00330.43(b)(2) Replace the paragraph that begins "In place Materials shall …" with the following paragraph:

Meet the following moisture content, density, and deflection requirements for in-place Materials:

00330.43(b)(2)(a) Moisture Content - Replace this subsection, except for the subsection number and title, with the following:

At the time of compaction, compact the Materials at a moisture content to within minus 4 percent to plus 2 percent of optimum moisture content. Add water to Material that does not contain sufficient moisture to obtain proper compaction and thoroughly mix as directed. Dry Material containing an excess of moisture by manipulation, aeration, drainage or other means before being compacted.

00330.43(b)(2)(b) Density - Replace the paragraph that begins "After compaction of each …" with the following paragraph:

After compaction of each layer provide a density of at least:

00330.43(d) Small, Irregular Fill Areas - Replace the paragraph that begins “The density requirements of 00330.43 do not apply…” with the following paragraph:

The density requirements of 00330.43 do not apply to irregular fill areas outside of the travel lanes that have a total volume of no more than 150 cubic yards at each location. Construct these areas according to the following:

00330.44(a) Preparation - Replace this subsection, except for the subsection number and title, with the following:

Do not start excavation for each segment until a stockpile of stone embankment Material is immediately available at or near the site. Locate the stockpile at a site approved by the Engineer. Provide a stockpile size sufficient to fill one excavated segment.

00330.44(b) Sequence of Construction - Replace this subsection, except for the subsection number and title, with the following:

Excavate the area according to 00330.40 and 00330.41 to provide a backslope to the lines, Slopes and details shown, or as directed. Excavate and backfill in segments to minimize aggravating stability conditions. For each segment do not exceed 75 feet in length as measured across the top of each open excavation segment, unless otherwise specified or directed.

00330.47 Specified Selected Courses or Layers of Materials - Replace the paragraph that begins “Place and construct selected …” with the following paragraph:

Place and construct selected Courses or layers according to the requirements of 00330.42 and 00330.43, unless otherwise specified.

00330.90 Payment - Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

Replace the paragraph that begins "No separate or additional …" with the following paragraph:

No separate or additional payment will be made for blasting done according to 00330.41(e) unless a blasting item is listed in the Contract Schedule of Items.

00330.91(c) Toe Trench Excavation - Replace the bullet that begins "At the toe of riprap slopes …" with the following bullet:

- At the toe of riprap slopes as shown and elsewhere as directed to provide a suitable foundation toe trench where to place riprap geotextile or filter blanket, and riprap Material.

SECTION 00345 – IMPROVED SOIL MASS

Section 00345 is not in the Standard Specification and is included in this Project by Special Provision.

Description

00345.00 Scope – This Work consists of designing, furnishing, and constructing Soil-Cement Elements, also known as Jet Grouting, to create an Improved Soil Mass as shown

and specified. This Work also includes the installation and removal of work platforms, quality control and verification testing, preconstruction mix design testing, demonstration of means and methods of the Work, and the containment, collection, and disposal of Spoils.

00345.01 Definitions – The following are definitions of words and phrases used in this Section which do not supercede definitions used elsewhere:

Area Replacement Ratio - Improved net Soil volume as a percentage of total Soil volume in the Improved Soil Mass. Overlapping Soil-Cement Element area is not counted multiple times.

Binder Content in Place - Weight of binder divided by the combined volume of Soil and Grout.

Bleed Water - Process water that is decanted from collected Jet Grout Spoils.

Discontinuities - Lenses of continuous Soil without Soil-Cement present in a Soil-Cement Element.

Double Fluid - Jet Grouting technique where one element of the Jet Grouting process, typically neat cement Grout, is injected at high velocity through horizontal radial nozzle(s) and is assisted by a second element of the Jet Grout process, typically air, delivered through a coaxial nozzle(s), to directly erode and mix with the in-situ Soil.

Drilling Parameters - Rate of advancement of the drill string or mixing auger/tool and torque applied to the drill string or mixing auger/tool during advancement of the Jet Grouting borehole.

Grout - Colloidal suspension of powdered materials that may include cement, bentonite, fly ash, kiln dust, slag, additives, or other similar materials blended with water.

Improved Soil Mass (ISM) – The total extents of fully interlocked Soil-Cement Elements arranged in an overlapping pattern of one or more rows forming a continuous, vertical, cellular wall structure enclosing unimproved Soil, constructed to improve the engineering characteristics of Soil in a given area.

ISM Procedures - The collective parameters, methods, techniques, Equipment, and procedures used to construct the ISM, including, but not limited to, Drilling Parameters, Jet Grouting Parameters, mix designs, quality control, and approved plans.

Jet Grouting - In-situ injection technique employed with specialized equipment that includes Grout pump(s), Grout mixer, drill rig, drill rods and injection monitor with horizontal radial nozzles delivering high velocity fluids to erode, mix, and stabilize in-situ soils using an engineered Grout slurry.

Jet Grouting Monitor - A Single Fluid, Double Fluid, or Triple Fluid drill pipe attached to the end of a drilling string and designed to deliver one to three elements of the Jet Grouting process, typically air, water, or Grout. The monitor has one or more injection points (nozzles).

Jet Grouting Parameters - Pressure of the fluid(s) within the Jet Grouting String; nozzle numbers and sizes; flow rate of the fluid(s); Grout composition; rotational speed of the Jet

Grouting String; and rate of withdrawal of the Jet Grouting String during the formation of the Soil-Cement Elements.

Jet Grouting String - Jointed rods with single, double, or triple inner conduit that conveys the Jet Grouting fluid(s) to the monitor.

Pre-Jetting - Method where the Jet Grouting of an element is facilitated by a preliminary disaggregation phase consisting of Jetting with water or other fluids.

Single Fluid - Jet Grouting technique where a single element of the Jet Grouting process, typically neat cement Grout, is injected at high velocity through horizontal radial nozzle(s) to directly erode and mix with the in-situ Soil.

Soil-Cement - Mixture of Grout slurry and in-situ soils formed by the Jet Grouting process to meet a specific standard of strength.

Soil-Cement Element (SCE) – A pillar of Soil-Cement produced in-situ by a single installation process using a Jet Grouting Monitor, to make a column. The column may have a circular, semi-circular, elliptical, or rectangular cross-section. Full depth columns, sectors (partial depth Soil-Cement columns), and the rectangular cross-sections created by horizontal mixing shafts are all Soil-Cement Elements.

Spoils - Excess material resulting from Jet Grouting that is expelled from the hole to the ground surface or to other locations where excess material is not intended. The Spoils are typically a mixture of water, Soil, and Grout similar to the materials in the Soil-Cement Element.

Test Section – An interlocked section of Soil-Cement consisting of at least five overlapping Soil-Cement Elements of the diameter and arrangement proposed by the Contractor for the production SCEs, and of the depth shown.

Triple Fluid - Jet Grouting technique where one element of the Jet Grouting process, typically water, is injected at high velocity through horizontal radial nozzle(s) and is assisted by a second element of the Jet Grouting process, typically air delivered through a coaxial nozzle(s), to erode the in-situ Soil, while a separate nozzle placed lower on the monitor delivers a third element of the Jet Grouting process, typically neat cement Grout, at lower velocity to simultaneously fill the Soil zone eroded by the cutting fluids (air and water).

UCS - Unconfined Compressive Strength according to ASTM D1633, Method B.

UCS Test Population – The combined population of UCS test samples collected from In-Situ Wet Sampling and Core Sampling for a given SCE.

Unexpected Obstruction - Any natural or manmade object that was not revealed by the Agency's site investigation, and that would cause a significant decrease in the rate of advancement if removed using the ISM Procedures.

Working Platform - Leveled surface of stable Soil or Pavement where the construction Equipment operates.

00345.02 Design Criteria - Design Soil-Cement Element configuration in the ISM meeting the criteria of Table 00345-1, and as otherwise specified, shown, or directed.

Table 00345-1 Required Design Parameters for ISM Elements

Design Parameter	Required Value
Minimum Soil-Cement Element Diameter, d	3 feet
Maximum Soil-Cement Element Diameter, d	6 feet
Minimum Soil-Cement Element Overlap to Diameter Ratio, e/d	0.2
Minimum Area Replacement Ratio (at any given elevation within ISM)	0.20

00345.03 Acceptance Criteria – Acceptance of ISM is according to Section 00165 and the following:

(a) Daily Reports – Submit the daily reports required in 00345.06(e) demonstrating that the accepted Jet Grouting Parameters from the demonstration program are accurately reproduced during production work.

(b) As-built Drawings – Submit as-built drawings of the Improved Soil Mass showing the requirements and tolerances specified, shown, or directed are met, including:

- The consolidated location information required in 00345.06(f) for each SCE
- Dimensions and Area Replacement Ratios for Soil-Cement Elements, and the ISM overall

(c) Soil-Cement Element Analysis – Individual Soil-Cement Elements are evaluated for acceptance based on the following:

(1) SCE Continuity Analysis – A Soil-Cement Element is considered continuous if no Discontinuities greater than 4 inches in length are found in acceptable cores taken under 00345.43(d). Non-continuous SCEs are unacceptable.

(2) Core Acceptance – Cores meeting the criteria of Table 00345-2 are acceptable for continuity analysis.

Table 00345-2 Minimum Core Recovery

Core Extents	Minimum Recovery %
Individual core run	80
Full depth of SCE	85

(3) Alternative SCE Continuity Analysis – If both an initial and subsequent core taken according to 00345.43(d) are unacceptable, the Engineer may, at the Engineer's sole discretion, evaluate SCEs for continuity based on the following:

- Unacceptable cores with recovery in the Soil-Cement portion greater than 85 percent.
- Video logging the core hole

- Sonic coring the SCE
- Other alternative coring procedures acceptable to the Engineer.

(4) UCS Testing – Soil-Cement Elements with a minimum of 90% of the UCS test population with a 28-Day UCS test result equal to or greater than 380 psi and 100% of the test population with a minimum 28-Day UCS test result equal to or greater than 200 psi are considered acceptable.

(a) Reporting – Report UCS test results from each UCS test sample location and depth interval with UCS test results from the nearest nine UCS test sample locations in the same depth interval to create a UCS test result population of ten samples.

Provide test results with the following information in a format satisfactory to the Engineer, and according to ASTM D1633, within 7 Days of the completion of each UCS test:

- Sample identification number, Soil-Cement Element ID, location of core (if applicable) within the Soil-Cement Element, depth of sample, and date sampled
- Diameter, height, and cross-sectional area of sample
- Maximum test load measured to the nearest 1 lb.
- Conversion factor for height to diameter ratio, if used
- Compressive strength calculated to the nearest 1 psi
- Age of specimen (from date of SCE installation)
- Color photograph of sample at failure
- A drawing showing Soil-Cement Element configuration, Soil-Cement Element identification numbers, and results of in-situ wet and core sample UCS tests performed to date as follows:
- For SCEs where all UCS tests in the test population meet or exceed the acceptance criteria mark “O” on the SCE
- For SCEs where the UCS tests in the test population do not meet both criteria, mark “X” on the SCE and indicate the depth(s) and UCS results of the tests

(b) Alternative UCS Criteria – The Engineer, at the Engineer’s sole discretion, may change UCS test acceptance criteria if the Contractor proposes changing the minimum Area Replacement Ratio.

If an SCE is unacceptable under 00345.03(c)(2), the Engineer may direct the Contractor to perform additional UCS testing on duplicate/archive samples from the same location at, or before, 56 Days.

If additional testing does not demonstrate that the minimum UCS requirements are met or exceeded, the entire Soil-Cement Element represented by the failing sample(s) is unacceptable.

00345.04 Applicable Standards – When designing, installing, inspecting, or testing Improved Soil Mass, use and follow the most current versions in effect of the following:

- ASTM C150 or AASHTO M85, *Portland Cement*
- ASTM D1632, *Standard Practice for Making and Curing Soil-Cement Compression and Flexure Test Specimens in the Laboratory*
- ASTM D1633, *Standard Test Method for Compressive Strength of Molded Soil-Cement Cylinders*
- API Recommended Practice 13B-1: *Standard Procedures for Field Testing Water Based Drilling Fluids*
- ACI 233R, *Slag Cement in Concrete and Mortar or C989-99, Standard Specification for Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars*
- ASTM D2113, *Practice for Diamond Core Drilling for Site Investigation*
- ASTM D3740, *Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction*
- ASTM C618 or AASHTO M295, *Fly Ash*
- AASHTO M302, *Standard Specification for Slag Cement Use in Concrete and Mortars*
- API Standard 13A, *Specification for Oil-Well Drilling Fluid Materials*
- AASHTO T26, *Water Testing of Non-Potable Water* or ASTM C1602/C1602M, *Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete*
- ASTM C31, *Standard Practice for Making and Curing Concrete Test Specimens in the Field*
- ASTM C42, *Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete*
- ASTM C1017, *Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete*
- ASTM D5079, *Standard Practice for Preserving and Transporting Rock Core Samples*
- ODOT *Soil and Rock Classification Manual* (1987)

00345.05 Subsurface Investigation - The Soils and geological explorations logs are available from the Engineer. The data shown for each boring applies only to that particular boring. Subsurface conditions may vary between borings. Contact the Engineer to view core samples and laboratory test results.

00345.06 Submittals – Submit the following:

(a) Design Drawings – Submit design drawings according to 00150.35 showing the detailed sequence, spacing, location, depth, dimensions and identification numbers of the Soil-Cement Elements, including geometry, overlaps, overlap pattern, and centers of Soil-

Cement Elements to achieve the specified criteria for the ISM. Submit design drawings at least 60 Days before beginning ISM production work.

Incorporate proposed features and structures, including drilled shafts, and existing features into the Soil-Cement Element configuration. Existing features include:

- Bridge foundations
- Above-ground utilities and structures
- Underground utilities and structures

Locate the Soil-Cement Elements within the ISM dimensions shown with a minimum of 3 feet of unmodified soil remaining between the design dimensions of the Soil-Cement Elements and the existing or proposed features and structures.

(b) Grout Mix Design and Preconstruction Mix Design Testing Program – Furnish a Grout mix that will result in a Soil-Cement product meeting the requirements of 00345.03.

Submit the results of the preconstruction mix design testing program and the proposed Grout mix design, including ratios and sources of the material components of the Grout mix, to the Engineer according to 00150.37 at least 21 Calendar Days before the start of the demonstration program. Provide the method for verifying Grout mix proportions. Any changes in the Grout mix is considered a new mix design and must be approved by the Engineer prior to use in the ISM Work.

(c) ISM Construction and Quality Control Plan (ICAQCP) - Submit the following according to 00150.35 at least 21 Calendar Days before the start of the demonstration program:

- Detailed Equipment set-up and Project Site use configuration meeting the available locations for the facilities shown, including storage areas, staging areas, mixing plant locations, haul routes, work platform areas, and range of operations from each mixing plant, storage area, and staging area.
- Description of coordination of the construction activities, mixing plant areas, spoil curing and disposal areas, and other support infrastructure with the Engineer and other aspects of the Project Work.
- Working platform design and plans meeting the requirements of Section 00253.
- Details of Jet Grouting procedures including methods of drilling, Jet Grouting (i.e., Single Fluid, Double Fluid, Triple- Fluid systems), Grout, water, and air injection pressure(s), rotational speed and withdrawal rate for Jet Grouting through the various soil strata, supporting boreholes, and overlap controls for maintaining continuity of Soil-Cement Elements.
- Estimated width of annulus for Spoils return and corrective actions to be taken if Spoils return is interrupted, sporadic, or not free flowing.
- Procedure for repairs of unacceptable Soil-Grout Elements.
- Procedures for installing and maintaining continuity of proposed ISM, including obstructions and Jet Grout shadowing effects associated with obstructions that may be encountered during construction.

- Methods for controlling and recording the verticality, including downhole verticality, of Soil-Cement Elements, and the top and bottom elevation of each Soil-Cement Element.
- Construction means and methods including a listing of construction procedures/steps, survey control (layout of stationing, surface elevation), and sequencing of Work.
- Means and methods for protecting the adjacent existing structures and foundations, including utilities designated to remain in-place, within 30 feet of the ISM construction areas.
- Description of primary and secondary containment measures to be implemented to prevent Grout and Spoils from impacting No Work Areas and Regulated Work Areas. Channels for managing or directing the flow of Grout and Spoils and ponds or basins for temporary storage of Grout and Spoils are not acceptable containment measures.
- Proposed field inspection documentation including a sample copy of field data collection forms and daily field reports meeting the requirements of 00345.06(e).
- Sample copy of a UCS testing report as required in 00345.03.
- Safety plan for Jet Grouting.
- Proposed Equipment including Jet Grouting rigs (including QC instrumentation), Jet Grouting Monitor, Grout batch plant (including QC instrumentation), pumps, and coring equipment (in particular the core barrel and sampler).
- Calibration certification for the following Equipment:
    - Both sight gauges and electronic gauges that may be used as part of the data acquisition system
    - Batch plant equipment including mixing scales and flow meters if volumetric measurements are used
    - Grout, water, and air supply pressure gauges
    - Grout, water, and air supply flow meters
    - Mud balance
    - Drill depth monitor (depth to all nozzles, if different);
    - Drill RPM monitor
- Detailed quality control plan describing the proposed quality control procedures to be used to ensure that the constructed Soil-Cement Elements meet the accepted design criteria. The procedures include, but are not limited to:
- Control of production work
- In-situ wet sample collection and delivery
- Core sampling and delivery
- Laboratory testing, reporting frequency and format
- Non-conformance procedures

- Names of any Subcontractors and independent laboratories used for quality control activities.
- All other means and methods used to ensure that the work meets requirements specified or shown.
- Equipment catalogue cuts or specification sheets that provide the size, power, capacity, critical dimensions, and other pertinent features to enable the Engineer to evaluate each item. Where such catalogs provide more than one option, clearly indicate the selected option.

The Engineer will approve or reject the ICAQCP within 21 Calendar Days after receiving the complete ICAQCP. Provide additional information requested and make required changes before submitting a revised ICAQCP for approval.

Revise the ICAQCP as required based on the results of the preconstruction mix design testing program and the demonstration program prior to beginning production ISM Work. Resubmit the revised ICAQCP to the Engineer.

Submit requests for modification of the approved ICAQCP in writing to the Engineer. Allow 21 Calendar Days for approval of modifications.

Approval of submittals does not relieve the Contractor of any obligation to construct an ISM meeting the requirements of 00345.02 and 00345.03.

(d) Demonstration Program Summary Report - Submit a demonstration program summary report according to 00150.37 that includes the following:

- Details regarding drilling and installation of Test Sections
- Jet Grouting Parameters used
- Variables tested
- Associated SCE diameters achieved
- Quality control test results
- Any recommended changes to the Jet Grouting Parameters based on the demonstration program
- Verticality data

The Engineer will review and accept or provide comments within 7 Calendar Days upon receipt of the report.

(e) Daily Reports - Maintain daily records during the demonstration program and production ISM Work recording procedural, quality control, and other monitoring information as described below.

Provide competent personnel to prepare and provide the daily reports. Submit the required reports, in a form satisfactory to the Engineer, within 24 hours of the end of each shift, and include the following:

- Identification of each SCE or SCE completed including SCE number(s) and station and location description within the ISM or Soil-Cement Element.

- Date and time of beginning and completion of each Soil-Cement Element, including interruptions to the Jet Grouting process or material supply.
- Jet Grouting Equipment (including type of mixing tool/Jet Grout Monitor) in operation during the shift and specific activities conducted with the Equipment.
- Theoretical SCE diameter
- Grout mix data, including mix method and details, mix proportions, and unit weight measurements
- Continuous recording of the Jet Grouting Parameters for each production SCE for the following:
  - Grout, air, and water flow rates, and specific gravity used to construct each Soil-Cement Element
  - Total volume of Grout, water, and air injected
  - Injection pressures and quantities
  - Tool rotational speeds
  - Tool down pressure
  - Tool advancement and withdrawal rates versus depth for each Soil-Cement Element constructed
- Plots of the above parameters
- Locations and intervals of grout samples collected from constructed SCEs
- Top and bottom elevations of each completed Soil-Cement Element
- Soil-Cement Element verticality measurements, including Soil-Cement Element downhole verticality
- Documentation of any substantial loss of Spoils return, as defined in 00345.42(a)
- QC testing and coring performed including location, depth, and time of coring.
- Obstructions encountered and any related adjustments to the Work.
- Other pertinent observations including but not limited to, ground heave, collapses of the treatment zone, and any unusual behavior of any Equipment during the Jet Grouting process.
- Any change in the Jet Grouting Parameters necessitated by a change in the subsurface or other conditions encountered in the field.
- Any Project Site safety issues and near misses.
- Visual stream monitoring observations as required in 00345.42(e).

(f) Soil-Cement Element Survey Reports - Submit a weekly survey of the completed Soil-Cement Elements. Include:

- The northing and easting of the center of each SCE within 0.1 feet.
- SCE inclination (where downhole verticality measurements are performed)
- The top and bottom elevations of each Soil-Cement Element within 0.5 feet
- The theoretical Soil-Cement Element diameter.

After completion of the Work, submit a set of consolidated as-built drawings according to 00345.03(b).

(g) Spoils Management Plan - At least 21 Calendar Days before the start of the demonstration program, submit a Spoils management plan according to 00150.37 meeting the requirements of all applicable permits, Sections 00280, 00290, and 00294, and the following:

- On-site collection and management of Spoils
- Storm water BMPs
- Management and control of:
  - Drainage
  - Drill returns, Spoils, debris, and cuttings
  - Other waste generated during construction, curing, and transport
- Containment methods used to prevent migration of Spoils into the no work areas and regulated work areas according to 00290.34(a)
- A description of the methods for curing and Bleed Water removal before transport of Spoils

Before ISM production work, revise and re-submit the spoils management plan as needed based on the results of the demonstration program.

Materials

00345.10 Materials - Furnish Materials meeting the following requirements:

Type I/II Cement 02010
Fly ash 02030
Potable Water 02020

Furnish Materials during construction of production SCEs from the same approved sources as the Materials used to develop the approved Grout mix design according to 00345.41, except certified cement of the same type from different Suppliers or plants.

Do not use reclaimed cement or cement containing lumps of deleterious matter.

Do not use slag, non-potable water, admixtures, or Materials from unapproved sources without prior written approval. Perform mix design testing and demonstration according to 00345.41 for any proposed slag, non-potable water, admixtures, or unapproved material sources.

When allowed, furnish flowing concrete admixtures from the QPL that meet the requirements of ASTM C1017, Type I, and all applicable environmental legal and permit requirements

Protect cement and admixtures from moisture and contamination during storage.

Equipment

00345.20 Equipment for Jet Grouting - Provide Jet Grouting Equipment meeting the following requirements:

(a) General - Provide Equipment with a proven record of successful performance in similar work, and as otherwise specified, shown, or directed. Submit records from previous work demonstrating successful performance of similar work according to 00345.06.

Provide Equipment in good operating condition that comply with all federal, state, and local ordinances including, but not limited to, emissions of exhaust, maximum noise permitted, safety railings, and safety guards.

Provide spare parts on the Project Site to maintain Jet Grouting equipment in satisfactory operating condition at all times during execution of the ISM Work.

(b) Drilling Equipment and QC Instrumentation - Provide Jet Grouting drilling equipment of a sufficient type, size, capacity, and torque suitable for drilling required borehole diameters, and lowering, raising, and rotating Jet Grout Monitors through the identified Soil to the depths and at the rates required to perform the Work as specified, shown, or directed. The actual depths required will vary.

Provide Equipment that has computerized controls to permit accurate and continuous monitoring, recording, and control of:

- Jet Grouting Monitor depth;
- Rotational speeds;
- Down pressure;
- Advancement and withdrawal rates;
- Jet Grout downhole verticality;
- Grout, water, and air volume flow rates and factors;
- Grout, water, and air injection pressures and quantities; and
- Other parameters required to install Soil-Cement Elements as specified, shown, or directed.

Provide Equipment capable of sufficiently:

- Advancing through previously constructed and cured Soil-Cement;
- Injecting, mixing, and blending binder with the in-situ soils to produce an even distribution of binder throughout the mixed in-situ soils to produce the required minimum UCS;
- Driving the mixing shaft or Jet Grouting String at the required RPM and penetration rate from a stopped position at the depth specified;
- Controlling lift step increment, step dwell time, and rotation rate by an automatic preset and carrying out these functions without operator intervention unless warranted by field conditions;

- Drilling and constructing angled holes that may be required in special situations; and
- Constructing semi-circular SCEs to complete the Work as specified, shown, or directed.

Mark the mixing tools and Jet Grouting String in a manner satisfactory to the Engineer to allow confirmation of the penetration depth to within 1 foot during construction.

(c) Grout Mixing and Injection Equipment and QC Instrumentation - Furnish Grout mixing and injection equipment capable of continuously producing a homogenous supply of Grout sufficient to perform a full shift of ISM Work uninterrupted, and with the following features:

- Reagent storage, water tanks, pumps, valves, and supply lines.
- Metering, proportioning, and weighing equipment.
- A high shear mixer capable of producing a colloidal suspension of cement and additives in water.
- Capable of accurately mixing Grout consisting of multiple constituents.
- Capable of accepting dry or liquid additives in measured amounts.
- A covered holding tank capable of agitating and circulating the Grout to prevent flash set and keep the mixture homogenous.
- A sampling port or other means for obtaining samples for QC testing.
- Air compressors and pumps of sufficient capacity to ensure adequate supply of Grout, air, and water at required pressure and flow rate.
- Positive displacement Jet Grouting pumps, air compressors, and associated lines and fittings capable of:
  - Providing the required pressure and flow rates of Grout, air, and water.
  - Pumping the Grout, air, and water the required distance.
- Jet Grouting Monitors with appropriate nozzles capable of constructing:
  - Soil-Cement Elements of the specified size in the identified Soil types
  - A drill hole diameter sufficiently large to be a clear path for continuous spoil return to the ground surface during all Jetting operations.

Conduct calibrations of all Equipment before the beginning of Jet Grouting Work. Repeat calibrations every 90 Days during the Project duration. Provide certifications that include initial readings compared to standard measured, any adjustments made, and final readings if adjustments were made.

(d) Coring Equipment - Provide triple-tube coring equipment capable of:

- Coring the entire length of a completed Soil-Cement Element
- Returning cores suitable for visual observation and laboratory testing

Provide equipment and sampling methods to provide good core recovery in the relatively soft ISM.

The Engineer will approve or reject any Equipment that has been modified or is of unique construction.

Labor

00345.30 Personnel Qualifications – Perform ISM Work using a company and personnel experienced in ISM construction work. Demonstrate the company's and personnels' qualifications and experience by submitting the following to the Engineer at least 60 days prior to beginning ISM Work:

- A project reference list of at least 6 separate Jet Grouting projects for liquefaction mitigation and of similar scope and size to this Project, including at least 3 separate projects with Jet Grouting in or around regulated work areas, successfully completed within the last 10 years. Include the following information:
  - A brief description of each project, including:
    - Location.
    - Requirements.
    - Approximate dimensions of the work.
    - Equipment used.
    - Unusual conditions (Spoils handling, obstructions, etc.)
    - Installation method for the ISM.
    - A description of the repairs implemented for segments that failed to meet the project requirements.
  - Each project's name.
  - The owner's contact person's name, title, and current phone number for each project.
  - Alternate owner's contact person's name, title, and current phone number for each project.
- Documentation demonstrating the designated personnel in 00345.31 meet the listed minimum qualification.

The Engineer will respond within 21 Calendar Days after receipt of personnel qualifications.

Do not substitute designated personnel without prior written approval from the Engineer. Submit substitution requests in writing to the Engineer. The Engineer will respond to each request within 7 Calendar Days of receipt.

The Engineer may suspend the ISM Work if the Contractor makes unapproved personnel substitutions during construction. Additional costs caused by the suspension of Work due to unapproved personnel substitutions is the Contractor's responsibility, and no adjustment of Contract Time will be made.

Provide the following designated personnel:

(a) Project Manager:

(1) Minimum Qualifications - 5 years of continuous experience in Jet Grouting and a minimum of five projects in the successful construction of ISM using Jet Grouting.

(2) Duties:

- Be present daily for the duration of the ISM Work. The Project Manager is not required to be present for all shifts if multiple shifts occur.
- Directly supervise the On-Site Supervisor(s)
- Direct and review Grout preparation, Jet Grouting, monitoring, sampling, and quality control activities;
- Being responsible for all Jet Grouting related construction submittals, including daily reports and results of all quality control testing; and,
- Being knowledgeable about proper Grout preparation methods required to mix, control, and test Grout slurries; Jet Grout construction equipment and tools; Jet Grout SCE installation methods; and quality control testing of both fresh and cured Soil-Cement.

(b) On-Site Supervisor(s) - Multiple On-site Supervisors are allowed for the Jet Grouting Work, including if multiple shifts are being conducted each Day.

(1) Minimum Qualifications - 3 years of on-site experience managing Jet Grouting field operations of similar size and scope and have supervised at least 2 projects within the past 5 years employing Jet Grouting technique(s) proposed for this project.

(2) Duties:

- Be present at the Project Site at all times during Jet Grouting operations.
- Supervise on-site Grout preparation, Jet Grouting, monitoring, sampling, coring, and quality control activities.

(c) Drill Operator(s) - Provide Drill Operators with a minimum of 3 years of experience operating Jet Grouting equipment on at least two projects.

Multiple drill operators may be used for the Jet Grouting work.

(d) Soil-Cement Quality Control Manager (QCM) - The QCM may not be employed or compensated by any Subcontractor, or by other persons or entities hired by Subcontractors, who will provide other services or Material for the Project. The QCM may be an employee of the Contractor.

(1) Minimum Qualifications - 3 years of experience in managing quality control inspection, testing, and reporting for Jet Grouting field operations of similar size and scope and in similar subsurface materials and groundwater conditions.

(2) Duties:

- Managing and communicating data generated during the Grout mixing operations and Soil-Cement Element installation

- Managing, documenting, and reporting quality control procedures and quality control testing results as specified or directed to the Engineer.

(e) Soil-Cement Core Driller - Provide Soil-Cement Core Drillers to take cores according to 00345.53(d) with a minimum of 10 years of coring experience on at least 5 projects coring Soil-Cement.

(f) Soil-Cement Core Logger - Provide a Soil-Cement Logger to log cores according to 00345.43(d) who is registered in the State of Oregon as a geologist or geotechnical engineer.

Construction

00345.40 General - Construct the ISM using ISM Procedures at the locations and elevations shown, and as otherwise specified or directed.

Do not construct Soil-Cement Elements using alternative designs, or at locations other than those shown in the approved design drawings without prior written approval by the Engineer.

Protect existing utilities, structures, and foundations during the ISM Work. Contain, collect, and dispose of all waste generated during ISM Work according to 00345.70.

Perform Quality Control according to 00345.43.

Do not begin production ISM Work without the following:

- Performing a preconstruction mix design testing program.
- Performing a demonstration program.
- All approved submittals required by 00345.06, except daily reports.
- Written approval to begin from the Engineer.

00345.41 Preconstruction and Demonstration Programs:

(a) Preconstruction Mix Design Testing Program - Perform a preconstruction mix design testing program by obtaining samples of the in-situ material to be improved and performing laboratory mix design testing to determine the ratios and sources of the material components of the Grout mix that meet the requirements of 00345.03.

(b) Demonstration Program - Prior to beginning production ISM Work, perform a demonstration program to demonstrate that the Contractor's ISM Procedures meet the requirements of 00345.02 and 00345.03, as well as the verticality and minimum diameter of the Soil-Cement Elements specified, shown, or directed.

Use the demonstration program to optimize and determine the acceptable ranges the various Jet Grouting Parameters including Grout mix composition, fluid(s) flows and pressures, rotational speed, advancement and retraction rates, type of Jet Grouting Equipment (i.e., Single Fluid, Double Fluid, Triple Fluid systems), necessity of Pre-Jetting with water, Spoils return, number and size of Jet Grout nozzles, and Grout.

Test Sections may be constructed in production Soil-Cement Element locations. Perform the demonstration program at a location agreed to by the Engineer.

Construct a minimum of one Test Section within the demonstration area, unless otherwise specified, shown, or directed.

Construct Test Sections to the same starting and ending depths as production Soil-Cement Elements.

Within each Test Section:

- At a minimum, core at the edge, and at 80 percent of the radius, of each Soil-Cement Element to verify continuity, SCE diameter, and down-hole verticality
- Obtain and test in-situ wet and core samples according to 00345.43.

Do not use alternative test methods without prior written approval by the Engineer.

Following completion of the demonstration program, submit the demonstration program summary report, according to 00345.06.

Do not proceed with further ISM Work without written approval by the Engineer.

If the demonstration program does not demonstrate that the proposed ISM Procedures can achieve the specified Soil-Cement properties, minimum diameter, or verticality requirements, perform additional demonstration programs at no additional cost to the Agency.

For Test Sections constructed in production SCE locations:

- Repair unacceptable Test Sections according to 00345.71 at no additional cost to the Agency.
- Grout core holes as required in 00345.43(d) in acceptable Test Section.

00345.42 Soil-Cement Element Construction - Furnish a Work Platform at each treatment area sufficient to support the Equipment for the ISM work as shown, or otherwise specified, approved or directed.

Implement adequate measures during freezing temperatures to avoid compromising the quality or safety of the work.

Allow a minimum cure time of 7 Days after completion of a Soil-Cement Element before conducting other non-ISM work that could disturb the ISM.

(a) Jet Grouting - Construct ISM according to the approved design drawings, ISM Procedures approved during the demonstration program, the approved ICAQCP, and as otherwise specified, shown, or directed.

Before beginning installation, mark the location of the SCEs according to Section 00305. Furnish locating markings to verify the as-built location of the elements during construction in a manner acceptable to the Engineer.

Use automatic controls for, and automatically record, the Jet Grouting Monitor lift rate and rotational speed during the entire Jet Grouting process.

Do not allow ground heave. If ground heave does occur, stop ISM Work immediately. Do not restart ISM Work without approval from the Engineer. Control the Jet Grouting process, including spoil return, to minimize ground heave if the Engineer determines ground heave is unavoidable.

When Jet Grouting, establish and maintain continuous return of Spoils to the surface through the center of the SCE under construction. Position the drill operator to visually monitor return flow at all times.

Stop Jet Grouting immediately if the return is interrupted for more than five seconds and re-establish return as soon as possible. Do not restart Jet Grouting without re-establishing return.

If Jet Grouting is interrupted during the construction of a SCE, re-start the Jetting at least 6 inches within the previously uninterrupted section. If Jet Grouting is performed from the bottom up, re-start Jet Grouting 6 inches below the stopping point. If Jet Grouting is performed from the top down, re-start Jet Grouting 6 inches above the stopping point.

Do not hold Grout in the holding tank for more than 4 hours.

(b) Tolerances - Construct the center of the Soil-Cement Elements within 3 inches of the location shown, and within 1 degree of vertical. Level the Work Platform and drilling equipment to within 1 degree of vertical.

Repair unacceptable SCEs according to 00345.71 and as directed at no additional cost to the Agency.

(c) Unexpected Obstructions - If an Unexpected Obstruction is encountered, stop ISM Work and notify the Engineer. The Engineer will be the sole judge of the significance of any reduced rate of advancement and the classification of any Unexpected Obstructions.

The Engineer will direct the use of one of the following options to complete ISM Work:

- Attempt to re-drill in an alternate location, as directed, and construct additional SCEs.
- Construct ISM around the obstruction, as directed
- Other alternatives developed by the Contractor and accepted by the Engineer.

The Engineer will determine how to proceed within 24 hours of receiving a notification of a suspected Unexpected Obstruction.

Relocation, construction of additional SCEs, construction of alternative ISM, or implementation of acceptable alternatives due to Unexpected Obstructions will be paid according to 00195.20.

(d) Spoils Management – Maintain a clean site. Do not allow any Grout Materials (raw ingredients, mixed Grout, Spoils, and mud), drill cuttings, Spoils, debris, water, spilled material, or other waste to migrate off-site or enter any no work areas, regulated work areas, storm drains or other drainage courses, or Waters of the State. This may include tracking Jet Grouting materials by construction equipment or personnel.

Continuously manage Materials and waste according to 00345.70.

Furnish secondary containment for all Equipment and operations, that may include, but are not limited to, the use of temporary containment walls and other BMPs as specified, shown, or directed.

(e) Visual Waterway and Monitoring - Visually monitor adjacent wetlands, waterways, and Waters of the State during ISM Work for any Grout or Spoils discharge according to the following:

- Before beginning Work and every four hours during Work, make waterway observations 100 yards upstream and downstream from the Work area.
- Document all monitoring observations including date, time, and location in the daily reports according to 00345.04(e).
- If Grout or Spoils are observed in a waterway, wetland, or any other no work areas or regulated work areas, stop all ISM Work
- Photographically document the discharge. Provide the documentation to the Engineer.
- Contain, collect, and dispose of the discharge as directed.
- Submit a corrective plan to the Engineer including revised ISM construction and quality control plan and spoils management plan. Do not re-start ISM Work without written approval from the Engineer.

(f) Groundwater pH Monitoring - Monitor groundwater pH according to Section 00298. If ISM Work is stopped because of groundwater pH under 00298.43(c), submit a corrective plan to the Engineer including revised ISM construction and quality control plan and spoils management plan. Do not re-start ISM Work without written approval from the Engineer.

00345.43 Contractor Quality Control and Installation Verification - Perform QC testing, and monitor all Equipment and operations, to determine if the ISM is constructed according to the approved ICAQCP, and as otherwise specified, shown, or directed.

Report results of all QC testing to the Engineer within 7 Days of completion of each QC test. Notify the Engineer immediately if UCS tests do not meet the criteria in.

Perform Jet Grouting in the presence of the Engineer. Make the recorded operations data available to the Engineer in real time as requested.

(a) Grout Properties Testing - Measure and document Grout mix proportions.

Calibrate weighing equipment at the beginning of ISM to within one percent of a known weight and repeat calibrations every 90 Days thereafter.

Perform density tests using a mud balance a minimum of four times per production shift or every two hours during production work, whichever is the greater frequency. Do not deviate from the approved Grout mix design density by more than 2 percent.

Keep and submit written records to the Engineer to verify that Grout mixture(s) meet the requirements of the accepted mix design.

(b) Jet Grouting Monitoring - Continuously monitor and automatically record data throughout the Jet Grouting operations. At a minimum, record and plot the following versus depth:

- Grout, air, and water pressures during the mixing/Jetting process.
- The rate and total volume of Grouting fluids, water, and air through the Jet Grout Monitor.
- The Jet Grout Monitor rate of rotation and withdrawal.
- Binder Content in Place.

Provide all monitored and recorded data in a format acceptable to the Engineer.

(c) In-Situ Wet Sampling - Sample Soil-Cement according to ASTM C 31, and the following:

- Collect wet samples from the in-situ Soil-Cement Elements in the top-, middle- and bottom-third of the element, or as directed by the Engineer. Collect the samples directly from the Soil-Cement Element. Sampling from the Spoils trench, Grout mixing plant, or drill rig is not allowed.
- Collect samples in the presence of the Engineer's on-site QA representative from at least 2 Soil-Cement Elements per rig per shift that Soil-Cement Elements are constructed.
- Screen the samples through a 3/4-inch sieve to remove gravel-sized materials and homogenize the samples.
- Prepare of a minimum of 12 total Soil-Cement cylinders (minimum of 4 at each depth interval), measuring 3 inches in diameter by 6 inches in height.
- When molding samples, remove air bubbles from a sample by tapping or pounding instead of rodding.
- Seal all cylinders immediately after sample molding.
- Label each Soil-Cement sample before it is put into storage. At a minimum, include identification of the Soil-Cement Element the sample was collected from, station number, collection date and time, sample depth, type of test to be run, and project name.
- Cure the samples for a minimum of three Days before transport to another location, in:
    - An insulated container

- A secure location that is flat, free from vibration, freezing, extreme heat, wind, contamination, or other similar disturbances. During cold weather, store samples on-site in a temperature-controlled environment.
- Transport the samples to the testing laboratory in a manner that minimizes damage to the samples.
- Cap samples before UCS testing.

(d) Coring:

(1) Core Sampling - Core and measure downhole verticality in at least 3 percent of Soil-Cement Elements at the locations specified, shown, or directed.

Cure Soil-Cement Elements for a minimum of 7 Days, but no longer than 28-Days, before coring.

Core within 1 degree of vertical determined using down-hole measurements.

Core the full length of the Soil-Cement Element, using a rotary drilling rig equipped with a triple tube barrel and a diamond core bit (PQ sized barrel or larger). Use a split tube as the inner barrel.

Perform additional coring required due to unacceptable cores at no additional cost to the Agency.

Use of alternate coring procedures does not relieve the Contractor of the requirement to obtain core samples for UCS testing.

Upon completion of each core, Grout the core hole(s) in the SCE using production Grout. Alternatively, the Engineer may allow a 1:1 mixture by weight of Portland Type 1 cement and water to be used.

(2) Core Sample Logging and Storage - Log the core samples in the Engineer's presence according to the ODOT Soil and Rock Classification Manual. Note other observations or anomalies, and prepare photo documentation of the cores.

Label photographs with the following:

- The Soil-Cement Element number
- Soil-Cement core run ID
- Depth range
- Station number.

At a minimum, include the following in each core run log:

- Core run ID
- Station
- Depth range
- Coring date and time
- Recovery and RQD

- Types and locations of all discontinuities
- Physical description of core recovery primarily with respect to presence of soil-Grout mixture (i.e., color, texture, unmixed zones, hardness)
- Identification of driller and drilling equipment.

The Engineer will select a minimum of 5 samples from each core for UCS testing, with at least 1 core sample selected from each of the top-, middle-, and bottom-third of the element, and two additional samples selected with no depth restrictions. The Engineer may consult with the Soil-Cement Core Logger or Contractor when selecting samples.

Following logging and test specimen selection, immediately seal the samples designated for UCS testing in plastic wrap to prevent drying, and transport to the independent laboratory.

Furnish 60 inch long, standard, wooden rock core boxes with hinged covers that can be secured by a lock or clasp for storage of recovered Soil-Cement cores. Separate core rows with wooden strips fastened in the box and marked to identify each core run depth range.

Store and transport core samples according to ASTM D5079 and the following:

- Place all recovered cores in the core boxes starting in the upper left corner
- Label each core box cover with the project name, coring date and time, core run ID, station, and depth range, and core recovery and RQD.

The core specimens may require additional curing in storage before UCS testing at 28 Days.

(e) UCS Testing - Perform all QC laboratory testing using an independent laboratory selected and retained by the Contractor and accepted by the Engineer.

Perform UCS tests according to ASTM D1633, Method B, and at the frequencies specified in Table 00345-4

Table 00345-4 UCS Sample Testing Frequencies

Sampling Method	Testing Frequency (days after mixing)
In-situ Wet	3, 7, 14, 28
Core	28

Finishing and Clean Up

00345.70 Containment and Clean up - Contain, collect, and dispose of all drill cuttings, Spoils, debris, water, spilled Material, and other waste during ISM Work, and at the completion of ISM Work, according to the ICAQCP, spoils management plan, and Sections 00290 and 0294.

Clean any leakage from ISM Work or during transportation immediately.

Stormwater BMPs are required during all phases of Spoils collection, curing, stockpiling, storage, and disposal according to Section 00280. Install surface water run-on and run-off

controls in holding areas and temporary stockpile areas as specified, shown, or directed. Comply with 00280.41(c) between October 1 and May 31.

Do not allow untreated run-off or subsurface infiltration from the holding areas used for curing or storage of Spoils. Line all curing and stockpile area(s) with an impermeable lining.

Collect and treat all storm water contacting fresh, cured, or processed Spoils, and equipment wash water as specified, shown, or directed before discharge.

00345.71 Repair and Replacement - Repair and re-test any portion of the constructed ISM that does not meet the requirements of 00345.03 as directed.

Submit a plan for repairs acceptable to the Engineer before performing the repairs. Do not begin repairs without prior written approval from the Engineer. The repairs and associated re-testing will be performed at no additional cost to the Agency and no adjustment of Contract Time will be made.

Design and construct the repair sections to meet the requirements of 00345.02. Obtain and test one set of in-situ wet and core samples according to 00345.43 for every 100 CY of SCE repair, with a minimum of one set for each repair section.

Measurement

00345.80 Measurement - The quantities of Work performed under this Section will be measured according to the following:

(a) Design Drawings - No measurement of quantities will be made for the Contractor's ISM design drawings.

(b) Provide Jet Grouting Equipment - No measurement of quantities will be made for furnishing Jet Grouting equipment.

(c) ISM Work Platforms - No measurement of quantities will be made for construction or removal of the ISM Work Platforms. The estimated quantities for ISM Work Platform are:

ISM Work Platform Material	Estimated Quantities
Removal, stockpile, and replacement of wetland soils	175 cu. yd.
Stone embankment	650 cu. yd.
Riprap geotextile	400 sq. yd.
Sheet pile cutoff wall	2240 sq. ft.
Silt Fence	145 ft.

(d) Preconstruction Mix Design Test Program and Demonstration Program - No measurement of quantities will be made for the Contractor's preconstruction mix design test program or demonstration program.

(e) Soil-Cement Elements - No measurement of quantities will be made for construction of the Soil-Cement Elements. The estimated volume of Soil-Cement Elements computed by multiplying the volume of the estimated ISM by the minimum Area Replacement Ratio specified or shown, is 4000 cubic yards.

No adjustments will be made unless changes are ordered in writing by the Engineer. If changes are ordered in writing by the Engineer, an adjustment will be made only for the quantity difference involved in the ordered changes.

Construction survey work will be measured according to 00305.80.

Payment

00345.90 Payment - The accepted quantities of Work performed under this Section will be paid for at the Contract unit price, per unit of measurement, for the following items:

Pay Item	Unit of Measurement
(a) Design Drawings	Lump Sum
(b) Provide Jet Grouting Equipment	Lump Sum
(c) ISM Work Platforms	Lump Sum
(d) Preconstruction Mix Design Test Program and Demonstration Program	Lump Sum
(e) Soil-Cement Elements	Lump Sum

Item (b) includes mobilization and providing Jet Grouting Equipment, setting up the Equipment at various locations on the Project Site, and removing the Equipment from the Project Site.

Partial payments for item (b) will be made as follows:

- When Equipment for Jet Grouting is provided and satisfactorily performing production ISM Work 60%
- When production ISM Work is complete and Equipment has been removed from Project Site 40%

Item (c) includes construction and removal of the ISM Work Platform and sheet pile cutoff wall.

Item (e) includes:

- Installing Soil-Cement Elements
- Delivery and furnishing of Grout
- Quality control during Soil-Cement Element construction
- Performance of verification testing
- Spoils containment, collection, and disposal

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

Groundwater pH monitoring will be paid for according to 00298.90.

Construction survey work will be paid for according to 00305.90.

SECTION 00350 - GEOSYNTHETIC INSTALLATION

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

00350.01 Definitions - Add the following definition:

Geomembrane - An essentially impermeable geosynthetic composed of one or more synthetic sheets.

Replace the definition "**Geogrid**" with the following definition:

Geogrid - A geosynthetic used for reinforcement that is formed by a regular network of tensile elements with apertures of sufficient size to allow strike-through of surrounding Soil, Rock or other geotechnical material.

Replace the definition "**Seam Type**" with the following definition:

Seam Type - A designation of Geotextile positioning and rows of stitching in a specified sewn seam as shown (for example Type SSn-1, "J" Seam SSn-1). The designated method of joining Geomembrane sheets (for example thermal fusion welding, extrusion welding).

00350.40 General - Replace this subsection, except for the subsection number and title, with the following:

Furnish geosynthetic from the manufacturer and protect against damage and deterioration. Prevent excessive mud, wet concrete, epoxy and like materials from coming in contact with the geosynthetic. Store all Geosynthetics in a dry place and off the ground at all times according to ASTM D4873. Cover all Geosynthetics with a dark protective covering when received. The geosynthetic will be rejected for use if the Engineer determines it has defects or deterioration or has been damaged.

00350.41(a)(3)(a) General - Replace the paragraph that begins "Sew field seams with polymeric …" with the following paragraph:

Sew field seams with polymeric thread consisting of polypropylene, polyester or kevlar, and as resistant to deterioration as the Geotextile being sewn. Use a color of thread that contrasts with the Geotextile being sewn so the stitches are exposed for inspection when the Geotextile is placed. Meet the testing requirements of 02320.11(b).

00350.41(a)(3)(b) Stitch Requirements - Replace the paragraph that begins "Use two rows of lock-type …" with the following paragraph:

Use two rows of lock-type stitching, Type 401, spaced 1/2 inch apart with a tolerance of plus or minus 1/4 inch as shown, to make the seams. Do not cross stiches except for restitching.

00350.41(f)(2) Weather Limitations - Replace this subsection, except for the subsection number and title, with the following:

Do not place sealant and Geotextile unless the weather limitations of 00745.40 are met, as appropriate, except the minimum air temperature is 50 °F for paving grade asphalt sealant placement and 60 °F for asphalt emulsion sealant placement.

00350.41(f)(3) Surface Preparation - Replace the paragraph that begins "Prepare the Pavement surface …" with the following paragraph:

Prepare the Pavement surface that the sealant is to be placed according to 00730.42 and the following:

00350.41(f)(4) Sealant Application - Replace the paragraph that begins "Uniformly spray the asphalt …" with the following paragraph:

Uniformly spray the asphalt sealant at normal application temperature by means of a pressure distributor according to 00350.21 on the prepared dry Pavement surface. Apply at the rate of 0.20 - 0.30 gallon per square yard, or as recommended by the Geotextile manufacturer or as directed.

Replace the paragraph that begins "The target width of the sealant …" with the following paragraph:

The target width of the sealant application is the Geotextile width plus 6 inches. Apply the sealant only as far in advance of the Geotextile installation as appropriate to ensure a tacky surface at the time of Geotextile placement. Place the Geotextile the same Day as the sealant. Do not allow traffic on the sealant. Clean excess asphalt from the road surface.

00350.42(a) Placement - Replace the bullet that begins "Unroll the Geogrid …" with the following bullet:

- Unroll the Geogrid in the same direction the cover Material is placed. If the Geogrid shifts or becomes misaligned, realign it and anchor it according to the manufacturer's recommendations.

00350.90 Payment -

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

SECTION 00390 - RIPRAP PROTECTION

Comply with Section 00390 of the Standard Specifications modified as follows:

00390.11(a) General - Replace the bullet that begins "Be angular in shape …" with the following bullet:

- Be angular in shape. Thickness of a single Rock is not less than one-third its length. Rounded Rock will not be accepted unless authorized by the Engineer.

00390.11(b) Test Requirements - Replace the paragraph that begins "Furnish the Rock…" with the following paragraph:

Furnish Rock meeting the following test requirements:

00390.11(c)(1) Control Sample - Replace this subsection, except for the subsection number and title, with the following:

If directed, provide, at a satisfactory location near the Project, a Rock sample of at least 5 Tons meeting the gradation for the class specified. The Engineer will use the sample as a frequent visual reference for judging the gradation of the riprap supplied.

00390.11(c)(2) Sampling and Testing Assistance - Replace this subsection, except for the subsection number and title, with the following:

The Engineer may request a gradation verification of two random truckloads of Rock. Provide mechanical Equipment, a sorting site and labor needed to assist in checking gradation at no additional cost to the Agency

00390.42 Filter Blanket Construction - Replace this subsection, except for the subsection number and title, with the following:

Place the Filter Blanket on the prepared area to the full specified thickness in one operation, using methods that do not cause segregation.

00390.44(a) General - Replace this subsection, except for the subsection number and title, with the following:

Unless otherwise directed, place the riprap protection as the embankment is constructed. Lag the riprap placement behind the embankment construction only as necessary to allow proper embankment construction and prevent mixture of embankment and riprap Material.

00390.44(b) Loose Riprap - Replace the bullet that begins "With a clamshell …" with the following bullet:

- With a clamshell, orange-peel bucket, skip or similar approved device that will contain the riprap Material to its final destination. Do not open the bucket until it has been lowered to the slope where the Material is being placed.

Replace the bullet that begins "To produce a compact …" with the following bullet:

- To produce a compact riprap protection where all sizes of Material are placed in their proper proportion.

00390.44(c) Keyed Riprap - Replace this subsection, except for the subsection number and title, with the following:

After placing Loose Riprap Material according to 00390.44(a) and 00390.44(b), key the riprap into place by slapping the surface with a piece of armor plating (approximately 4 feet x 5 feet in size weighing approximately 5,000 pounds) or other approved means that will produce a nearly smooth surface.

00390.44(d) Grouted Riprap - Replace the paragraph that begins "Thoroughly moisten the stones …" with the following paragraph:

Thoroughly moisten the stones and sluice any excess fines to the underside of the riprap before grouting. Deliver the grout to the place of final deposit by any means that ensure uniformity and prevent segregation of the grout. Spade or rod the grout into the spaces to completely fill the voids in the riprap. Control pressure grouting and do not unseat the stones. Penetrate the grout to the depth as shown. If a rough surface is specified, brush the stone until 25 to 50 percent of the depth of surface stone is exposed. For a smooth surface, grout the crevices to within 5/8 inch of the surface.

00390.90 Payment - Replace the paragraph that begins "In items (b), (c), and (d) …" with the following paragraph:

In items (b), (c), and (d), the class of riprap is inserted in the blank.

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

SECTION 00405 - TRENCH EXCAVATION, BEDDING, AND BACKFILL

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

00405.00 Scope – Add the following sentence to the end of this subsection:

This Work additionally consists of locating existing utilities using vacuum excavation or other approved methods.

00405.02 Definitions - Replace the definition "**Trench Foundation"** with the following definition:

Trench Foundation - The bottom of the trench where the Pipe Bedding is to lie and that provides support for the pipe.

00405.03 Lines, Grades, and Cross Sections - Replace this subsection, except for the subsection number and title, with the following:

Excavate trenches to the lines, depths, grades and Cross Sections as shown or as established. Variations are allowed only when necessary to ensure firm foundations and when such variations will not be detrimental to the Work.

00405.14 Trench Backfill - Replace the paragraph that begins "Furnish the following …" with the following paragraph:

Furnish the following Materials as shown or required:

00405.14(b) Class B Backfill - Replace the paragraph that begins "Use Granular Material…" with the following paragraph:

Use Granular Material consisting of Gravel or crushed Rock meeting the requirements of Section 00641. Use 1" - 0 or 3/4" - 0 Aggregate.

00405.14(d) Class D Backfill - Replace the paragraph that begins "Use pit run or bar …" with the following paragraph:

Use pit run or bar run Material, well-graded from coarse to fine. The maximum dimension is 3 inches.

00405.41(b) Open Trench Limit - Replace this subsection, except for the subsection number and title, with the following:

Limit the length of open trench to 100 feet, or as allowed. Complete related resurfacing within 800 feet of the open trench limit.

00405.41(f) Trench Protection - Replace the paragraph that begins "Provide the Materials …" with the following paragraph:

Provide the Materials, labor and Equipment necessary to protect trenches at all times. Provide safe working conditions in the trench and protect the Work, existing property, utilities,

Pavement, and the public. Design the method of protection. The Contractor may elect to use any combination of shoring, overbreak, tunneling, boring, sliding trench shields or other methods of accomplishing the Work, provided the method meets with the approval of the Engineer and complies with all applicable local, state, and federal safety codes.

Add the following subsection:

00405.41(h) Exploratory Excavations - At least 10 Calendar Days prior to beginning any trench excavation for sanitary sewer or potable water line Work, locate existing utilities using vacuum excavation or other approved methods as shown, specified or directed.

Notify the Engineer immediately of any conflicts with proposed utility grade or cover requirements.

Furnish horizontal and vertical location data in a manner satisfactory to the Engineer.

00405.43 Dewatering - Replace the paragraph that begins "When dewatering near a …" with the following paragraph:

When dewatering near a river, lake, or stream, meet the requirements of 00290.30(a) and Section 00280. When the presence of water or other conditions in the excavated area would be detrimental to the purpose of the Work, obtain approval of the Engineer for the temporary measures required to correct or care for the condition.

00405.44 Trench Foundation - Replace the paragraph that begins "When, in the judgment of …" with the following paragraph:

When, in the judgment of the Engineer, the existing material in the bottom of the trench is unsuitable for supporting the pipe, excavate below grade, as directed. Replace the excavated material with imported Trench Foundation Material meeting the requirements of 00405.11. Place the Trench Foundation Material in 6-inch layers and compact according to 00330.43 except compact selected stone backfill material in 12-inch layers. Bring the Trench Foundation Material to the elevation established.

00405.45 Pipe Bedding - Replace this subsection, except for the subsection number and title, with the following:

Spread the bedding smoothly to the proper grade so that the pipe is uniformly supported along the barrel. Excavate bell holes at each joint to permit proper assembly and inspection of the joint. Furnish bedding under the pipe that provides a firm, unyielding support along the entire pipe length.

00405.46 Backfilling - Replace the paragraph that begins "Backfill with Material …" with the following paragraph:

Backfill with Material meeting the requirements of 00405.13 and the details shown, or as directed.

00405.46(d) Ponding or Jetting of Backfill Materials - Replace the paragraph that begins "Ponding or jetting is …" with the following paragraph:

Ponding or jetting is not allowed within Roadbed lateral limits. Ponding or jetting is allowed outside Roadbeds when approved by the Engineer in writing.

Replace the paragraph that begins "Furnish Equipment that provides …" with the following paragraph:

Provide Equipment that provides a minimum gauge pressure of 35 psi at the discharge nozzle. Use a Rigid Pipe that will reach within 1 foot of the bottom of the backfill. Insert the pipe at intervals not exceeding 4 feet throughout the entire width and length of the Trench Backfill.

Add the following paragraph to the end of this subsection:

Do not use ponding or jetting to backfill sanitary or potable water trenches.

00405.46(e) Temporary Trench Plating - Replace this subsection, except for the subsection number and title, with the following:

When temporary steel plates are required over a street cut, install plates capable of carrying at least a minimum of MS-18 loading. Place steel plates with a minimum of 12 inches bearing on all sides of a cut. Anchor steel plates to minimize shifting. Shim the edges of all steel plates with cold mix asphalt.

00405.48(b) Topsoil - Replace the paragraph that begins "Where trenches cross lawns …" with the following paragraph:

Where trenches cross lawns, garden areas, pastures, cultivated fields or other areas where Topsoil exists, remove the Topsoil to a minimum 12-inch depth and place the Material in a stockpile. Do not mix the Topsoil with other excavated material. After the trench has been backfilled, replace the Topsoil.

00405.80 Measurement – Replace the paragraph that begins “Except for Rock…” with the following paragraph:

Except for exploratory excavations, Rock Excavation, Boulder Excavation, and Trench Foundation, no measurement of quantities will be made for Work performed under this Section.

Add the following subsection:

00405.83 Exploratory Excavations – The quantities of exploratory excavations will be measured on the unit basis regardless of size.

00405.90 Payment – Add the following pay item to the pay item list:

(e) Exploratory Excavations ..... Each

Add the following paragraph after the paragraph that begins “Item (c) includes…”:

Item (e) includes removal of excavated materials and temporary backfill for the excavated areas.

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

In the paragraph that begins “No separate or additional…” delete the following bullet:

- sawcutting

Add the following sentence to the end of the subsection:

Sawcutting will be paid for according to Section 00310.

SECTION 00406 - TUNNELING, BORING, AND JACKING

Comply with Section 00406 of the Standard Specifications modified as follows:

00406.01 Descriptive Terms - Replace this subsection, except for the subsection number and title, with the following:

Tunneling - Tunneling includes all methods where an underground passageway is excavated and lining Materials are brought in and placed.

Boring - Boring includes all methods where a conduit, casing, pipe or sleeve is pushed or pulled into place and that the excavation method precludes the stationing of a worker within the conduit without stopping or removing the excavation Equipment.

Jacking - Jacking includes all methods where a conduit, casing, pipe or sleeve is pushed or pulled into place with one or more workers inside to excavate and assist in keeping the conduit on the required grade and alignment.

00406.02 Notifications - Notify the Engineer at least 21 Days prior to beginning jack and bore pit excavation.

00406.12 Casing - Replace this subsection, except for the subsection number and title, with the following:

Furnish casing of the type, size and class as shown. The class of casing specified is based on the post construction loads and not on stresses resulting from jacking and boring operations. The casing may be constructed of other Materials, gauge and section modulus if approved, including increasing the casing strength to accommodate the Contractor’s jacking or boring operations at no additional cost to the Agency.

For potable water line Work, furnish casing meeting the following minimum requirements:

- ASTM A53, Grade B
- 35,000 psi yield strength
- 0.600 inch wall thickness

Square cut all casing pipe to the lengths required by the furnished jacking and boring equipment.

When pressure grouting is specified, furnish jacked casings 36-inch diameter and larger with nipples installed at the springline and the crown, at 10-foot centers.

00406.41(b) Boring and Jacking - Replace the bullet that begins “Casing or Conduit” with the following bullet:

- Casing or conduit - verify that the casing is suitable for the installation method

00406.43 Boring and Jacking - Add the following paragraphs to the end of this subsection:

Correct, according to recognized practice, conditions detrimental to the Work, including removal of excess water.

Protect the face of the excavation from collapse, and do not allow foreign material to enter the pipe or casing.

Stop Work and contact the Engineer immediately if any of the following occur:

- Soil or groundwater contamination from jacking and boring Work is observed or suspected
- An unexpected obstruction is encountered that would prevent completion of the Work as specified, shown, or directed
- Ground heave or other detrimental conditions to adjacent Structures, Roadways, Railroad property, or waterways are observed

Submit a plan to remediate any of the above conditions to the Engineer. Do not re-start jacking or boring Work without prior written approval from the Engineer.

Add the following subsection:

00406.43(a) Jack/Receiving Pit - Design the jacking and receiving pits to resist jacking forces. Select excavation methods compatible with the expected ground conditions and the site restrictions shown.

Do not deviate from the bore location or length shown without prior written approval from the Engineer.

Shore, brace, or use other approved means of support to protect excavations when open excavations may be detrimental to adjacent Structures, Roadways, Railroad property, or waterways. Do not leave open excavations unattended.

Provide continuous pressure to the face of the excavation to balance groundwater and earth pressures. Construct shafts of sufficient size to accommodate Equipment, the pipe selected, and to allow for safe working practices.

Add the following subsection:

00406.43(b) Jacking - Jack continuously to avoid interruptions that might cause the casing to “freeze” in place.

Monitor the jacking force applied to the pipe and do not exceed the pipe manufacturer’s recommendations.

Add the following subsection:

00406.43(c) Boring - Bore by auguring to lines, grade, and diameter specified, shown, or otherwise directed. Re-drill pilot holes when bores are not as specified, shown, or directed.

Monitor the pumping rate, pressures, viscosity, and density of the boring fluids to ensure adequate removal of soil cuttings, and the stability of the borehole. Contain and collect excess drilling fluids, slurry, and soil cuttings at the entry and exit points within the jacking and receiving pits according to Section 00290.

Ensure that the pipe lubrication system is functional at all times and sufficient to reduce jacking loads. Maintain sufficient fluids on site to avoid loss of lubrication. Bentonite slurry may be used to lubricate the exterior of casing during installation. Water may be used to facilitate removal of spoils. Water jetting is prohibited.

When jacking and boring in suspected contaminated soils or groundwater, test the boring fluid for contamination. Dispose of contaminated fluids according to Sections 00290 and 00294.

Remove any excess material upon completion of the Work. Dispose of waste according to Section 00290.

Do not abandon casing or pipe without prior approval from the Engineer. Fill the abandoned pipe or casing with CSLM when directed.

Add the following subsection:

00406.43(d) Casing Tolerances and Grade Control - Do not allow bore hole diameter to exceed the outside diameter of casing by more than one inch.

Control line and grade to within 2 inches horizontal, and within 1 inch vertical.

Furnish bore hole location data in a manner satisfactory to the Engineer.

If the bore hole is not constructed to the line, grade, tolerances specified, shown, or directed, correct line and grade using casing spacers according to the manufacturer’s recommendations.

Add the following subsection:

00406.43(e) Installation of Carrier Pipe within Casing - Construct carrier pipe joints according to Section 00445. Install the full length of the completed and inspected casing prior to the installation of carrier pipe within the casing.

Install a minimum of three casing spacers on each section of carrier pipe. Electrically isolate the spacers, casing, and pipe from each other. Install spacers on each side of each joint with no more than 8 feet between joints. Check each joint and pipe section prior to pushing carrier pipe sections into casing. Install restrained joint pipe or mechanical joints with restrainers.

Install casing end seals at each end of the casing after installation of the carrier pipe.

00406.45 Smooth Steel Casing - Replace the paragraph that begins "Join sections of smooth steel …" with the following paragraph:

Join sections of smooth steel casing to be jacked or bored by welding the joints with airtight, continuous welds around the full circumference of the casing that do not increase outside diameter by more than 0.75 inches. Weld casings according to AWWA C206. Construct full penetration, single bevel groove type field welds. Use machines and electrodes in the Work that are equivalent to the ones used in qualification testing. Furnish joints capable of resisting the jacking or boring forces.

00406.47 Cradles for Cased or Tunneled Pipe - Replace this subsection, except for the subsection number and title, with the following:

Where cradles are shown, provide a strapped cradle under the barrel of the carrier pipe. Ensure the barrel bears continuously on the cradles.

Add the following subsection:

00406.50 Cleanup - Upon completion of jacking and boring operations, trim and clean up the work area according to 00140.90, and as otherwise specified.

Dispose of waste according to 00290.20 within 48 hours of completing jacking and boring operations.

Do not disturb or harm adjacent facilities, Structures, Roadways, Railroad property, or waterways, including existing Wetlands, when removing Equipment, Materials, waste, or temporary shoring, bracing, or other means of stabilizing excavated areas.

Fill voids created by the removal of temporary shoring, bracing, or other means of stabilizing excavated areas with clean Sand, or as otherwise specified, shown, or directed.

Backfill jacking and receiving pits with Aggregate Materials meeting the requirements of 00641.10, and according to 00330.42 and 00330.43. Restore the ground surface as specified, shown, or directed.

00406.80 Measurement - Replace this subsection, except for the subsection number and title, with the following:

The quantities of casing will be measured on the length basis.

No measurement of quantities will be made for tunneling, boring, or jacking Work.

Where tunneling, boring, jacking, or open trench excavation is used at the Contractor's option in lieu of another specified method, measurement will be made as originally bid.

The quantities of pipe installed inside the casing will be measured according to the appropriate items under which this Work is required.

00406.90 Payment - Replace this subsection, except for the subsection number and title, with the following:

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

Pay Item	Unit of Measurement
(a) Tunneling, Boring, and Jacking	Lump Sum
(b) Casing, _____	Foot

Item (a) includes the additional effort required to install the casing by tunneling, boring, or jacking (other than under a Railroad). This includes Equipment, Sand, grout, jacking pits, and bracing.

In item (b) the type of casing, “steel” or “concrete” is inserted in the blank.

If tunneling, boring, jacking, or open trench excavation is used at the Contractor's option in lieu of another specified method, payment will be made as originally bid.

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

Tunneling, boring, or jacking under a Railroad will be paid for according to 00445.91.

Pipe will be paid for according to the appropriate Section in which the Work is required.

SECTION 00415 - VIDEO PIPE INSPECTION

Comply with Section 00415 of the Standard Specifications modified as follows:

Add the following subsection:

00415.02 Definitions:

Flexible Pipe - Pipes constructed of corrugated metal are considered Flexible Pipes.

Rigid Pipe - Pipes constructed of concrete and ductile iron are considered Rigid Pipes.

Thermoplastic Pipe - Pipes constructed of polyvinyl chloride, polyethylene, and polypropylene are considered Thermoplastic Pipe.

00415.20(b) Transporter - Replace the paragraph that begins "Use an all-wheel…" with the following paragraph:

Use an all-wheel drive or track mounted transporter capable of inspecting pipes ranging in size from 12 to 60 inches in diameter. Provide a transporter with an adjustable operating speed while recording not to exceed 30 feet per minute.

00415.20(c) Recording Device - Replace the paragraph that begins "Provide a device capable …" with the following paragraph:

Provide a device capable of recording video with the pipe identification, a remote meter counter displaying length along the profile in tenths of feet and indicating the camera's position from the starting point. Calibrate the meter counter to be accurate within 0.5 percent over the length of pipe being inspected. Provide a device capable of recording a digital video with a minimum resolution of 720 x 480.

00415.23 Manual Inspection - Replace this subsection, except for the subsection number and title, with the following:

For pipes larger than 48 inches and when the entire length of the pipe is accessible, a handheld video camera and a light source may be used. Provide video camera and lighting meeting the requirements of 00415.20(a). A digital camera may be used as a supplement for taking photographs. Use a light source that provides a clear, focused and high-quality photograph of the culvert surface under all conditions.

00415.40(b) Cleaning – Add the following paragraph to the end of this subsection:

For sanitary sewer, install a plug in the closest downstream manhole to catch debris at the downstream end of the pipe run. Flush the pipe, including laterals, with potable water, toward the downstream plug. Use a vacuum process to remove all debris.

00415.41 Pre-Installation Video Inspection - Replace the paragraph that begins "Perform a pre-installation video inspection…" with the following paragraph:

Perform a pre-installation video inspection at least 5 Calendar Days before beginning Work. Begin Inspection at one end of the pipe and proceed through the entire pipe length at a speed not greater than 30 feet per minute. Move the camera through the pipe, along the approximate center of the pipe, and provide a continuous 360 degree pan of each pipe joint. Stop and record all cracks, deformities, and defects to document the pipe condition, including the location of all lateral connections to the mainline.

00415.42 Post Installation Video Inspection - Replace the paragraph that begins "Perform post construction video inspection…" with the following paragraph:

Perform post construction video inspection according to 00415.40 and 00415.41. Video inspect the pipe interior no sooner than 30 Days after the trench backfill and compaction have been completed, and before any paving is performed. If the Contract duration does not permit a 30-Day waiting period, the Engineer may allow the inspection when the compacted backfill reaches a minimum of 2 feet above the pipe crown.

00415.42(a) Deflection Testing for Flexible Pipe - Replace this subsection with the following subsection:

00415.42(a) Post Installation Deflection Testing - Perform post construction deflection testing for all Flexible Pipe and Thermoplastic Pipe as described.

- Flexible Pipe for new pipe installations and extensions greater than 15 feet in length.
- Thermoplastic Pipe for new pipe installations and extensions greater than 10 feet in length.

If any portion of the new pipe interior is not accessible for a visual inspection, then perform deflection testing for the entire installation of new pipe or extension regardless of pipe length.

Use one of the approved following methods:

00415.42(a)(1) Remote Video Inspection with Laser Profiler - Replace the paragraph that begins “Calibrate and perform…” with the following paragraph:

For pipe 48 inches or less in diameter, calibrate, and perform deflection inspection according to ASTM F3080. Use video inspection equipment meeting the requirements of 00415.22.

00415.42(a)(2) Manual Deflection Test - Replace the paragraph that begins “Use equipment meeting…” with the following paragraph:

For pipes larger than 48 inches and when the entire length of the pipe is accessible, use equipment meeting the requirements of 00415.23.

00415.70 Video Inspection Recording and Inspection Report - Replace the paragraph that begins “Furnish two copies…” with the following paragraph:

Provide two copies of all preconstruction and post construction inspection video and reports within 3 Calendar Days after completing the inspections. If inspection video or audio recording quality is poor, the Engineer has the right to reject the recording and request new video inspection at no additional cost to the Agency.

00415.71 Corrections to Deficiencies in Work - Replace the paragraph that begins “Where the pipe deflection…” with the following paragraph:

Where the pipe deflection is greater than 5 percent and less than 7.5 percent of the nominal diameter, submit a remediation plan as a stamped Working Drawing according to 00150.35. Replace pipe where the deflection exceeds 7.5 percent of the nominal diameter at no additional cost to Agency.

00415.90 Payment - Replace the paragraph that begins “Payment will be payment …” with the following paragraph:

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

SECTION 00430 - SUBSURFACE DRAINS

Comply with Section 00430 of the Standard Specifications modified as follows:

00430.02 Contractor's Options - Replace the paragraph that begins "If the Contractor has an option …" with the following paragraph:

If the Contractor has an option of using different kinds of pipe, the option and its limitations are shown.

00430.03 Size Determination - Replace this subsection, except for the subsection number and title, with the following:

The nominal size of pipe is determined according to AASHTO tolerances for pipe dimensions for the appropriate kind or class of pipe.

00430.90 Payment - Replace the paragraph that begins "In item (a), the …" with the following paragraph:

In item (a), the nominal diameter of pipe is inserted in the blank.

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

SECTION 00440 - COMMERCIAL GRADE CONCRETE

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

00440.11 Proportions - Replace the paragraph that begins "Furnish, in writing to the Engineer …" with the following paragraph:

Provide, in writing to the Engineer, the proportions by weight of the following Materials before using any CGC:

00440.12 Properties of Commercial Grade Concrete - Replace the bullet that begins “**Entrained Air**…” with the following bullet:

- **Entrained Air** - 4.0 to 7.0 percent
  - Entrained air not required for precast elements utilizing dry cast mix designs.

00440.13 Field-Mixed Concrete - Replace the paragraph that begins "CGC Work items listed in 00440.14(a)…" with the following paragraph:

CGC Work items listed in 00440.14(a) may be field-mixed conventionally, or by volumetric/mobile mixers according to ASTM C685. When approved, concrete sidewalks, concrete curb ramps, concrete driveways, and other flat concrete surfaces may be field-mixed using volumetric/mobile mixers according to ASTM C685, request approval prior to placement. For all other CGC applications, submit written request to the Engineer for approval to use volumetric/mobile mixers according to ASTM C685 at least 21 Days prior to placement.

00440.14(a) General - Replace the paragraph that begins "Acceptance sampling…" with the following paragraph:

Acceptance sampling and testing is based on tests performed by the Contractor's QCT from samples obtained at the site of placement from the discharge of the delivery vehicle.

00440.40(b) Placing - Replace the paragraph that begins "Place CGC…" with the following paragraph:

Place CGC according to the appropriate Sections where CGC is required and the following:

00440.40(c) Forms - Replace the paragraph that begins "Provide forms for CGC …" with the following paragraph:

Provide forms for CGC according to the appropriate Sections where CGC is required and best common practices. Place to the lines and grades shown or directed.

00440.40(e) Curing - Replace this subsection, except for the subsection number and title, with the following:

Cure CGC for a minimum of 7 Calendar Days by one of the following methods:

- Cover with wet burlap, canvas, Sand, or other acceptable Material, and keep moist.
- Apply curing compounds at a rate of not less than 1 gallon per 150 square feet. Do not use on surfaces that come into contact with adjacent pours and avoid overspray on exposed reinforcement. Use curing compounds according to the following:

Table 00440-1

Section	Item	Type 1 or 1-D (Clear)	Type 2 (White-Pigmented)
00480	Drainage Curbs	*	*
00599	Slope Paving Curbs and Berm Paving	Yes	No

00759	Walks, Curb Ramps, Driveways, Surfacings, Curbs, and Islands	*	*

*Use Type 2 except when the Engineer requires Type 1 or 1-D

SECTION 00442 - CONTROLLED LOW STRENGTH MATERIALS

Comply with Section 00442 of the Standard Specifications modified as follows:

00442.01 Definition - Replace this subsection, except for the subsection number and title, with the following:

Controlled low-strength material is highly flowable lean concrete mix; that may contain cement, supplementary cementitious material, Fine Aggregates, water and chemical admixtures, if necessary. CLSM is also referred to as Controlled Density Fill (CDF).

00442.10 Materials - Replace this subsection, except for the subsection number and title, with the following:

Furnish Materials meeting the following requirements:

Cement 02010
Chemical Admixtures 02040
Supplementary Cementitious Materials 02030
Water 02020

00442.12 Proportioning of CLSM Mixture - Replace this subsection, with the following subsection:

00442.12 Submittals - Provide the following, to the Engineer, prior to using any CLSM on the Project:

- Proposed mix design proportions by weight and volume.
- 28-Day compressive strength test reports from trial batch or field data.

00442.13 Compressive Strength - Replace this subsection, except for the subsection number and title, with the following:

Furnish CLSM attaining a 28-Day compressive strength of 100 psi - 200 psi.

00442.14 Acceptance - Replace this subsection, except for the subsection number and title, with the following:

Acceptance is based on the Engineer's review and approval of the documentation required by 00442.12, and visual inspection during placement.

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

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

00445.02 Contractor's Options - Replace the paragraph that begins "If the Contractor has an option …" with the following paragraph:

If the Contractor has an option of using different kinds of pipe, the option and its installation and other limits are as shown or on the Pipe Data Sheet.

00445.03 Size Determination - Replace this subsection, except for the subsection number and title, with the following:

The nominal size of pipe is determined according to AASHTO tolerances for pipe dimensions for the appropriate kind or class of pipe.

00445.10 General - Replace this subsection, except for the subsection number and title, with the following:

Furnish appropriate certification from the manufacturer or fabricator, based on the manufacturer's quality control tests, that the Materials used in the production of the pipe meet the Specifications. Materials and strength are as specified for the particular kind of pipe and fittings required.

Use flexible elastomeric gasket Joints on all pipes and fittings. Furnish caps or plugs with each fitting, outlet or stub as required, with the same type of gasket or Joint as the pipe.

For sanitary sewers provide tee or wye fittings in the main of the same Materials as the pipe. Furnish fittings of sufficient strength to withstand all handling and load stresses encountered. Furnish Material joining the fittings to the pipe that is free from cracks and that adheres tightly to each joining surface.

Cap or plug all fittings and provide with gaskets of the same Material as used in the pipe Joint. Fit with an approved mechanical stopper or install an integrally cast knockout plug. Provide a cap or plug capable of withstanding test pressures without leaking and, when later removed, permits continuation of piping with jointing similar to Joints in the installed line.

00445.11 Materials – Add the following entry to the end of the table:

Detectable Marking Tape 02470.60

00445.11(a) Pipe Anchors - Replace this subsection, except for the subsection number and title, with the following:

Use pipe anchors according to the Standard Drawings and as shown. Furnish metal bands according to the material Specifications for the Metal pipe that they are attached to.

00445.11(b) Slip Joints - Replace this subsection, except for the subsection number and title, with the following:

Construct slip Joints according to the details shown. Furnish the outer sleeve and tapered section according to the material Specifications for the Metal pipe that they are installed with.

00445.11(c) Safety End Sections - Replace this subsection, except for the subsection number and title, with the following:

Use safety end sections according to 02420.10 and the Standard Drawings. Provide safety bars unless otherwise shown.

00445.11(e) Tracer Wire - Replace this subsection, except for the subsection number and title, with the following:

Use 12-gauge stranded or solid copper insulated high molecular weight polyethylene (HMW-PE) tracer wire or 12-gauge copper clad steel reinforced insulated HMW-PE tracer wire. Use a green, minimum 45 mil thick HMW-PE insulated cover. Use a tracer wire that is UL rated for 140 °F.

00445.11(f) Fittings for Concrete Pipe - Replace this subsection, except for the subsection number and title, with the following:

Where fittings are fabricated by inserting a stub into a hole cut in the pipe, grout with a non-shrinking grout. Coat surfaces to receive grout with an epoxy bonding agent prior to grouting. Do not allow fitting stubs to protrude inside of the sewer pipe.

00445.40(a) Trench Work - Add the following paragraph to the beginning of this subsection:

Locate existing utilities according to 00150.50 and 00405.41(h) prior to beginning trench Work.

00445.40(b) Line and Grade - Replace the paragraph that begins "Centerline and grade control …" with the following paragraph:

Centerline and grade control is established prior to the start of construction and the Special Provisions will indicate if the Agency or the Contractor establishes the control.

Replace the paragraph that begins "Do not vary from established …" with the following paragraph:

Do not vary from established line and grade by more than 1/32 inch per inch of pipe diameter or 1/2 inch for pipe diameter of 16 inches or longer, subject to the following limitations:

00445.40(d) Laying Pipe on Curves - Replace this subsection, except for the subsection number and title, with the following:

Lay pipe on horizontal or vertical curves as shown or approved. When deflecting the pipe from a straight line, either in the vertical or horizontal plane, or when long radius curves are shown, do not exceed the amount of deflection allowed by the pipe manufacturer.

00445.40(f) Installation of Sanitary Sewer Service Tees and Wyes - Replace the paragraph that begins "The maximum line or …" with the following paragraph:

Accomplish line or grade changes with fittings and long radius curves or bends. Do not exceed 45 degrees line or grade change with any one fitting.

00445.43(a) General - Replace the paragraph that begins "Lay pipe proceeding upgrade …" with the following paragraph:

Lay pipe proceeding upgrade with spigot ends in the direction of flow. Assemble Joints according to the recommendations of the manufacturer for the type of Joint used. Furnish a trench bottom that has a continuous and uniform bearing and support for the pipe at every point between Joints.

Replace the paragraph that begins "Prevent excavated or other …" with the following paragraph:

Prevent excavated or other foreign material from getting into the pipe. Plug or close off pipes that are stubbed off for future connection. When cutting or machining of the pipe is necessary, use only the tools and methods recommended by the pipe manufacturer. Furnish field Joints that:

00445.43(d) Polyethylene Pipe - Replace this subsection, except for the subsection number and title, with the following:

Install solid-wall HDPE and corrugated polyethylene pipe and fittings according to the manufacturer's recommendations.

Assemble and join solid-wall HDPE pipe at the site using the thermal butt fusion method to provide a leak-proof Joint. Threaded or solvent-cement Joints are not allowed. Use Equipment and procedures in strict compliance with the manufacturer's recommendations. Use personnel certified as fusion technicians by the manufacturer of the pipe or fusing Equipment to accomplish the fusing.

Provide Joints for corrugated polyethylene pipe made with either plain end or bell-and-spigot coupling.

00445.43(f) Polypropylene Pipe - Replace the paragraph that begins "When the ambient air …" with the following paragraph:

When the ambient air temperature is less than 10 °F, do not install, move, cover, bury, or otherwise handle the polypropylene pipe. All polypropylene pipe handled at temperatures below 10 °F is rejected and not allowed to be used on the Project.

00445.44 Strutting Metal Pipe - Replace this subsection, except for the subsection number and title, with the following:

When the Plans or Special Provisions call for Metal pipe to be installed in a tied or strutted condition, place the ties or struts before backfilling, according to the details shown. Strutting with timber is not allowed in pipe furnished with paved inverts or with centrifugally applied bituminous inner linings. Remove the ties and struts after the embankment over the pipe is completed and compacted.

00445.47 Contact Surfaces, Aluminum to Concrete - Replace the paragraph that begins "Where uncoated aluminum …" with the following paragraph:

Where uncoated aluminum pipe or aluminum coated steel pipe is touching portland cement concrete, give the contact surfaces of the pipe a coating of asphalt mastic applied at a rate that will give a minimum dry film thickness of 50 mils.

00445.48 Tracer Wire – Replace this subsection, except for the subsection number and title, with the following subsection:

Install tracer wire in all trenches for sanitary and storm sewers. Place the tracer wire directly over the pipe centerline and on top of the pipe zone Material. Place a branch tracer wire over each pipe connected to the main sewer. Install mainline tracer wire continuously, bypassing around the outside of Structures on the north or east side. Secure tracer wire with tape or ties every 5 feet. Install tracer wire systems as a single continuous wire, except where connectors are approved.

Make tracer wire splices using a solderless connection kit that effectively moisture-seals two or more conductors for direct burial and securely join the wires both mechanically and electrically. Insulate splices to be moisture-proof and waterproof. Splices wrapped with tape will not be accepted as waterproof. Have all splice kits approved prior to installation.

Install tracer wire to allow proper access for connection of line tracing equipment, proper locating of wire without loss or deterioration of low frequency (512 Hz) signal, and without distortion of signal caused by more than one wire being installed in close proximity to one another. Furnish access to the terminal ends of tracer wires at all manholes.

Immediately repair any damaged tracer wire by removing the damaged wire and installing a new section of wire with approved connectors.

Install marking tape approximately 10 inches to 12 inches above the top of the sewer mainline continuously, bypassing around the outside of manholes/structures on the north or east side for its full length.

Test all new tracer wire installations and locator stations by locating and line tracing the tracer wire with typical low frequency (512 Hz) line tracing equipment with the Engineer present. Test when rough grading is complete, and again prior to Final Acceptance of the Project. Continuity testing in lieu of actual line tracing is not allowed.

00445.71(a) General - Replace this subsection, except for the subsection number and title, with the following:

Provide storm gravity sewer systems, sanitary gravity systems, siphon systems and irrigation systems and appurtenances that successfully pass a hydrostatic or air test prior to acceptance and are free of visible infiltration of water. Test manholes as specified in Section 00470.

On pipe 30 inches in diameter and larger, individual Joints may be tested by an approved Joint testing device. Submit all testing procedures and details for review by the Engineer.

00445.71(c) Testing Equipment - Replace this subsection, except for the subsection number and title, with the following:

Provide all necessary testing Equipment and perform the tests in a manner that provides observable and accurate measurements of either air or water leakage under the specified conditions. Calibrate and certify gauges at the direction of the Engineer. Provide the certification with the gauge.

00445.72(a) General - Replace the paragraph that begins "The method, Equipment …" with the following paragraph:

Submit the method, Equipment and personnel used in testing for approval by the Engineer. The Engineer may, at any time, require a calibration check of the instrumentation used.

00445.72(a)(1) Safety Precautions - Replace this subsection, except for the subsection number and title, with the following:

Only qualified personnel are allowed to conduct the test. Furnish plugs used to close the system for the testing that are capable of resisting the expected internal pressures. Securely brace plugs, if necessary.

00445.72(b) Exfiltration Leakage Testing - Replace this subsection, except for the subsection number and title, with the following:

Prior to the exfiltration leakage test, the pipe test section may be filled with clear water to permit normal absorption into the pipe walls. Keep the test pipe section saturated for a minimum of 4 hours. After the absorption period, refill the pipe to the required test head.

Exfiltration leakage of more than 0.04 gallons per hour per inch diameter per 100 feet of pipe is unacceptable, except 0.3 gallons per hour, per inch per 100 feet may be used in arid climate zones if approved by the Engineer. The minimum hydrostatic head for testing is a minimum 6-foot water column above the crown of the highest section of pipe including service connections or exceed the maximum estimated groundwater level. The Engineer will make the final decisions regarding test height for the water in the pipe section.

Limit the length of pipe tested by exfiltration so that the pressure on the invert of the lower end of the section does not exceed 16 feet of water column. Account for all service connection footage for computing allowable leakage.

00445.72(c) Air Testing - Replace the paragraph that begins "The pressure gauge …" with the following paragraph:

Provide a pressure gauge for use in air testing having minimum divisions of 0.1 psi and an accuracy of 0.0625 psi. All air testing is by the time pressure drop method. The test procedure is as follows:

00445.72(c)(2) Replace this subsection, except for the subsection number, with the following:

Determine the average height of the groundwater over the line. Increase the required test pressures by 0.433 psi for each foot of average water depth over the exterior crown of the pipe.

00445.72(c)(6) Replace the paragraph that begins "For air permeable Materials …" with the following paragraph:

For air permeable Materials (concrete & clay) the tested section is acceptable if the time recorded in paragraph (6) above is not less than the time in seconds (T) computed by the formula:

Replace the paragraph that begins "C = the sum of the …" with the following paragraph:

C = the sum of the computations (0.0003882 dL) for each size of pipe and its length in the section, except that the minimum value for C is 1

Replace the paragraph that begins "For non-air permeable pipe …" with the following paragraph:

For non-air permeable pipe (Metal, PVC, HDPE, ABS composite), the section tested is acceptable if the time recorded in (6) above is not less than the time determined by the following equation.

00445.72(d)(1) General - Replace this subsection, except for the subsection number and title, with the following:

The Contractor may test each individual Joint for leakage using a pneumatic Joint testing apparatus. The method, Equipment and personnel used in individual Joint testing is as approved. The Engineer may, at any time, require a calibration check of the instrumentation used. Use a pressure gauge having minimum divisions of 0.1 psi and have an accuracy of 0.0625 psi. Pass all air used through a single control panel.

00445.72(d)(2) Method - Replace this subsection, except for the subsection number and title, with the following:

All air testing is by the time pressure drop method. The test procedure is as follows:

a. Determine the average height of the groundwater over the line. Increase the test pressures required below by 0.433 psi for each foot of average water depth over the exterior crown of the pipe.

b. Add air slowly to the section being tested until the internal air pressure is raised to 4 psi greater than the average backpressure due to groundwater.

00445.72(d)(3) Acceptance - Replace this subsection, except for the subsection number and title, with the following:

The Joint is considered acceptable if the pressure drops less than 1 psi within 5 seconds.

00445.75 Repairs - Replace the paragraph that begins "Following a successful …" with the following paragraph:

Following a successful hydrostatic or air test, visible infiltration of groundwater in any section is considered evidence that the original test was in error or that failure of the section has occurred. Correct such failures and retest the repaired sections, at no additional cost to the Agency.

00445.91 Payment - Replace the paragraph that begins "In item (a), the …" with the following paragraph:

In item (a), the nominal pipe diameter is inserted in the first blank. The type of pipe is inserted in the second blank. The appropriate flow line depth range is inserted in the third blank.

Replace the paragraph that begins "In item (b), the nominal pipe …" with the following paragraph:

In item (b), the nominal pipe diameter is inserted in the first blank. For arch type pipe, the nominal diameter of circular Metal pipe from which the pipe arch is formed, or reformed, is inserted in the first blank. The type of pipe is inserted in the second blank.

Replace the paragraph that begins "In items (c) and (d) …" with the following paragraph:

In items (c) and (d), the nominal pipe size is inserted in the blank.

Replace the paragraph that begins "In item (e), the …" with the following paragraph:

In item (e), the outer sleeve slip Joint size is inserted in the blank. The inner sleeve will be included in payment made for the smaller pipe.

Replace the paragraph that begins "In item (f) and (g)…" with the following paragraph:

In items (f) and (g), the nominal pipe diameter is inserted in the blank.

Replace the paragraph that begins "In item (h), the …" with the following paragraph:

In item (h), the type of pipe slope anchor is inserted in the first blank and the nominal pipe diameter is inserted in the second blank.

Replace the paragraph that begins "In item (l), the …" with the following paragraph:

In item (l), the nominal pipe diameter is inserted in the blank.

Replace the paragraph that begins "In item (m), the …" with the following paragraph:

In item (m) the nominal pipe diameter is inserted in the blank.

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

SECTION 00460 - PAVED CULVERT END SLOPES

Comply with Section 00460 of the Standard Specifications modified as follows:

00460.40 General - Replace the bullet that begins "Shape the Base where …" with the following bullet:

- Shape the Base where the concrete is to be placed to the lines and grades established. Water and compact the areas before placing concrete.

00460.90 Payment - Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

SECTION 00470 - MANHOLES, CATCH BASINS, AND INLETS

Comply with Section 00470 of the Standard Specifications modified as follows:

00470.01 Cast-in-Place and Precast Construction - Replace this subsection, except for the subsection number and title, with the following:

Furnish concrete manholes that are cast-in-place or precast, as shown or specified. Concrete inlets and siphon boxes may be either cast-in-place or precast.

00470.11 Precast Concrete Manholes and Bases - Replace the paragraph that begins "Prior to delivery of precast …" with the following paragraph:

Prior to delivery of precast manhole sections to the Project Site, yard permeability tests may be required at the point of manufacture. The precast sections to be tested are selected at random from the stockpiled Material to be supplied to the Project. Mat test all test specimens to meet the permeability test requirements of ASTM C497.

Replace the paragraph that begins "Precast manhole sections …" with the following paragraph:

Furnish precast manhole sections that consist of circular sections in one of the following standard nominal inside diameters:

Replace the paragraph that begins "Heights of sections in …" with the following paragraph:

Furnish heights of sections in multiples of 6 inches, except heights of manhole sections 72 inches through 96 inches in diameters are required to fit site conditions.

00470.12 Cap Screws - Replace this subsection, except for the subsection number and title, with the following:

Furnish cap screws and washers for watertight manhole covers that are stainless steel with 60,000 psi minimum tensile strength according to the requirements of ASTM A453.

00470.14 Pipe and Fittings - Replace this subsection, except for the subsection number and title, with the following:

Furnish pipe and fittings as specified and according to the applicable portions of Section 00445. Use tees, ells and other fittings for drop manholes made from the same material as the pipe connecting to the manhole.

00470.15 Pipe Stubouts for Future Sanitary Sewer Connections - Replace this subsection, except for the subsection number and title, with the following:

Furnish pipe stubouts that are the same type and strength classification as approved for use in the lateral, main or trunk sewer construction. Where there are two different classes of pipe at a manhole, the higher strength pipe will govern strength classification. Furnish watertight plugs with each stubout and adequately brace against hydrostatic or air test pressures.

00470.16 Sanitary Sewer Manhole Carry-Through - Replace this subsection, except for the subsection number and title, with the following:

Furnish ductile iron for all sanitary sewer carry-through pipes and fittings through storm sewer manholes according to Section 02420.

00470.40(b) Pipe Connections - Replace the paragraph that begins "Connect flexible pipe to manholes …" with the following paragraph:

Connect flexible pipe to manholes using an adapter specifically manufactured for the intended service. Flexible pipe adapters are required to be watertight after installation. Follow the manufacturer's recommendations. Do not use field-fabricated water stops or improvised adapters. Anchor and finish adapters requiring the use of grout for installation using non-shrink grout according to 02440.50.

00470.43(b) Cast-in-Place Catch Basins and Inlets - Replace the paragraph that begins "Construct forms for both …" with the following paragraph:

Construct forms for both the inside and outside walls of cast-in-place catch basins. Furnish forms that are tight and well braced, with chamfered corners. Remove all water and debris prior to placing concrete.

00470.47 Concrete Inlet Base Drains - Replace the paragraph that begins "Provide concrete inlets …" with the following paragraph:

Furnish concrete inlets with base drains leading from abutting Aggregate base or selected granular backfill Material.

00470.48 Concrete Manhole Installation Requirements - Replace this subsection with the following subsection:

00470.48 Locator Posts - Construct locator posts as shown.

00470.71(a) Hydrostatic Testing - Replace this subsection, except for the subsection number and title, with the following:

Perform hydrostatic testing according to ASTM C497. Plug all inlets and outlets and fill the manhole with water. Fill each manhole to the rim at the start of the test. Leakage in each manhole exceeding 0.3 gallons per hour per foot of head above the invert is unacceptable. Determine leakage by refilling to the rim using a calibrated container. Manholes may be filled 24 hours prior to the time of testing to permit normal absorption into the manhole walls.

00470.90 Payment - Replace the paragraph that begins "In items (c), (d) and …" with the following paragraph:

In items (c), (d) and (k) the type of Structure is inserted in the blank.

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

SECTION 00480 - DRAINAGE CURBS

Comply with Section 00480 of the Standard Specifications modified as follows:

00480.40 Preparation of Base - Replace this subsection, except for the subsection number and title, with the following:

Clean Pavements where drainage curbs are to be constructed so that they are free of dirt, dust, oil, grease or other extraneous matter.

00480.41(a) CGC Curbs - Replace this subsection, except for the subsection number and title, with the following:

Bond CGC curbs to underlying Pavements with an epoxy bonding agent from the QPL or according to 00480.10. Apply according to the manufacturer's recommendations and at a rate that provides a thorough coating to the surface with all voids and depressions filled. Place the new curb on the epoxy bonding agent within 15 minutes after spreading, or before it loses its tackiness, whichever is sooner.

00480.41(b) Asphalt Concrete Curbs - Replace the bullet that begins "An Emulsified Asphalt of …" with the following bullet:

- An Emulsified Asphalt of the type designated by the Engineer and according to 00480.10. Apply Emulsified Asphalt at a rate of 0.05 to 0.10 gallons per square yard of

curb. Place the new curb on the Emulsified Asphalt after the asphalt separates from the water (breaks), but before it loses its tackiness.

00480.42(b) Transverse Expansion Joints - Replace the paragraph that begins "Space expansion joints as …" with the following paragraph:

Space expansion joints as shown. Construct the width of the joint and thickness of the filler to a minimum of 1/2 inch. Construct each expansion joint at right angles to the curb alignment, normal to the surface of the curb and provide complete separation of new concrete.

00480.44 Line and Grade - Replace this subsection, except for the subsection number and title, with the following:

Place a 12-foot straightedge on the top or face of curb. The curb surface is unacceptable if it varies more than 1/4 inch from the edge of the straightedge, except at grade changes or curves.

00480.90 Payment - Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

SECTION 00490 - WORK ON EXISTING SEWERS AND STRUCTURES

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

00490.10 Materials - Add the following to the end of this subsection:

Portland Cement Concrete Repair Materials……02015.20

00490.11 High Early Strength Concrete - Replace this subsection, except for the subsection number and title, with the following:

Furnish high early strength concrete meeting one of the following requirements:

- Commercial Grade Concrete designed to achieve high early strength utilizing accelerating admixture from 02040.10, Type III cement from Section 02010, or rapid setting cement from Section 02011.
- A Portland cement concrete repair material from 02015.20, rapid setting or very rapid setting.

00490.40 General - Replace the paragraph that begins "Provide high early strength concrete …" with the following paragraph:

Furnish high early strength concrete when shown, or when traffic is required to traverse the Structure due to staging requirements. The Engineer will determine the length of curing time.

Replace the paragraph that begins "New construction …" with the following paragraph:

Provide new construction according to Section 00470.

Replace the paragraph that begins "Bypass pump sanitary …" with the following paragraph:

Bypass pump sanitary sewer and stormwater flows around the pipe section or manhole being repaired or replaced by plugging an existing upstream manhole and pumping the flow around the Work to a downstream manhole. Submit a bypass pumping plan to the Engineer at least 48 hours before beginning bypass pumping. Use a pump with adequate capacity to handle existing flows and additional flow due to rain. Use a pump that does not exceed a noise level of 86 dB at a distance of 50 feet. Do not operate bypass pumps at night except in an emergency. Do not discharge raw sewage onto private property or city streets, or into storm drain systems.

00490.41(b) Manholes over Existing Rigid Pipe Sewers - Replace the paragraph that begins "Construct manholes over existing …" with the following paragraph:

Construct manholes over existing rigid sewers after first cleaning and applying an approved commercial concrete bonding agent to all surfaces of the pipe that are in contact with the manhole.

00490.41(c) Manholes over Existing Flexible Pipe Sewers - Replace the bullet that begins "Apply a coating of PVC …" with the following bullet:

- Apply a coating of PVC solvent to the pipe that is in contact with the manhole.

00490.41(d) Manhole Connections - Replace this subsection, except for the subsection number and title, with the following:

Core openings in the existing manhole base or barrel as required. Do not saw cut, hammer, or break out openings in existing manholes. Construct connections that are watertight and that will provide a smooth flow into and through the manhole. Furnish flexible boots for existing sanitary sewer connections.

Provide all sanitary sewer pipe connections, including those at invert level as well as penetrations for drop connectors, conduits and carry-throughs, according to Section 00470.

00490.43 Abandoning Pipe in Place - Replace the paragraph that begins "Drain abandoned pipes and …" with the following paragraph:

Drain abandoned pipes and plug all pipe ends watertight. Plug abandoned pipes with gasketed mechanical plugs or grout seals, as directed. Where abandoned pipes connect to sewer manholes, install the plugs or seals from the inside of the manhole and reshape the channel according to the Standard Drawings.

00490.44 Filling Abandoned Pipes, Manholes and Catch Basins - Replace this subsection, except for the subsection number and title, with the following:

Cap or plug all connecting pipes to manholes and catch basins that are scheduled to be abandoned. Remove the manhole cone or flat top and manhole sections, or the catch basin

frame, to a minimum depth of 3 feet below finish grade and fill the remaining manhole barrel or catch basin with Granular Material meeting the requirements of 02630.10. Compact the Granular Material to 90 percent of maximum density according to AASHTO T 99. When in landscaped or unimproved Roadway sections, backfill with approved Materials meeting the requirements of 00330.13. Place Topsoil meeting the requirements of 00330.11 for the last 1 foot of backfill.

00490.45 Salvaging Manhole Frames, Covers and Grates - Replace the paragraph that begins "Remove manhole frames …" with the following paragraph:

Remove manhole frames, covers and grates scheduled for salvage and store in an approved location. Frames, grates and covers meeting Specifications may be salvaged from Structures to be adjusted and may be reused in the Work if of suitable size and condition. Replace, at no additional cost to the Agency, all items damaged or lost by the Contractor with similar items that are comparable in all respects with those they are to replace, and that are adequate for the intended purpose.

00490.46(c) Raising Tops of Manholes - Replace the paragraph that begins "Do not exceed 24 inches …" with the following paragraph:

Do not exceed 24 inches total distance from the top of the metal frame at its new adjusted grade to the top of the cone. Provide riser rings and repairs according to Section 00470. Extend manhole barrels of brick, block or concrete in kind.

00490.46(c)(1) Concrete Manholes - Replace the bullet that begins "Chip away the exposed …" with the following bullet:

- Chip away the exposed top surface where new mortar or concrete is to be placed, to a depth of 1 1/2 inches or until firm concrete is exposed.

00490.49 Finish Grade - Replace this subsection, except for the subsection number and title, with the following:

Center a 12-foot straightedge, as nearly as practicable, over the center of the cover of manholes and boxes. The final grade of the Pavement surface and adjusted manholes and boxes is unacceptable if it varies more than 1/4 inch from the finish grade and Cross Section at any point along the straightedge.

00490.90 Payment - Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

SECTION 00495 - TRENCH RESURFACING

Comply with Section 00495 of the Standard Specifications modified as follows:

00495.40(b) Emulsified Asphalt Concrete Paving - Replace this subsection, except for the subsection number and title, with the following:

When temporary Surfacing is required prior to placing permanent Surfacing, place EAC paving a minimum of 1 inch thick. Place temporary paving that is smooth with surface variations not greater than 1/2 inch from the Existing Surfacing. Ensure the joint between the temporary patch and existing surfaces is not greater than 1/4 inch high. Maintain the temporary Surfacing until the permanent Surfacing is placed. ACP mix may be used if approved.

00495.90 Payment - Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

SECTION 00501 - BRIDGE REMOVAL

Comply with Section 00501 of the Standard Specifications modified as follows:

00501.00 Scope - Add the following paragraph(s) to the end of this subsection:

Remove the existing bridge 02443 as shown.

Add the following subsection:

00501.02 Plans - Plans of the existing Structure are available from the Engineer. Prints of these plans are available upon request.

Add the following subsection:

00501.03 Submittals - Submit stamped bridge removal plans according to 00150.35 65 Calendar Days before beginning removal work.

Include the following information in the submittal:

- Removal sequence, including contractor staging and traffic staging.
- Detailed schedule of bridge removal work.
- Type of Equipment, including size and capacity.
- Equipment location during removal operations.
- Equipment loading on existing bridge during removal operations.

Do not begin bridge removal work until the bridge removal plans have been approved.

00501.90 Payment - Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

SECTION 00510 - STRUCTURE EXCAVATION AND BACKFILL

Comply with Section 00510 of the Standard Specifications modified as follows:

00510.00 Scope - Replace the paragraph that begins “This Work does not include any …” with the following paragraph:

This Work does not include any earthwork covered under any sections of Parts 00300 or 00400, or any earthwork that may be specifically included and provided for as Incidental Work for particular items or parts of the Work. The construction, measurement, and payment of embankment at bridge ends and engineered fills is according to Section 00330.

00510.04(a) Defined Shoring Systems - Replace the sentence that begins “Select Shoring systems…” with the following sentence:

Select Shoring systems for construction from the list of defined Shoring systems provided in Section 16.3.26 of the ODOT GDM.

Add the following to the end of this subsection:

Construct shoring at the location(s) listed below:

Beginning Station	Ending Station	Shoring System Type(s) Allowed
1159+15.0 Rt.	1161+12.0 Rt.	5A & 6A
1166+40.0 Rt.	1167+40.0 Rt.	5A & 6A
1171+50.0 Lt.	1173+50.0 Lt.	5A & 6A

00510.04(b) Atypical Shoring Systems - Replace the paragraph that begins “Shoring systems that are not on the list…” with the following paragraph:

Shoring systems that are not on the list of Shoring types published in Section 16.2.4.2 of the ODOT GDM are considered atypical Shoring systems. If proposing an atypical Shoring system, submit stamped Working Drawings according to 00150.35. The review and response time allowed for the Agency to return the Working Drawings will be 120 Calendar Days. Submit calculations and other data satisfying the requirements of the Specifications and include sufficient detail and explanation of the design for the Agency to process and comment on the Working Drawings. If the Engineer requests additional information or explanation related to the review of the atypical Shoring system the Engineer may restart the 120-Calendar Day review period.

Replace the bullet that begins "A list of supervisory personnel …" with the following bullet:

- A list of supervisory personnel who are on-site during construction of the atypical Shoring system and documentation of their experience and qualifications to perform the Work.

Replace the paragraph that begins “Geotechnical and structural analysis …” with the following paragraph:

Geotechnical and structural analysis and design for the Shoring include, but are not limited to the items listed in the Shoring Design Checklist. Submit a completed Shoring Design Checklist and a written Shoring Design Summary, prepared by the shoring design engineer, to accompany the Working Drawings and calculations. Include the following in the Design Summary:

Replace the bullet that begins "Performance requirements (actual threshold …" with the following bullet:

- Performance requirements (actual threshold limits of tolerable differential foundation settlement and lateral movement). Indicate how the performance requirements are monitored during construction.

00510.13(1) Material Passing No. 200 Sieve - Replace the paragraph that begins "The amount of Materials passing …" with the following paragraph:

Ensure the amount of Materials passing the No. 200 sieve does not exceed 15 percent by weight. Test according to AASHTO T 11.

00510.13(2) Plasticity Index - Replace the paragraph that begins "The plasticity index of the …" with the following paragraph:

Ensure the plasticity index of the Material passing the No. 40 sieve does not exceed 6. Test according to AASHTO T 90.

00510.40 Clearing, Grubbing, and Removal Work - Replace this subsection, except for the subsection number and title, with the following:

Perform clearing, grubbing and removal work according to Section 00310 and Section 00320.

Perform clearing, grubbing, and removal at least 10 feet outside of the entire Structure, including the ends of the Structure but within the Right-of-Way.

00510.41 Structure Excavation - Replace the paragraph that begins "Concrete placed against steel …" with the following paragraph:
Concrete placed against steel sheet piles in cofferdams or cribs are considered placed against undisturbed material, whether or not the steel sheets are later removed.

00510.44(a) Cofferdams and Cribs - Replace the paragraph that begins "Do not begin cofferdam or crib …" with the following paragraph:

Do not begin cofferdam or crib construction Work until all submittals have been approved. Upon completion of the cofferdam construction, and immediately after dewatering, field inspect the cofferdam with the cofferdam design engineer of record and accompanied by the Engineer. Do not continue construction until the cofferdam design engineer provides the Engineer a written statement that the cofferdam conforms to the design and will serve the intended purpose.

00510.44(b) Shoring - Replace the paragraph that begins "Upon completion of the Shoring construction …" with the following paragraph:

Upon completion of the Shoring construction, field inspect the Shoring with the shoring design engineer of record, accompanied by the Engineer. Do not continue construction until the shoring design engineer provides the Engineer a written statement that the Shoring conforms to the design and will serve the intended purpose.

00510.45 Pumping - Replace the paragraph that begins "No pumping of water from the …" with the following paragraph:

No pumping of water from the interior of any foundation enclosure is allowed during the placing of concrete or for a period of at least 24 hours thereafter unless an effective means of eliminating moving water through fresh concrete is employed. Water may then be pumped, if approved.

00510.48(b)(3)(a) Test Pad Method - Replace the paragraph that begins "Before placing the wall backfill …" with the following paragraph:

Before placing the wall backfill, determine the number of Passes necessary to achieve the specified density by constructing a test pad that is at least 5 feet wide, 15 feet long, and 3 feet in final depth. Construct test pad fill in layers no more than 8 inches thick using the same Equipment and methods that are used to compact the wall backfill. Perform at least one density test according to AASHTO T 310 on each test pad layer. Construct and test a new test pad when changes in Material occur or different Equipment is used during the construction of the wall backfill.

00510.48(d) Reinforced Concrete Box Culverts, Structural Plate Structures and Pipe Culverts Over 72 Inches in Diameter - Replace the paragraph that begins "Provide bedding, if required …" with the following paragraph:

Provide bedding, if required, according to 00405.12. Use backfill Materials meeting the requirements of 00510.12 or 00510.13 unless otherwise specified. Place and compact as shown and according to 00405.46. Place backfill up to the surrounding ground surface, to the top of trench, or the upper backfill pay limits shown or as directed.

00510.80(b)(1) Lump Sum - Add the following to the end of this subsection:

The estimated quantity of Structure excavation is:

Location	Structure Excavation (Cubic Yard)
24318	1,750

00510.80(d)(1) Lump Sum - Add the following to the end of this subsection:

The estimated quantity of granular structure backfill is:

Location	Granular Structure Backfill (Cubic Yard)
24318	930

00510.90(d) Granular Wall/Structure Backfill - Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

SHORING DESIGN CHECKLIST

Instructions - This shoring design checklist was developed to facilitate the design, review, and erection of shoring to be used for ODOT construction projects. This checklist is intended to act as a reminder to design or check for specific important aspects of this construction. It is not a substitute for plan and/or design criteria or specification requirements.

The Checklist is to be completed by the shoring design engineer. Answer every question. Attach to the Checklist an explanation of any negative responses.

Submit this Shoring Design Checklist for each stage and phase of the project, along with the shoring design summary, Working Drawings and calculations according to 00510.04.

A. General	**YES**	**NO**	**N/A**
1. Are the shoring Working Drawings and supporting calculations prepared, stamped, and signed by an engineer registered to practice in the state of Oregon?	____	____	____
2. Are the temporary shoring installation plans, construction sequence, and removal plan compatible with the project construction staging/phasing?	____	____	____
B. Design Standards	**YES**	**NO**	**N/A**
1. Does the shoring design comply with standards identified in ODOT GDM 16.3.26.3 and related sections?	____	____	____
2. Is the design standard and edition identified in the shoring design calculations?	____	____	____
C. Loading	**YES**	**NO**	**N/A**
1. Have the design loads, including special loading conditions (e.g. cranes, stockpiles, etc.), used for shoring design of all members been noted in the design calculations?	____	____	____
2. Have the appropriate load and resistance factors or factors of safety on the shoring system been identified, for all applicable load combinations or load cases?	____	____	____
3. If public traffic is near or directly above the shoring system, has a minimum traffic live load surcharge of 250 psf been applied?	____	____	____
4. Have the loads from actual construction equipment and not less than 250 psf been included in the shoring system design?	____	____	____

5. Have the construction loads for different stages of construction been considered and included in the calculations?	____	____	____
6. Have the effects of any construction activities adjacent to the shoring system on the stability/performance of the shoring system been addressed in the shoring design (e.g., excavation or soil disturbance in front of the wall or slope, excavation dewatering, vibrations and soil loosening due to soil modification/construction activities)?	____	____	____
7. Have earth pressure diagrams been included?	____	____	____
8. Does the shoring design consider the effect of water saturated soil pressure acting on the full height of the shoring?	____	____	____
D. Geotechnical and Structural Analysis	**YES**	**NO**	**N/A**
1. Has internal stability been evaluated?	____	____	____
2. Has eccentricity/overturning stability been evaluated?	____	____	____
3. Has sliding been evaluated?	____	____	____
4. Has overall/global stability been evaluated?	____	____	____
5. Has bearing capacity been evaluated?	____	____	____
6. Have displacement constraints or other performance objectives of the shoring system been identified and evaluated?	____	____	____
7. Has each stage of the shoring system construction been evaluated to carry traffic and construction loads and ensure internal and external stability through the construction and loading sequence?	____	____	____
8. Are the allowable stress and the calculated stress listed in the summary for each different shoring member?	____	____	____
9. Have steel beams been checked for bending, shear, web crippling and buckling of the compression flange?	____	____	____
10. Have connections for all phases of construction and removal been designed for all interim loading?	____	____	____
11. Has buckling, bracing strength, and stiffness been evaluated for all compression members?	____	____	____

E. Materials	YES	NO	N/A
1. Are all soil, rock, and other material properties used for the design of the shoring system provided and consistent with GDM and the subsurface field and lab data?	____	____	____
2. Are timber grades noted on shoring drawings and in accompanying calculations?	____	____	____
3. Are the minimum lumber dimensions shown in the calculations and noted on the Working Drawings?	____	____	____
4. Are steel structural shapes, bolts, connections, and plates identified by ASTM number on the shoring Working Drawings and in the calculations?	____	____	____

F. Shoring Working Drrawings	YES	NO	N/A
1. Is the field verified ground topography above and below the shoring wall shown?	____	____	____
2. Are all existing, adjusted or new utilities, structures, and “no work zones” in proximity to the proposed shoring shown on the shoring Working Drawings and is protection of these items addressed?	____	____	____
3. Are horizontal and vertical clearance requirements identified and shown on the shoring Working Drawings?	____	____	____
4. Are plan view, elevation and cross sections drawn to scale, with dimensions defining location and size of the temporary shoring, components, and excavation limits?	____	____	____
5. Are the magnitude and location of all loads, equipment and personnel that will be supported by the shoring shown or noted on the shoring Working Drawings?	____	____	____
6. Has a dewatering plan been shown?	____	____	____
7. Have all connections been detailed?	____	____	____
8. Has bracing been detailed?	____	____	____

G. Testing and Monitoring	YES	NO	N/A
1. If a “yes” response to No. D-6, is a monitoring plan provided to verify adequate performance of the shoring system throughout the design life of the system?	____	____	____

2. Has a load testing program been provided for soil nails, tiebacks, or other applicable elements of the shoring system? ____ ____ ____

_____ _____

Design Engineer of Record Signature Date

SECTION 00512 - DRILLED SHAFTS

Comply with Section 00512 of the Standard Specifications modified as follows:

00512.14 Drilling Slurry - Delete this subsection.

00512.15 Crosshole Sonic Log Access Tubes - Replace the bullet that begins "Steel access tubes shall …" with the following bullet:

- Use steel access tubes at least 1 1/2 inch inside diameter Schedule 40 pipe meeting ASTM A53, Grade A or B, Type E, F, or S.

Replace the bullet that begins "Access tube acceptance …" with the following bullet:

- Access tube acceptance is based on manufacturer's certification that the furnished Material meets the requirements of this Specification.

00512.18 Crosshole Sonic Log Cement Grout - Replace this subsection, except for the subsection number and title, with the following:

Furnish non-epoxy grout or tendon grout from the QPL or furnish a pumpable CSL cement grout consisting of neat cement and water that has a water-cement ratio between 0.38 and 0.45. Furnish portland cement for the pumpable CSL cement grout meeting the requirements of Section 02010.

00512.30 Personnel Qualifications - Replace this subsection, except for the subsection number and title, with the following:

Perform the drilled shaft construction Work using a company and personnel experienced in drilled shaft construction Work. Submit a list to the Engineer for approval identifying the on-site supervisors and drill rig operators assigned to the Project and the company's experience relevant to the Project. Submit experience relevant to the anticipated subsurface materials, groundwater conditions, shaft size, depth and any special construction techniques required. Also provide the experience qualifications of the company performing the quality assurance testing. Before the preconstruction conference, provide the following information to verify the firm's experience and the qualifications of personnel scheduled to perform the drilled shaft construction and quality assurance testing:

- Submit a project reference list of at least three separate foundation projects, successfully completed in the last 5 years, with Drilled Shafts of diameters and depths equal to or larger than those shown in the Plans and in ground conditions similar to those indicated. Include a brief description of each project and the owner's contact person's name and current phone number for each project listed.
- Submit a resume for on-site supervisors with at least 2 years' experience in supervising construction of drilled shaft foundations of similar size (diameter and depth) and scope to those shown in the Plans and in similar geotechnical conditions to those described in the geotechnical report. Submit experience that includes the direct supervisory responsibility for the on-site construction operations.

- Submit a resume for drill operators with at least 1 year of experience in the construction of drilled shaft foundations.
- Perform quality assurance testing using an independent testing organization retained by the Contractor and approved by the Agency. Provide personnel experienced in operating the specific quality assurance testing Equipment. Submit the CSL testing firm qualifications according to 00512.40(a). Provide a quality assurance testing firm that has successfully performed quality assurance testing on a minimum of five projects during the last 3 years. Provide quality assurance testing personnel that have been trained in the operation of the quality assurance Equipment and have at least 1 year of experience in operating quality assurance testing Equipment on a minimum of 10 shafts.

The Engineer will respond within 21 Calendar Days after receipt of the submittal. Do not begin Work on any drilled shafts until the qualifications have been approved. The Engineer may suspend the drilled shaft construction if the Contractor substitutes unapproved personnel during construction. Submit requests for substitution of either on-site supervisors, drill operators, or CSL testing personnel to the Engineer, who will have 7 Calendar Days to respond to each request. Additional costs resulting from the suspension of Work due to the changing of personnel is the Contractor's responsibility, and no adjustment in Contract Time resulting from the suspension of Work is allowed.

00512.40(a) Drilled Shaft Installation Plan - Replace the paragraph that begins "The Engineer will approve or reject …" with the following paragraph:

The Engineer will approve or reject the drilled shaft installation plan within 21 Calendar Days after receipt of all submissions. Provide any additional information and submit a revised plan, if requested, for review and approval. All procedural approvals given by the Engineer are subject to trial in the field and will not relieve the Contractor of the responsibility to satisfactorily complete the Work. Submit requests for modification of adopted procedures to the Engineer. Allow 21 Calendar Days for approval of modifications. Do not begin drilled shaft construction Work until all drilled shaft submittals have been approved.

00512.41 Drilled Shaft Coordination Meeting - Replace the paragraph that begins "Hold a drilled shaft coordination …" with the following paragraph:

Hold a drilled shaft coordination meeting at least 7 Calendar Days before beginning any shaft construction Work at the site to discuss construction procedures, schedules, staging, personnel, Equipment to be used, and other elements of the approved shaft installation plan as specified in 00512.40. If synthetic slurry is used to construct the shafts, discuss the frequency of scheduled site visits to the Project Site by the synthetic slurry manufacturer's representative. Those attending the meeting include:

Replace the bullet that begins "**Representing the Contractor** …" with the following bullet:

- **Representing the Contractor** - The superintendent, on-site supervisors, and all supervisors in charge of excavating the shaft, placing the casing, mixing and installing slurry (as applicable), placing the steel reinforcing bars, and placing the concrete. If synthetic slurry is used to construct the shafts, the slurry manufacturer's representative and a Contractor's employee trained in the use of the synthetic slurry are required to also attend.

00512.43(a) Drilled Shaft Excavation, General - Replace the paragraph that begins "Excavate Drilled Shafts to the …" with the following paragraph:

Excavate Drilled Shafts to the dimensions and elevations shown or as directed. Provide and maintain stabilized drilled shaft sidewalls and bottoms for the full depth of the excavation, using approved Materials, Equipment and methods. If caving or other unstable conditions occur during any construction procedure, stop further construction, notify the Engineer, and stabilize the shaft excavation by approved methods and submit a revised installation plan that addresses the problem and prevents further instability. Do not continue with shaft construction until any damage that occurred has been repaired according to the Specifications and until receiving the Engineer's approval of the revised shaft installation plan.

Add the following paragraph to the end of this subsection:

Variations in the bearing layer elevation from that shown are anticipated. Provide Equipment on-site capable of excavating an additional 5 feet of depth below that shown.

00512.43(c) Temporary Casing - Replace this subsection, except subsection number and title, with the following subsection:

Provide Temporary Casing according to the approved installation plan and of sufficient quantities to meet the needs of the anticipated construction method.

00512.43(d) Unexpected Drilled Shaft Obstructions - Replace this subsection, except for the subsection number and title, with the following:

Remove any natural or manmade object encountered that was not revealed by the Agency's site investigation, and that would cause a significant decrease in the rate of advancement if removed using the techniques and Equipment used successfully to excavate the shaft. The Engineer is the sole judge of the significance of any reduced rate of shaft advancement and the classification of any unexpected obstructions. Removal of unexpected obstructions from the shaft excavation will be paid according to 00195.20.

00512.43(e) Lost Tools - Replace this subsection, except for the subsection number and title, with the following:

Promptly remove drilling tools lost in the excavation. Lost tools will not be considered unexpected obstructions. Remove lost tools without additional compensation. Drilling tools lost during the course of removing unexpected drilled shaft obstructions will be paid according to 00195.20.

00512.43(f) Drilling Slurry Installation -Delete this subsection.

00512.43(g) Drilling Slurry Inspection and Testing - Delete this subsection.

00512.43(h) Clean Out - Replace the paragraph that begins "Use appropriate means, such …" with the following paragraph:

Use appropriate means, such as a cleanout bucket, pump or air lift, to clean the bottom of the drilled shaft excavations. No more than 2 inches of loose or disturbed material is allowed at the bottom of the excavation for end-bearing Drilled Shafts. No more than 6 inches of loose or disturbed material is allowed at the bottom of the excavation for side friction Drilled Shafts. Assume end-bearing shafts unless otherwise shown or specified. Shaft cleanliness is determined by the Engineer.

00512.46 Crosshole Sonic Log Test Access Tubes - Replace the paragraph that begins "Furnish and install access tubes …" with the following paragraph:

Furnish and install access tubes for CSL testing as shown. Attach CSL access tubes securely to the interior of the reinforcement cage as near to parallel as possible in each drilled shaft and in the pattern shown. Extend the access tubes from the bottom of the reinforcement cage to at least 24 inches above the top of the shaft. When joints are required to achieve full-length access tubes, furnish watertight joints. Do not damage the access tubes during reinforcement cage installation and concrete placement. Fill the tubes with potable water, according to 02020.10(b), as soon as possible, but no more than 1 hour after concrete placement and reinstall the top watertight caps. Check water level and top off as needed.

00512.47(a) Concrete Placement - Replace the paragraph that begins "Allow a maximum of 60 minutes …" with the following paragraph:

Allow a maximum of 60 minutes between concrete placements and use no concrete older than 90 minutes from batch time. Use procedures for concrete placement ensuring that the concrete within the shaft becomes a monolithic, homogeneous unit.

00512.47(b) Casing Removal - Replace the paragraph that begins "Under free-fall placement …" with the following paragraph:

Under free-fall placement, deposit concrete through the center of the reinforcement cage by a method that prevents segregation of Aggregates and splashing of concrete on the reinforcement cage. Place concrete so that the free-fall is vertical down the center of the shaft without hitting the sides, the steel reinforcing bars or steel cage bracing.

00512.47(e) Dry Shaft Concrete Placement - Replace the paragraph that begins "Remove all Temporary Casing during …" with the following paragraph:

Remove all Temporary Casing during or after completion of concrete placement. Do not start Temporary Casing removal until the level of fresh concrete within the casing has reached a depth of at least 10 feet or the level necessary to adequately counteract the external hydrostatic pressure head. As the Temporary Casing is withdrawn, maintain a minimum 5 feet head of concrete above the bottom of the casing. A slight downward movement of the casing while exerting downward pressure, or hammering or vibrating the casing is allowed to facilitate extraction. Extract the casing so that concrete is cast directly against the surrounding in-situ material. Check the elevation of the top of the reinforcing cage before and after Temporary Casing extraction for conformance with the construction tolerance criteria of 00512.42. Casing that cannot be extracted during, or immediately after, the concrete placement operation may be cause for rejection of the shaft.

00512.48 Drilled Shaft Testing and Acceptance - Replace the paragraph that begins "Acceptance of Drilled Shafts …" with the following paragraph:

Acceptance of Drilled Shafts is based on the Engineer's review of the results of CSL, or other, integrity testing (if conducted), field inspection reports and visual observations during drilled shaft construction. The Engineer has final authority on the approval of Drilled Shafts. For shafts that are integrity tested, the Engineer will determine final acceptance of each tested shaft, based on the integrity test results and inspection reports and will provide a response to the Contractor within 5 Calendar Days after receiving the CSL test report.

00512.48(a) Crosshole Sonic Log Testing - Replace the paragraph that begins "Provide crosshole sonic log …" with the following paragraph:

Provide crosshole sonic log testing Equipment and perform crosshole sonic log testing and analysis on the first drilled shaft completed at each Structure and subsequent shafts as specified or designated for testing by the Engineer. Provide CSL testing Equipment according to the requirements of ASTM D6760 and approved by the Engineer. Provide all necessary access and other support to the CSL testing firm necessary to do the CSL testing Work.

00512.48(b) Contractor's Crosshole Sonic Log Test Reports - Replace the paragraph that begins "Submit a stamped final CSL …" with the following paragraph:

Submit a stamped final CSL Test Report for each shaft tested according to 00150.35 and ASTM D6760. Provide electronic file copies of the raw CSL data measurements, if requested. Include a summary of the CSL testing performed, data analysis, and interpretation of CSL data with special attention made to the identification and location of any anomalies or possible defects. Provide interpretation of the CSL test data in terms of overall shaft integrity and acceptance. Submit all reports to the Engineer within 5 Calendar Days of the performance of the tests.

00512.48(c) Additional Testing and Investigation - Replace the paragraph that begins "If requested by the Engineer …" with the following paragraph:

If requested by the Engineer, drill a core hole in any questionable quality shaft to explore the shaft condition. The Engineer will determine the number, location and depths of the core holes. Submit the method and Equipment used to drill and remove cores from the shaft to the Engineer for review and approval prior to drilling. Use a coring method that provides complete core recovery and minimizes abrasion and erosion of the core. If a defect is confirmed, as determined by the Engineer, all investigation costs associated with identifying the defect will be at no additional cost to the Agency and no extension of the Project completion date will be granted, regardless of whether the identified defect is repaired or not.

00512.80(a) Furnish Drilling Equipment - Replace the title of this subsection with "**Provide Drilling Equipment"**

00512.80(d) Drilled Shaft Concrete - Add the following at the end of this subsection:

The estimated quantity of drilled shaft concrete is:

Structure	Quantity (Cubic Yard)
24318	1,145

The estimated quantity of drilled shaft concrete includes the concrete required to extend the shafts according to 00512.43(a).

00512.80(e) Drilled Shaft Reinforcement - Add the following at the end of the paragraph:

The estimated quantity of drilled shaft reinforcement is:

Structure Number	Uncoated Reinforcement Quantity (Pound) Grade 80
24318	423,030

The estimated quantity of drilled shaft reinforcement includes the reinforcement required to extend the shafts according to 00512.45.

00512.90 Payment - Replace the Pay Item Furnish Drilling Equipment with the following Pay Item:

Pay Item	Unit of Measurement
(a) Provide Drilling Equipment	Lump Sum

Replace the paragraph that begins "Item (a) includes …" with the following paragraph:

Item (a) includes providing and moving the drilling Equipment to the Project, setting up the Equipment at the various locations on the Project and removing the Equipment from the Project.

Replace the paragraph that begins "In item (b) …" with the following paragraph:

In item (b), the diameter of the shaft casing is inserted in the blank.

Replace the paragraph that begins "In item (c) …" with the following paragraph:

In item (c), the diameter of the shaft is inserted in the blank. Item (c) includes excavating the shafts and disposing of the excavated material and for providing, placing, splicing, and removing temporary shaft casing and forms.

Replace the paragraph that begins "In item (e) …" with the following paragraph:

In item (e), the grade of reinforcement is inserted in the blank.

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

SECTION 00530 - STEEL REINFORCEMENT FOR CONCRETE

Comply with Section 00530 of the Standard Specifications modified as follows:

00530.10 Materials - Replace this subsection, except for the subsection number and title, with the following:

Concrete Inserts	02513.35
Deformed Bar Reinforcement	02510.10
Deformed Bar Reinforcement (Stainless Steel)	02513.10
Dowels	02510.50
Dowels (Stainless Steel)	02513.50
Epoxy Coated Reinforcement	02510.11
Galvanized Coating	02510.30
Headed Bar Reinforcement	02510.25
Mechanical Splices	02510.20
Mechanical Splices (Stainless Steel)	02513.20
Ties and Supports	02510.60
Ties and Supports (Stainless Steel)	02513.60
Welded Wire Reinforcement	02510.40

00530.13 Miscellaneous Metal - Replace this subsection, except for the subsection number and title, with the following:

Minor metal parts such as drains, bolts, concrete anchors, spacer blocks, expansion and bearing devices, access hole covers and frames, anchor bolts, inserts and similar miscellaneous metal, unless otherwise provided, are classified as reinforcement.

Pipe attached to or used in conjunction with bridge deck drains or catch basins are classified as reinforcement.

00530.14 Concrete Inserts - Replace the paragraph that begins "Furnish hot-dip galvanized …" with the following paragraph:

Furnish hot-dip galvanized expanded coil concrete inserts with closed back ferrule threaded to receive UNC threaded bolts or rods of the size shown. Furnish concrete inserts with the following minimum lengths and capacities:

00530.30 Mechanical Splice Installers - Replace the bullet that begins “Make splice samples …” with the following bullet:

- Make splice samples in the presence of the Engineer using the same Materials, Equipment, and procedures that are used on the Project.

00530.35 Headed Bar Reinforcement Installers - Replace the bullet that begins “Make samples in the …” with the following bullet:

- Make samples in the presence of the Engineer using the same Materials, Equipment, and procedures that are used on the Project.

00530.40 Protection of Material - Replace the paragraph that begins "In addition to the requirements …" with the following paragraph:

In addition to the requirements above, store epoxy coated bars with supports close enough to prevent sagging in the bundles. Provide protective padding when bundles are stacked or when supported on metal. Store bars as close as practicable to where they are placed in the Structure. Cover bars with an opaque material during storage to protect them from exposure to sunlight and saline mist. Move bars to or from storage according to 02510.11(b) to minimize damage to the coating. Do not allow the total exposure time from bar delivery to concrete placement, while in storage or in place, to exceed 2 months.

00530.41(a) Fabric - Replace this subsection with the following subsection:

00530.41(a) Welded Wire Reinforcement - If welded wire reinforcement is shipped in rolls, straighten it into flat sheets before placing.

00530.41(b) Ties and Supports - Replace the bullet that begins “When precast concrete bar …” with the following bullet:

- When precast concrete bar supports are used, furnish Wired Blocks. Furnish tie wires meeting the requirements of 02510.60. Combination Blocks may be used in horizontal applications. Furnish tie wires meeting the requirements of 02513.60 for blocks supporting stainless steel reinforcement.

Replace the bullet that begins “Where at least one of the …” with the following bullet:

- Where at least one of the bars to be tied or supported is epoxy coated, furnish tie wires that are either plastic or epoxy coated.

Replace the bullet that begins “When stainless steel rebar is specified…” with the following bullet:

- When stainless steel reinforcing is specified, use stainless steel ties and supports meeting the requirements of 02513.60.

Replace the bullet that begins “Use plastic tipped feet or …” with the following bullet:

- Use plastic tipped feet or Class 2, Type A stainless steel tips if the feet of the support are on an exposed surface.

Delete the bullet that begins “Tie stainless steel reinforcement …”.

Delete the bullet that begins “Support stainless steel reinforcement…”.

Replace the bullet that begins "Do not allow direct contact between stainless …" with the following bullet:

- Do not allow stainless steel reinforcement to directly contact ASTM A1035 CS reinforcement. Do not allow stainless steel reinforcement or ASTM A1035 CS reinforcement in direct contact with other reinforcement with a different type of metal.

When stainless steel or ASTM A1035 CS reinforcing or dowels are located near other reinforcing with a different type of metal, use nylon or polyethylene spacers to maintain a minimum 1 inch clearance between the two metals and bind them with nylon cable ties. Where insufficient space exists to maintain this minimum, either bar may be sleeved with a continuous polyethylene or nylon tube extending at least 1 inch in each direction past the point of closest contact between the two dissimilar bars.

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

- When ASTM A1035 CS reinforcing is specified, use epoxy coated ties and supports meeting the requirements of 02510.60(a).

00530.42(c)(2)(a) General - Replace this subsection, except for the subsection number and title, with the following:

Provide labor, Material and Equipment for fabricating sample mechanical splices at no additional cost to the Agency. All sample splices are tested by the Agency at the Agency's expense.

00530.42(c)(2)(d) Project Site Quality Control - Replace the bullet that begins "Submit one quality control …" with the following bullet:

- Submit one quality control sample for each 100 splices performed up to 500 splices and then submit one sample for each 500 splices. Successful installer qualification according to 00530.30 satisfies quality control for the first 100 splices being installed. This sequence of testing is required for each heat treatment lot used.

Replace the bullet that begins "Quality control samples …" with the following bullet:

- Quality control samples are tested according to this Section. If any sample fails to meet the test criteria, the lot that it represents is rejected until the cause of failure has been determined. Materials from a rejected lot may be accepted if they are shown to be free of the condition that caused the failure.

00530.42(c)(3) Installation - Replace the paragraph that begins "Install splices in the …" with the following paragraph:

Install splices in the presence of the Engineer. Splices made without the Engineer present are rejected.

00530.43 Splicing Welded Wire Fabric - Replace this subsection with the following subsection:

00530.43 Splicing Welded Wire Reinforcement - Overlap sheets of welded wire reinforcement as shown or provide edge and end laps not less than one mesh in width. Securely fasten sheets at the ends and edges according to 00530.41.

00530.47(b)(1) General - Replace this subsection, except for the subsection number and title, with the following:

Provide labor, Material and Equipment for fabricating sample headed bar reinforcement at no additional cost to the Agency. All sample headed bar reinforcement are tested by the Agency at the Agency's expense.

00530.47(b)(4) Project Site Quality Control - Replace this subsection, except for the subsection number and title, with the following:

During the installation of headed bar reinforcement:

- Submit one quality control sample for each 100 headed bars installed up to 500 headed bars and then submit one sample for each 500 headed bars. Successful installer qualification according to 00530.35 satisfies quality control for the first 100 headed bars being installed. This sequence of testing is required for each heat treatment lot used.
- Complete the headed bar reinforcement according to the manufacturer's recommendations.
- Quality control samples are tested according to this Section. If any sample fails to meet the test criteria, the lot that it represents is rejected until the cause of failure has been determined.

00530.47(c) Installation - Replace the paragraph that begins "Install headed bar reinforcement …" with the following paragraph:

Install headed bar reinforcement in the presence of the Engineer. Headed bar reinforcement installed without the Engineer present is rejected.

00530.80(a) Lump Sum - Add the following to the end of this subsection:

The estimated quantity for uncoated reinforcement in pounds is:

Structure Number	Grade 60	Grade 80	Grade 100 *ASTM A615*	Grade 100 ASTM A706	Grade 100 *ASTM A1035 (____)*
24318	64,790	220,520	0	0	0

The estimated quantity for coated reinforcement in pounds is:

Structure Number	Grade 60	Grade 80	Grade 100 ASTM A615	Grade 100 ASTM A706	Grade 100 ASTM A1035 (____)
24318	11,764	302,785	0	0	0

00530.90 Payment - Replace this subsection, except for the subsection number and title, with the following:

The accepted quantities of reinforcement will be paid for at the Contract unit price, per unit of measurement, for the following items:

Pay Item	Unit of Measurement
(a) Reinforcement, Grade _____	Lump Sum or Pound
(b) Reinforcement, ASTM A1035 _____.....	Lump Sum or Pound
(c) Coated Reinforcement, Grade ____	Lump Sum or Pound
(d) Coated Reinforcement, ASTM A1035 _____	Lump Sum or Pound
(e) Stainless Steel Reinforcement, Grade ____,.....	Lump Sum or Pound
(f) Welded Wire Reinforcement, Grade ____.....	Lump Sum or Pound

In items (a), (c), (e), and (f) the grade of reinforcement is inserted in the blank.

In items (b) and (d) the ASTM chromium content, “CS”, “CM”, or “CL” is inserted in the blank.

Item (a) and (b) include fabricating and placing uncoated reinforcement as specified.

Item (c) and (d) include placing epoxy coated reinforcement as specified.

Item (e) includes fabricating and placing stainless steel reinforcement as specified.

Item (f) includes fabricating and placing welded wire reinforcement as specified.

Payment for reinforcement will be made when the reinforcement is incorporated into the concrete.

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

No separate or additional payment will be made for clips, wire, separators, wire chairs, or other Material used in fastening the reinforcement in place.

SECTION 00535 - POST-INSTALLED ANCHOR SYSTEMS

Comply with Section 00535 of the Standard Specifications modified as follows:

00535.00 Scope - Replace this subsection, except for the subsection number and title, with the following:

This Work consists of drilling and preparing holes in hardened concrete and providing and installing anchor bolts, rods, or reinforcing bars using a resin bonded anchor system or a mechanical anchor system as shown.

00535.01 Required Submittals - Replace the title of this subsection with “**Submittals”**

Add the following to the end of the subsection:

Submit the anchor system manufacturer's installation instructions at least 21 Calendar Days before installation.

00535.10(a) Resin Bonded Anchor System - Replace the paragraph that begins “Furnish anchor bolts meeting …” with the following paragraph:

Furnish anchor bolts and rods meeting the requirements of 02560.30 and reinforcing steel meeting the requirements of Section 02510 as shown. High-strength anchor bolts meeting the requirements of ASTM A193, Grade B7 may be substituted in place of these specified in 02560.30(b).

Replace the paragraph that begins “Furnish a polyester …” with the following paragraph:

Furnish a polyester, vinyl ester, or epoxy resin bonding system from the QPL that sustains the minimum pullout force shown. Furnish resin used for installation of the anchor system as shown from the same lot used for testing according to 00535.45(a)(1).

Replace the paragraph that begins “Unless shown otherwise, galvanize all …” with the following paragraph:

Unless shown otherwise, galvanize all anchors that have any portion of the anchor exposed. Galvanize according to AASHTO M 232 (ASTM A153) or AASHTO M 298 (ASTM B695), Class 50. When within 25 aerial miles of the Pacific Ocean, galvanize according to AASHTO M 232 (ASTM A153) only. Anchors that become completely encased in concrete will not require galvanizing.

00535.10(b) Mechanical Anchor System - Replace this subsection, except for the subsection number and title, with the following:

Furnish a mechanical anchor system from the QPL that sustains the minimum pullout force and is not longer than the embedment depth shown. Furnish anchors used for installation from the same lot used for testing according to 00535.45(a)(2). Unless shown otherwise, furnish galvanized mechanical anchors according to AASHTO M 232 (ASTM A153).

00535.40 Construction - Replace the paragraph that begins “Install the anchor system according …” with the following paragraph:

Install the anchor system according to the manufacturer's installation instructions and to the embedment depths shown.

00535.40(a) General - Replace the paragraph that begins “Clean holes with a nonmetallic…” with the following paragraph:

Drill and clean holes according to the manufacturer’s installation instructions. Protect drilled and cleaned holes from contamination. If a drilled hole becomes contaminated, as determined by the Engineer, re-clean the hole.

Replace the paragraph that begins “Provide components connected …” with the following paragraph:

Furnish components connected to the installed anchors with the same metal type or provide electrical isolation when metal type of the components is dissimilar or unknown.

00535.40(b) Resin Bonded Anchor System - Replace the paragraph that begins "For resin bonded anchor system …" with the following paragraph:

For resin bonded anchor system with anchor and nuts, after the resin is fully cured, mark the position of the nut with a felt tip pen or similar marker. Rotate the nut of each anchor past snug-tight by no more than 1/6 turn, unless shown otherwise, to avoid unintended damage.

00535.45(a)(1) Resin Bonded Anchor System - Replace Table 00535-1 with the following table.

TABLE 00535-1

Minimum Pullout Force							
	Anchor Bolts or Rods				Rebar		
	Grade 36	Grade 55	Grade 105		Grade 60		
Dia. (inch)	Force (Pounds)			Embed. Depth (inch)*	Size	Force (Pounds)	Embed. Depth (inch)*
1/2	7,400	9,700	15,300	4.50	3	7,900	3.25
5/8	11,700	16,900	24,300	6.00	4	14,400	5.25
3/4	17,300	22,500	36,000	7.50	5	22,300	6.50
7/8	24,000	31,200	49,900	9.25	6	31,700	7.50
1	31,700	40,900	65,400	11.00	7	43,800	8.75
					8	56,700	10.25

*± 1/8 inch

Add the following subsection:

00535.45(c) Anchor Test Summary - Test the installed anchors according to Table 00535-2 and Section 00165.

Table 00535-2

Str. #	Sheet #	Anchor System (Mech/ Resin)	Anchor Type (bolt/rod rebar)	Anchor Size	Anchor Grade	Anchor Sustained Tension (yes/no)	Demo. Test (yes/no)	Prod. Test (yes/no)
24318	JG01		Bolt	3/4"	36	No	Yes	Yes

Replace anchors that fail at no additional cost to the Agency.

00535.45 Testing - Replace the paragraph that begins "Do not incorporate demonstration …" with the following paragraph:

Do not incorporate demonstration test anchors into the Work. Do not begin installing the anchor system until the installation process is approved. Test results with the average load meeting or exceeding the minimum pullout force are acceptable. If any test anchor has a capacity less than 95 percent of the minimum pullout force, the anchor lot is rejected.

00535.45(a) Demonstration Tests - Replace the paragraph that begins “Install three test anchors …” with the following paragraph:

Install three test anchors using the same Materials and methods that is used for installing the anchor system. One demonstration test includes 3 test anchors.

00535.45(b) Production Tests - Replace the paragraph that begins “Use anchors from the same …” with the following paragraph:

Use anchors from the same lot used for the demonstration tests. Perform production tests during installation of the anchor system, after the installation is finished, and for the resin bonded anchor system the resin has cured according to the manufacturer’s recommendations. One production test includes 1 test anchor. Maintain the test load at the required load level for a minimum of 10 seconds. Measurable displacement is a failure. If the Engineer suspects improper installations, more testing may be required.

SECTION 00540 - STRUCTURAL CONCRETE

Comply with Section 00540 of the Standard Specifications modified as follows:

00540.03 Required Submittals for Deck Sidewalk and Curb Ramps - Replace the title of this subsection with “**Submittals for Deck Sidewalk and Curb Ramps”**

Replace the paragraph that begins "Material ordered or Work …" with the following paragraph:

Material ordered or Work done before the Engineer reviews and returns the documents are at the Contractor's risk.

Add the following subsection:

00540.10(a) Pigmented Sealer - Furnish a semi-opaque, or opaque, 100% acrylic or acrylic co-polymer resin concrete sealer meeting the following requirements:

Property	Test Method	Requirement
UV Resistance	ASTM D5894	5000 hour exposure
Wind Driven Rain Resistance	ASTM D6904 reference FED TT-P-555B	No visible leaks
Permeance	ASTM E96/E96M or ASTM D1653	Minimum 10 perms
Fungal Growth	FED STD 141	No fungal growth after 21 Days

Provide colors and color samples as shown or directed. Furnish a sealer designated for vertical application when applied to walls. When applied to structures with soffits or overhangs, furnish a sealer that is designated for vertical and overhead application.

Furnish pigmented sealer colors according to 02210.30

00540.15 Form Materials - Replace this subsection, except for the subsection number and title, with the following:

Furnish wood, minimum nominal 5/8-inch-thick APA exterior grade plywood, minimum nominal 5/8-inch-thick APA plyform, metal, or other suitable form material. For round concrete columns, furnish either metal or other approved form material that produces a smooth and true surface free from fins, joints and other irregularities. Use APA plyform for all decks and slabs.

00540.17 Acceptance of Concrete - Replace the paragraph that begins “Acceptance of concrete …” with the following paragraph:

Acceptance of concrete is according to Section 00165 and the following:

00540.17(a) Aggregate - Replace the paragraph that begins “Acceptance of Aggregate …” with the following paragraph:

Acceptance of Aggregate is according to 02690.12.

00540.17(b) Plastic Concrete - Replace the paragraph that begins “Acceptance of plastic concrete …” with the following paragraph:

Acceptance of plastic concrete is based on tests performed by the Contractor's QCT, according to the Tolerances and limits of 02001.20.

00540.17(c) Hardened Concrete - Replace the paragraph that begins “Cast and cure…” with the following paragraph:

Cast and cure test specimens according to AASHTO R 100 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.

00540.17(c)(1) General - Replace the paragraph that begins “For all classes of concrete …” with the following paragraph:

For all classes of concrete, acceptance of hardened concrete is based on an analysis of compressive strength tests of cylinders cast by the QCT. Test cylinders at an ODOT certified laboratory.

00540.17(c)(2) Acceptance - Replace this subsection, except for the subsection number and title, with the following:

Hardened concrete with an ASTV meeting or exceeding the specified design strength, f'c is 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) that 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.

00540.24(a) Deck Finishing Machine Support System - Replace this subsection, except for the subsection number and title, with the following:

Provide calculations and detailed drawings of the proposed deck finishing machine support system according to 00540.41.

00540.25 Straightedge - Replace this subsection, except for the subsection number and title, with the following:

Provide a 12-foot metal straightedge for checking bridge deck roadway and sidewalk surface Tolerances.

00540.40(b)(3)(c) - Replace this subsection, except for the subsection number and title, with the following:

On ramps, sidewalks and intersections the gap below a 12-foot unleveled straightedge resting on high spots does not exceed 1/4 inch in any direction.

00540.40(b)(3)(d) . Replace this subsection, except for the subsection number and title, with the following:

On bridge decks, the gap below a 12-foot unleveled straightedge does not vary from the testing edge by more than 1/8 inch in any direction.

00540.41(b) General Design Loads - Replace the paragraph that begins "Ensure design loads …" with the following paragraph:

Ensure design loads used are the maximum loadings. Ensure deflections used on manufactured devices and assemblies do not exceed the manufacturer's recommendations. Provide catalog data that lists the manufacturer's recommendations.

00540.41(c)(2) On Piles - Replace the paragraph that begins "For Falsework supported …" with the following paragraph:

For Falsework supported on piles, show on the Working Drawings the pile type, size and spacing. Accompany these drawings with calculations that show the assumptions and

methods used to design the piles and the bearing values that the piles need to be driven to support the calculated loads.

00540.41(d) Requirements at Highway and Railroad Traffic Openings - Replace the bullet that begins "Increase the vertical post …" with the following bullet:

- Increase the vertical post load 150 percent. If the load on the Falsework is increased by load transfer due to prestressing, increase the vertical post load by the additional load due to prestressing or by 150 percent, whichever is greater.

00540.41(f) Concrete Forms on Steel Structures - Replace the paragraph that begins "Provide sufficient temporary bracing …" with the following paragraph:

Provide sufficient temporary bracing or temporary struts and ties to minimize lateral deflection and rotation of the exterior steel girder. Calculate exterior girder rotation according to the *ODOT Bridge Design Manual* section 1.16.3. Limit deck deflection at the edge of deck due to girder rotation to no more than 1/4 inch.

Add the following to the end of the subsection:

Shop drill bolt holes in the exterior girder web to support form brackets. Fill the holes with fully torqued ASTM F3125 Grade A325 or button-head twist-off bolts ASTM F1852 or F2280 bolts according to Section 02560. Place each bolt head on the exterior side of the web. No holes are to be made in the flanges.

00540.42 Falsework Construction - Replace the paragraph that begins "Construct Falsework according …" with the following paragraph:

Construct Falsework according to the current edition of AASHTO *Construction Handbook for Bridge Temporary Works*, except where in conflict with the Specifications. Assure that Falsework is constructed according to the Falsework design and on Soils equal to or exceeding design assumptions. Within 2 Days of notice of the falsework design engineer's pending inspection, the Engineer will provide a list of construction concerns. Do not place concrete until the falsework design engineer of record, accompanied by the Engineer, field inspects that portion of the Falsework proposed for use. Do not place concrete until all construction concerns have been addressed, the falsework design engineer provides the Engineer a written statement that the Falsework conforms to the design and will serve the intended use, and the Engineer agrees in writing that the Falsework will serve the intended use.

00540.43(a) Construction Joints - Replace the paragraph that begins "Apply a concrete surface …" with the following paragraph:

Apply a concrete surface retarder according to the manufacturer's recommendations. Remove surface mortar within the time period recommended by the manufacturer and clean the joint surface and reinforcing steel by removing loosened particles of Aggregate, damaged concrete, unconsolidated concrete and surface laitance with a high pressure washer according to 00540.28 to the extent that clean Aggregate (free of surface mortar) is exposed on 50 percent of the surface. Clean the joint surface again immediately prior to the concrete placement to remove any subsequent deposits of dirt, debris or other foreign materials.

Saturate the joint surface with potable water immediately before resuming concrete placement. Remove standing water in depressions or hollows of the joint surface.

00540.43(e) Construction Joints Between Existing and New Concrete - Replace the paragraph that begins "Sand-blast or water-blast existing …" with the following paragraph:

Sand-blast or water-blast existing concrete surfaces where shown or directed. Roughen surface to a uniformly distributed 1/4-inch minimum amplitude surface profile. If approved, bush hammers or scabbler may be used for roughening existing concrete surfaces. Use pneumatic hammers, chipping guns, manual picks and chisels for area with limited access. Do not use pneumatic hammers heavier than a nominal 15-pound class. Remove loosened particles of Aggregate and damaged concrete with a high-pressure washer according to 00540.28.

00540.45 Construction of Forms - Replace the bullet that begins "Are retightened before …" with the following bullet:

- Are retightened before depositing new concrete on or against concrete that has hardened.

00540.48(a) General - Replace the bullet that begins "Through pumps, chutes …" with the following bullet:

- Through pumps, chutes or trunks according to 00540.22, when placement requires dropping concrete more than 5 feet. Place the bottom of pump hose, chutes, pipes or trunks as close to final placement position as practicable.

Replace the bullet that begins "In layers not more …" with the following bullet:

- In layers not more than 18 inches thick, except for seal concrete placement, unless shown otherwise. Place and consolidate each layer before the preceding layer has taken initial set to avoid surfaces of separation between the layers.

00540.48(b) Pumping Concrete - Replace this subsection, except for the subsection number and title, with the following:

Pump concrete with pumping Equipment according to 00540.22. Pump a cement-water slurry through the lines before starting the mix through the pump. Operate the pump in a manner that produces a continuous stream of concrete without air pockets or segregation. When a placement nears completion, if concrete remaining in the pipeline is to be used, remove it in a manner that will not cause contamination of the concrete already in place.

There is no extra payment for additional cement or additives required to ensure a mix is pumpable.

00540.48(c) Vibrating Concrete - Replace the paragraph that begins "Apply vibration at the point …" with the following paragraph:

Apply vibration at the point of freshly deposited concrete. Apply vertically at points uniformly spaced not farther apart than 1 1/2 the radius over where the vibration is visibly effective. Penetrate into previously placed plastic layers.

Replace the paragraph that begins "Do not use vibrators to …" with the following paragraph:

Do not use vibrators to make concrete flow or to move concrete from one point to another in the Forms. Do not apply directly on or through the reinforcement to sections or layers of concrete that have hardened to the degree that the concrete ceases to be plastic under vibration.

00540.48(g) Bridge Decks - Replace the paragraph that begins "Use deck finishing machines …" with the following paragraph:

Use deck finishing machines according to 00540.24 and set to run parallel to the skew of the bent lines. Place screed rails outside the finishing area. Extend screed rails beyond both ends of the scheduled placement length for a distance that allows the finishing machine to reach all of the concrete.

Replace the paragraph that begins "Before placing concrete, operate …" with the following paragraph:

Before placing concrete, operate the finishing machine the length of the proposed placement, and check the deck thickness and clearance from the screed to the reinforcing steel in the presence of the Engineer, by an approved method. The permissible variation from the clearance indicated is plus or minus 1/4 inch. Make necessary corrections before beginning the placement.

Replace the bullet that begins "Provides wind breaks, fog …" with the following bullet:

- Provides wind breaks, fog spray, or other approved methods when the concrete surface is exposed to conditions that may cause premature drying during placement operations.

00540.49(a)(2)(a) General - Replace the paragraph that begins "To place concrete when the …" with the following paragraph:

To place concrete when the temperature is below 40 °F, submit a Cold Weather Plan that identifies the methods that are used to prevent the concrete temperature from falling below 50 °F. Methods include heated enclosures and insulated Forms. Also include in the plan measures that are taken if the concrete temperature falls below 50 °F. Provide a 24-hour continuous recording thermometer to verify the concrete temperature.

00540.49(a)(2)(b) Enclosures - Replace the bullet that begins "Furnish and use, within …" with the following bullet:

- Provide and use, within the enclosure, a 24-hour continuous temperature/humidity recorder to record the air temperature and relative humidity every hour during the cure period.

00540.50(b) Deck Roadway Finish - Replace the paragraph that begins "After the deck roadway concrete …" with the following paragraph:

After the deck roadway concrete has been screeded with a finishing machine according to 00540.24, float, if necessary, to produce a uniform surface, according to 00540.55. If the Work does not conform to the prescribed limits, stop the operation until revised methods, changes in Equipment, or correction of procedures are approved for trial. Also stop the revised operation if it does not produce a specified surface.

00540.50(d) Deck Sidewalk and Curb Ramp Finish - Replace this subsection, except for the subsection number and title, with the following:

Finish concrete surfaces on pedestrian facilities including but not limited to sidewalks, curb ramps and pedestrian structures that contain a Pedestrian Accessible Route according to 00759.50.

00540.51(a) General Requirements - Replace the paragraph that begins “If the ambient temperature falls …” with the following paragraph:

If the ambient temperature falls below 50 °F, or is forecasted to be below 50 °F, provide a 24-hour continuous recording thermometer and place it directly on the surface of the concrete. Once placed, leave the thermometer in place for the duration of the cure period. Use methods approved by the Engineer to maintain a concrete temperature of at least 50 °F during the cure period.

00540.51(b) Curing Concrete Bridge Decks - Replace the bullet that begins “Provide wind breaks or …” with the following bullet:

- Provide wind breaks or other approved methods when exposed to conditions that may cause premature drying during placement operations. Premature drying is defined as an evaporation rate equal to or greater than 0.10 pounds per square foot per hour, as determined from Figure 00540-1, or as the loss of surface sheen when the evaporation rate at the surface exceeds the bleed rate.

Replace the bullet that begins “Maintain a continuous water…” with the following bullet:

- Except for HPC(IC), maintain a continuous water cure of the concrete surface for 14 Days. For HPC(IC), maintain a continuous water cure of the concrete surface for 7 Days.

00540.52 Removal of Forms and Falsework, and Subsequent Loading - Replace the paragraph that begins “In determining when to remove …” with the following paragraph:

In determining when to remove Forms and Falsework, and when to place subsequent loads, the Engineer will consider the Contractor's proposed schedule, the location and character of the Structure, the weather, and other conditions influencing the setting of the concrete. If appropriate, these operations are controlled by compressive strength tests of cylinders cast by the Contractor and witnessed by the Engineer. Test the cylinders at a recognized testing laboratory at no additional cost to the Agency. Cast and cure cylinders according to AASHTO R 100 (field cured) that is equivalent to the most unfavorable field conditions for the portions of the concrete that the cylinders represent.

Replace the paragraph that begins "[2] Where continuous spans …" with the following paragraph:

[2] Where continuous spans are involved, the time for all spans is determined by the last concrete placed affecting any span.

00540.53(b) Class 1 Surface Finish (Ground, Sacked, and Coated) - Replace the paragraph that begins "After completion of the general …" with the following paragraph:

After completion of the general surface finish, grind the surface with a power grinder or an equivalent method to remove laitance and surface film. Sack the surface to fill all holes using a paste of fine mortar sand, cement, water, and bonding agent. The ratio of bonding agent to water is one part bonding agent to two parts water, or as recommended by the manufacturer. Apply coating according to 00540.53(d).

00540.53(d) Concrete Coating - Replace the paragraph that begins "Apply either a concrete paint…" with the following paragraph:

Apply either a concrete paint or a pigmented sealer as shown or specified. Where a Class 1 or Class 2 surface finish is shown, apply a concrete paint unless specified or shown otherwise.

00540.53(d)(1) Concrete Paint - Replace the paragraph that begins "Thoroughly saturate the surface …" with the following paragraph:

Thoroughly saturate the surface with water and coat it, while damp, with a coating Material according to 02210.30. Apply a minimum of two coats of coating Material. Apply coating according to the manufacturer's instructions. The second coat may be applied any time after the previous coat, when touched lightly, does not adhere to the finger. Additional coats may be required to provide uniformity in coverage and color. Mortar sand may be added to the coating Material to help achieve a uniform surface.

00540.53(d)(2) Penetrating Concrete Stain or Sealer - Replace this subsection with the following subsection:

00540.53(d)(2) Pigmented Sealer - Prepare concrete surfaces and apply 2 coats of the pigmented sealer according to the manufacturer's recommendations. Follow all recommended curing schedules for newly placed concrete prior to application and for recoat or repair. Monitor and follow all environmental limitations as published by the manufacturer during application, and curing.

00540.54 Crack Inspection and Deck Sealing - Replace the paragraph that begins "Perform crack sealing Work …" with the following paragraph:

Perform crack sealing Work at no additional cost to the Agency. Complete all crack sealing Work before opening to traffic. If the Bridge is opened to traffic at the Contractor's request before completing crack sealing, all additional traffic control to complete crack sealing is at no additional cost to the Agency.

00540.55 Final Acceptance of Bridge Deck Surface - Replace the paragraph that begins "Ensure the finished …" with the following paragraph:

Ensure the finished bridge deck roadway surface meets the Tolerance specified in 00540.40(b)(3)(d) at every point. Provide a 12-foot straightedge and use it under the Engineer's direction.

00540.80(a)(1) Lump Sum - Add the following to the end of this subsection:

The estimated quantity of concrete is:

Bridge No. 24318

Type and Class	Quantity (Cu. Yd.)
Deck Concrete, Class HPC(IC) 4500	923
General Structural Concrete, Class 4000	820

00540.80(b) Sawcut Texturing - Replace this subsection with the following subsection:

00540.80(b) Surface Texturing - The quantities of surface texturing will be measured on the area basis and is the area of each bridge deck or approach slab as shown, less 16 inches along each curb and 6 inches from joint blockouts and bridge ends. Field measurement of surface texturing will not be made.

00540.90 Payment - Replace the Pay Item Sawcut Texturing with the following Pay Item:

Pay Item	Unit of Measurement
(d) Surface Texturing	Square Yard

Replace the paragraph that begins “In items (a), (b) …” with the following paragraph:

In items (a), (b), and (c), the class of concrete is inserted in the blank.

Replace the paragraph that begins “Payment will be payment …” with the following paragraph:

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

FALSEWORK DESIGN CHECKLIST

Instructions - This checklist was developed to facilitate the design, review, and erection of falsework to be used for Oregon Department of Transportation bridge construction projects. This checklist is intended to act as a reminder to design or check for specific important aspects of this construction. It is not a substitute for plan and/or design criteria or specification requirements.

The Checklist is to be completed and signed by the Falsework Design Engineer. Answer every question. Attach to the Checklist an explanation of any negative responses.

Submit the Checklist according to 00540.41(a).

A. Contract Plans, Specifications, Permits, Etc.	**YES**	**NO**	**N/A**
1. Are the falsework plans prepared, stamped and signed by an engineer registered to practice in Oregon?	____	____	____
2. Have three complete sets (five if railroad approval is required) of the design calculations been included with the falsework drawings submittal?	____	____	____
3. Are falsework plans in compliance with the requirements of the construction plans general notes?	____	____	____
4. Are falsework plans in compliance with contract plan structural details?	____	____	____
5. Are falsework plans in compliance with the requirements of the Oregon Standard Specifications for Construction, subsection 00150.35?	____	____	____
6. Are all existing, adjusted or new utilities in proximity with the proposed falsework shown on the falsework plans and is protection of these utilities addressed?	____	____	____
7. Are clearance requirements satisfied and shown on the falsework plans?	____	____	____
8. For construction in or over navigable waters have all requirements for construction of falsework that are called for in the Coast Guard Permit been incorporated in the falsework design?	____	____	____
9. Has possible damage from traffic been considered in the falsework design?	____	____	____
10. Has damage from stream drift been considered in the falsework design?	____	____	____

11. Is the concrete placing sequence shown and is it consistent with the contract plans?	____	____	____
B. Foundation Requirements	**YES**	**NO**	**N/A**
1. Are driven falsework piling provided as called for on the contract plans?	____	____	____
a. Is a minimum pile tip elevation or penetration indicated on the drawings?	____	____	____
b. If timber falsework piles are specified, are the recommended order lengths sufficient to virtually eliminate the possibility of pile splices?	____	____	____
c. Is a detailed static pile capacity analysis included in the calculations?	____	____	____
d. If lateral loads are applied to the piling by equipment, dead loads, flowing water, or drift, is a detailed lateral load analysis included in the calculations?	____	____	____
e. When piling are in an active waterway, have the potential effects of scour on axial and lateral pile support been addressed in the calculations?	____	____	____
f. Does the proposed falsework pile hammer meet the minimum field energy requirements as listed in 00520.20(d)(2)?	____	____	____
g. Will a driving criteria graph [FHWA Gates Equation, in 00520.42(b)] plotting blow count versus stroke for an acceptable pile hammer be provided for the project inspector?	____	____	____
2. Is falsework supported on spread footings or mud sills?	____	____	____
a. Are the spread footing elevations shown on the drawings?	____	____	____
b. Has a rational method for determining the ultimate bearing capacity of the foundation materials been presented and described in the calculations?	____	____	____
c. Have the soil parameters used in calculating the ultimate bearing capacity been listed and confirmed by the designer?	____	____	____

d. Has an appropriate Factor of Safety been used for calculating the allowable bearing capacity of the foundation materials?	____	____	____
e. Are spread footing settlement estimates included in the calculations?	____	____	____
f. Have effective stresses been used in the calculations, when applicable?	____	____	____
g. When spread footings are founded near the top of a slope or in a slope, have the ultimate bearing capacity calculations been modified accordingly?	____	____	____
h. When spread footings may be subjected to flowing water, have the potential effects of scour on ultimate bearing capacity been addressed in the calculations?	____	____	____
C. Loads	**YES**	**NO**	**N/A**
1. Are the magnitude and location of all loads, equipment and personnel that will be supported by the falsework shown and noted on the falsework plans?	____	____	____
2. Has the mass of specific equipment units to be supported by the falsework been included in the calculations or on the falsework plans?	____	____	____
3. Is the deck finishing machine supported in a manner that will not impose load on concrete forms except deck overhang brackets?	____	____	____
4. Are design loads and material properties used to determine design stresses for each different falsework member shown on the falsework plans?	____	____	____
5. Is the worst loading and member property condition, rather than the average condition, used to obtain design loads?	____	____	____
6. Are deck forms for concrete box girders supported from the girder stem and not from the bottom slab?	____	____	____
7. Are diaphragm loads or other concentrated loads included in the analysis of supporting beams?	____	____	____
8. If sloping structural members exert horizontal forces on the falsework, is bracing or ties used to resist these loads?	____	____	____
D. Allowable Stresses	**YES**	**NO**	**N/A**

1. Has the method used for falsework design of all members except for manufactured assemblies been noted in the design calculations?	____	____	____
2. Are manufactured assemblies identified as to manufacturer, model, rated working capacity and ultimate capacity?	____	____	____
3. Is the allowable stress and the calculated stress listed in the summary for each different falsework member, except for manufactured assemblies?	____	____	____

E. Timber Falsework Construction	**YES**	**NO**	**N/A**
1. Are timber grades consistent with material to be delivered to the construction site, and noted on falsework drawings, and in accompanying calculations for all timber falsework material?	____	____	____
2. If "rough" lumber is specified for falsework by the falsework designer are the actual lumber dimensions used in calculations shown?	____	____	____
3. If plywood spans are governed by the strength of the plywood, are the allowable stress and the calculated stress shown on the submitted calculations?	____	____	____
4. If plywood spans are governed by the allowable spacing of supporting joists, are the allowable and the proposed spacing shown on the falsework plans?	____	____	____
5. Have timber stringers been checked for bending, shear, bearing stresses, and 1/240 of the span length deflection?	____	____	____
6. Are joists identified as being continuous over 3 or more spans when they are not analyzed as simple spans?	____	____	____
7. Have stringers and cap beams been checked for bearing stresses perpendicular to the grain as well as for bending and shear stresses?	____	____	____
8. Have posts been checked as columns as well as for compression parallel to the grain?	____	____	____

F. Steel Falsework Construction	**YES**	**NO**	**N/A**
1. Are steel structural shapes and plates identified by ASTM number on the falsework plans and in the calculations?	____	____	____

2. Have steel beams been checked for bending, shear, web crippling and buckling of the compression flange?	____	____	____
3. Has horizontal plane bracing been shown where required to limit compression flange buckling?	____	____	____
G. Deflections and Settlement	**YES**	**NO**	**N/A**
1. Is falsework deflection for concrete dead load shown on the plans for all falsework spans?	____	____	____
2. Is falsework deflection from concrete dead load limited to 1/240 of the span length for all falsework spans?	____	____	____
3. Do stringers supporting cast-in-place concrete compensate for estimated camber?	____	____	____
4. For beam spans with cantilevers, has the upward deflection of the cantilevers due to load placed on the main spans been investigated?	____	____	____
5. Are provisions shown for taking up falsework settlement?	____	____	____
H. Compression Members, Connections and Bracing	**YES**	**NO**	**N/A**
1. Has general buckling been evaluated for all compression members?	____	____	____
2. Has bracing been provided at all points of assumed support for compression members?	____	____	____
3. Was bracing in each direction considered in establishing the effective length used to check post capacity?	____	____	____
4. Is bracing strength and stiffness sufficient for the intended purpose?	____	____	____
5. If temporary bracing is required during intermediate stages of falsework erection, is it shown on the falsework plans?	____	____	____
6. Have all connections been designed and detailed?	____	____	____
7. Are web stiffeners required on steel cap beams to resist eccentric loads?	____	____	____
8. Are wedges required between longitudinal beams and cap beams to accommodate longitudinal slope or to reduce eccentric loading?	____	____	____
9. Has the width to height ratio of wedge packs been verified to fall within the limits given in the special provisions?	____	____	____

10. If overhang brackets are attached to girder webs, has the need for temporary bracing to prevent longitudinal girder distortion been investigated?	____	____	____
11. Have beams and stringers with height/width ratios greater than 2.5:1 been checked for stability?	____	____	____
12. Have sloping falsework members that exert horizontal forces on the falsework been braced or tied to resist these loads?	____	____	____
13. If beams supporting cast-in-place concrete have cantilever spans, have the falsework plans been noted to require the main spans be loaded before loading the cantilever spans?	____	____	____
14. Have timber headers set on shoring towers been checked for eccentric loads, and for shear and bending stresses produced by the eccentricity?	____	____	____
I. Highway and Railroad Traffic Openings (For falsework over or adjacent to highway or railroad traffic openings.)	**YES**	**NO**	**N/A**
1. Do falsework plans satisfy construction clearances shown on the contract plans?	____	____	____
2. Are posts designed for 150% of the calculated vertical loading and increased or readjusted for loads caused by prestressing forces?	____	____	____
3. Are mechanical connections 2,000 pounds minimum capacity shown at the bottom of posts to footing connections?	____	____	____
4. Are mechanical connections 1,000 pounds minimum capacity shown at the top of the post to cap connections?	____	____	____
5. Are beam tie downs 500 pounds minimum capacity shown for all beams?	____	____	____
6. Are 5/8 inch or larger diameter bolts used at connections for timber bracing?	____	____	____
7. Are temporary erection and removal bracing shown?	____	____	____
J. Additional Requirements for Railroad Traffic Openings	**YES**	**NO**	**N/A**
1. Do falsework plans show collision posts as shown on the contract plans?	____	____	____

2. Do posts adjacent to the openings have a minimum section modulus of?			
a. steel - 9.5 cubic inches	____	____	____
b. timber - 250 cubic inches	____	____	____
3. Are soffit and deck overhang forming details shown?	____	____	____
4. Are falsework bents within 20 feet of centerline of the track sheathed solid between 3 feet and 17 feet above top of rail with 5/8 inch thick minimum plywood and properly blocked at the edges?	____	____	____
5. Is bracing on the bents within 20 feet of the centerline of the track adequate to resist the required assumed horizontal load or minimum 5,000 pounds, whichever is greater?			

_____ _____

Designer's Signature Date

SECTION 00543 - ARCHITECTURAL TREATMENT

Section 00543 is not a Standard Specification and is included in this Project by Special Provision.

Description

00543.00 Scope - This Work consists of applying concrete surface texture and color to the indicated concrete faces, as shown in the Plans.

00543.02 Required Submittals - Submit the following at least 10 Calendar Days before the preconstruction conference:

- Five copies of the form liner manufacturer's pattern details;
- Five copies of manufacturer's instructions for handling, cutting, assembling, and finishing form liners;
- Five copies of the stain manufacturer's written application instructions;
- One color sample for each proposed stain to be used;
- A description of proposed containment methods and plan for disposal of chemical or other residues; and
- Documentation showing that the firm performing the Work of this Section has successfully completed a minimum of 5 projects involving comparable textured and colored concrete construction within the previous 5 years. Include the name, location, and approximate completion date for each previous project, and the name and phone number of an owner's representative who can attest to the success of the project.

Materials

00543.10 Form Liners - Furnish form lining Materials and patterns according to the Specifications and as approved by the Engineer. Furnish a high-quality form liner product that attaches easily to the forms. Furnish form liners that are:

- Capable of withstanding anticipated concrete pour pressures without compressing more than 1/4 inch or leaking concrete so as to cause physical or visual defects in the finished Work; and
- Removable without causing damage to the concrete surface or the substrate.

(a) General - Furnish all form liners used for a particular pattern from the same manufacturer.

(b) Retaining Walls, Bents, and Wingwalls - For retaining walls, bents, and wingwallsfurnish one of the following form liner systems or approved equal:

- Sierra Dry Stack 439 by Sika Greenstreak
  201 Polito Avenue
  Lyndhurst, New Jersy 07071
  Telephone: (201) 933-8800

- San Diego Dry Stack 1524 by SpecFormliners
  1038 East 4th Street
  Santa Ana, CA 92701
  Telephone: (714) 429-9500

- Teton Dry Stack 189 by Scott Systems, Inc.
  109 General Fellows Road
  Greenwich, NY 12834
  Telephone: (501) 886-3371

00543.12 Colored Pigmented Sealer - Furnish a pigmented sealer according to 02210.30.

00543.13 Form Release Agents and Patching Materials - Furnish form release agents and patching Materials that are compatible with the form liner system and stain.

00543.14 Form Ties - Furnish form ties with set break-backs at least 1 inch below the finished concrete surface (bottom of rustication groove), so designed that the device can be disengaged and removed without spalling or damaging the concrete.

00543.15 Quality Control - Provide quality control according to Section 00165.

Labor

00543.30 Personnel Qualifications - Perform architectural treatment Work using a company experienced in architectural treatment Work. Provide a company to perform the Work of this Section that has successfully completed a minimum of 5 projects involving comparable textured and colored concrete construction within the previous 5 years. Submit documentation according to 00543.02.

Construction

00543.40 Pre-Production Tests:

(a) Form Liner Test Panels - Construct vertical, unreinforced test panels for each form liner type specified, to demonstrate the surface texture produced by the form liner. The minimum size for the test panel is 8 inches thick by 8 feet wide by 6 feet high.

Include in the test panel a flat border and one vertical and one horizontal joint between adjacent sections of form liner to demonstrate that the finished pattern meets the appearance requirement of 00543.41.

Construct test panels in a location designated by the Engineer, using the same concrete class and finishing procedures as proposed for the finished Structure.

The Engineer will examine the surface of the resulting test panel. Remove and dispose of unsatisfactory test panels according to 00290.20(c) and repeat test as required. Do not proceed with the Work prior to receiving the Engineer’s approval.

Retain the approved test panel to serve as the standard for accepting subsequent texturing Work.

(b) Coloring Test - Perform one or more color application tests prior to applying sealer to the finished Work. Perform test(s) on cured form liner test panel(s) constructed according to 00543.40(a), or other area(s) where directed. If results do not meet Specifications, repeat the test on new test panel(s) until the Engineer approves the results.

The approved test area will serve as the standard for accepting subsequent stain application and may be incorporated into the finished work if approved.

00543.41 Form Liner Installation - Ensure that form liners are clean and free of concrete build-up, blemishes, tears, or other damage prior to each use.

Attach liner to forms following manufacturer's recommendations. Butt adjoining liners with less than 1/4-inch seams. Fill open cracks prior to placing concrete. Assemble and join form liner panels so that the finished pattern has a continuous appearance and is not interrupted by visible vertical or horizontal joints between panels.

Coordinate form tie locations with the form liner pattern. Locate form tie holes in the high point of the rustication groove between stone patterns.

00543.42 Coloring - After the textured concrete has cured as recommended by the pigmented sealer manufacturer, but not less than 28 Days after concrete placement unless approved by the Engineer, apply the pigmented sealer to textured surfaces where shown, and according to 00540.53(d)(2).

Methods that reduce the approved surface texture will not be allowed for cleaning concrete surfaces. If using pressure washing, manage wash water according to Section 00290.

Provide a pigmented surface free of blemishes, discoloration, surface voids, and conspicuous form marks.

Measurement

00543.80 Measurement - The quantities of Architectural Treatment will be measured on the area basis and will be the area of treatment on the indicated concrete faces, including faces of approved test panels incorporated into the main concrete surface.

No measurement of quantities will be made for test panels, including architectural treatment of test panels not included in the main concrete surface.

Payment

00543.90 Payment - The accepted quantities of Work performed under this Section will be paid for at the Contract unit price, per unit of measurement, for the following items:

Pay Item	Unit of Measurement
(a) Architectural Treatment	Square Yard
(b) Test Panels	Lump Sum

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

No separate or additional payment will be made for:

- Furnishing and placing formliners
- Release agents
- Patch mix
- Finishing
- Caulking compounds
- Concrete surface colorant
- Concrete sealers

SECTION 00545 - REINFORCED CONCRETE BRIDGE APPROACH SLABS

Comply with Section 00545 of the Standard Specifications modified as follows:

00545.00 Scope - Replace this subsection, except for the subsection number and title, with the following:

This Work consists of constructing reinforced portland cement concrete bridge approach slabs and sleeper slabs at the locations shown or as directed, and in close conformity to the lines, grades and dimensions shown or established.

Add the following subsection:

00545.02 Definitions:

Sleeper Slab - An individual concrete element at the roadway end of an approach slab that provides foundational support, pavement structure transitioning, and accommodations for expansion joint installation.

00545.10 Materials - Replace the bullet that begins "When pipe under approach …" with the following bullet:

- When pipe under approach slabs are shown, furnish one of following types:

Replace the bullet that begins "For pipe under approach …" with the following bullet:

- For pipe under approach slabs, furnish pipe bedding, pipe zone material, and backfill meeting the requirements of 00405.12, 00405.13, and 00405.14.

Replace the bullet that begins "Provide granular structure …" with the following bullet:

- Furnish granular structure backfill meeting the requirements of 00510.13.

Add the following bullet to the end of this subsection:

- Furnish Foundation Concrete, Class 3300 for sleeper slabs, unless otherwise shown.

Add the following subsection:

00545.48 Sleeper Slabs - Construct to the dimensions and details shown.

Vibrate concrete in sleeper slabs until it is completely consolidated and the excavations are completely filled. Construct sleeper slabs at least 24 hours before paving operations, unless otherwise allowed. Cure the surfaces of sleeper slab concrete according to 00755.53.

00545.80 Measurement - Add the following paragraph to the end of this subsection:

The quantities of sleeper slabs will be measured on the length basis. The length will be measured along the joint at the roadway end of the approach slab.

00545.90 Payment - Replace the paragraph that begins "The accepted quantities of reinforced concrete…" with the following paragraphs:

The accepted quantities of Work performed under this Section will be paid for at the Contract unit price per unit of measurement for the following item(s):

Pay Item	Unit of Measurement
(a) Reinforced Concrete Bridge Approach Slabs	Square Yard
(b) Bridge Approach Sleeper Slabs	Foot

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

SECTION 00560 - STRUCTURAL STEEL BRIDGES

Comply with Section 00560 of the Standard Specifications modified as follows:

00560.03 Working Drawings - Replace the paragraph that begins "Submit unstamped Working Drawings …" with the following paragraph:

Submit unstamped Working Drawings according to 00150.35. Any Work performed before review of these drawings is at the Contractor's risk. When Material is ordered in advance, obtain approval before placing the order.

00560.03(b) Revisions - Replace this subsection, except for the subsection number and title, with the following:

Submit copies of any revisions to the detailed Working Drawings for review. Work performed before review of these revisions is at the Contractor's risk.

00560.04 Erection Plan - Replace the bullet that begins "Load test and certify the lifting …" with the following bullet:

- Load test and certify the lifting bracket for a load at least twice the working load and at all angles it is used at (angle of load or rigging). Certification documentation from a previous project may be submitted.

00560.22(a) Test Results Certificate and Initial Identification - Replace the paragraph that begins “Furnish test results certificates …” with the following paragraph:

Provide test results certificates, showing chemical analysis and physical tests for each heat or plate of steel, for all members according to 00165.35 and Section 02530. Identify each piece of steel to be fabricated.

Replace the paragraph that begins “Material that can be identified …” with the following paragraph:

Material that can be identified by heat number and mill test report may be provided from stock.

00560.22(b) Steel Identification during Fabrication - Replace the paragraph that begins "During fabrication, and until …" with the following paragraph:

During fabrication, and until member assembly, mark each piece of steel, other than AASHTO M 270 (ASTM A709), Grade 36 steel, clearly and legibly with its specification identification color code shown in AASHTO M 160 (ASTM A6).

Replace the paragraph that begins "Mark individual pieces of …" with the following paragraph:

Mark individual pieces of steel, other than AASHTO M 270 (ASTM A709), Grade 36 steel, that are furnished in tagged lifts or bundles with the AASHTO M 160 (ASTM A6) specification identification color code immediately on being removed from the bundle or lift.

Replace the paragraph that begins "Pieces of steel, other …" with the following paragraph:

Mark pieces of steel, other than AASHTO M 270 (ASTM A709), Grade 36, for grade by steel die stamping or by a substantial tag firmly attached before assembling into members and subject to fabricating operations such as heating, blast cleaning, galvanizing or other coating that might obliterate paint color code marking. Use only rounded characters when primary stress components are identified by steel die stamping. Ensure impressions have a maximum allowable depth of 0.010 inch and are placed a minimum distance of 2 inches from edges of tension-stressed plate members. Use characters that are 1/4 inch to 3/8 inch high and have a minimum face radius of 0.015 inch.

00560.22(c) Check Samples - Replace this subsection, except for the subsection number and title, with the following:

To verify the accuracy of test reports, obtain check samples from material furnished for fabrication. The plates, shapes or bars from where check samples are required are as designated on the Plans. Order plates, shapes or bars from the mill with the extra size required for samples. The Engineer may take additional samples from drop-offs or scrap material as deemed necessary. No more than two samples are required from any one plate according to AASHTO M 270 (ASTM A709) Grade 36, 50, HPS 50W and HPS 70 W with QT processing, or from any one shape or bar. Remove material for check samples in the presence of the Engineer. The Engineer will select the locations where samples are to be taken. Check samples may be ordered cut from either end of the designated steel plate, according to AASHTO M 270 (ASTM A709) Grade 36, 50, HPS 50W and HPS 70 W with QT processing, or shape or bar. To verify accuracy of test reports for HPS 50W and HPS 70W with thermo-mechanical control process, check samples of both ends of each plate is required.

Provide rectangular plate check samples, not less than 24 inches long in the required direction, depending on plate width, for the longitudinal axis of tensile specimens, and 5 inches wide. Provide bend specimens, where required, not less than 24 inches long in the direction of rolling of the plate. Provide check samples in bars or shapes that are the full section and at least 24 inches long. In removing the sample, take care not to damage it by overheating. The Agency is responsible for the necessary machining of check test specimens and their testing. To expedite obtaining test results, the Contractor may, if approved, perform machining and testing of specimens, in the presence of the Engineer.

The normal basis of acceptance of Material is the mill report or other test report, and fabrication need not be held up pending results of check tests. If the check tests indicate Material with properties failing to meet the minimum requirements of the material specification, the Material may be rejected and the Contractor required to order new Material at no additional cost to the Agency.

For purposes of determining compliance with the Specifications, if the results on an original tensile specimen are within 2,000 psi of the required tensile strength, within 1,000 psi of the required yield point, or within 2 percent of the required elongation, a retest is allowed on two random specimens from the heat or lot. If the results from both of these retest specimens meet Specifications, the heat or lot is accepted. Orient the specimens with the final direction of rolling in the same manner as the original specimen, and may come from any location within the plate. The extra material from plates, shapes or bars that is not used for check testing becomes the property of the Contractor.

00560.22(d) Certification of Identification - Replace this subsection, except for the subsection number and title, with the following:

Upon request, provide an affidavit certifying that throughout the fabrication operation the identification of steel has been maintained according to this Specification.

00560.23(a) Facilities - Replace this subsection, except for the subsection number and title, with the following:

Provide facilities for the inspection of Material and Work in the mill and shop. Allow the Engineer free access to the Material and Work for inspection.

00560.23(b) Testing - Replace this subsection, except for the subsection number and title, with the following:

Provide samples for testing as specified according to Section 00165.

00560.25(d) Bent Plates - Replace the paragraph that begins "Unwelded, cold-bent …" with the following paragraph:

Fabricate unwelded, cold-bent, load-carrying, rolled-steel plates that are:

Replace the bullet that begins " Rounded at the corners …" with the following bullet:

- Rounded at the corners of the plate before bending, to a radius of 1/16 inch throughout the portion of the plate that the bending is to occur.

00560.26(a) Bridge Welding - Replace this subsection, except for the subsection number and title, with the following:

All welding, welder qualifications, prequalification of weld details, and inspection of welds for Bridge Structures is according to AWS D1.5.

00560.26(b) Non-Bridge Structures - Replace this subsection, except for the subsection number and title, with the following:

All welding, welder qualifications, prequalification of weld details and inspection of welds for non-Bridge Structures is according to AWS D1.1. Non-Bridge Structures include bridge railing posts, railing splices, deck expansion joints and similar Structures. Submit all welding procedure specifications to the Engineer for approval.

00560.27(a) Punched Holes - Replace this subsection, except for the subsection number and title, with the following:

Use a die with a diameter not exceeding the diameter of the punch by more than 1/16 inch. Ream any holes that are required to be enlarged to admit the bolts. Make clean cut holes without torn or ragged edges. Poor matching of holes is cause for rejection.

00560.27(b) Drilled or Reamed Holes - Replace the paragraph that begins "Poor matching of holes …" with the following paragraph:

Poor matching of holes is cause for rejection.

00560.27(c) Accuracy of Punched and Drilled Holes - Replace this subsection, except for the subsection number and title, with the following:

Locate all holes punched full size, subpunched, or subdrilled so accurately that after assembling (before any reaming is done) a cylindrical pin 1/8 inch smaller in diameter than the nominal size of the punched hole may be entered perpendicular to the face of the member, without drifting, in at least 75 percent of the connecting holes in the same plane. Non-conforming pieces are rejected. If any hole will not pass a pin 3/16 inch smaller than the nominal size of the hole, the non-conforming pieces are rejected.

00560.27(d) Accuracy of Drilled and Reamed Holes - Replace the paragraph that begins "When holes are drilled …" with the following paragraph:

When holes are drilled or reamed, do not allow an offset greater than 1/32 inch between adjacent thicknesses of metal in 85 percent of the holes in any connecting group, after drilling or reaming.

00560.27(h)(2) Numerically Controlled Punched or Drilled Field Connections - Replace the paragraph that begins "If numerically controlled punching…" with the following paragraph:

If numerically controlled punching or drilling Equipment is used, the Engineer may require the Contractor, by means of check assemblies, to demonstrate that this punching or drilling procedure consistently produces holes and connections according to 00560.27(g) and 00560.43.

00560.28 Carbon Steel Bolt Connections - Replace the paragraph that begins "Unless otherwise shown or specified…" with the following paragraph:

Unless otherwise shown or specified, make connections with unfinished carbon steel bolts nuts and washers according to Section 02560. Use holes according to 00560.27.

00560.28(a) Turned Bolts - Replace this subsection, except for the subsection number and title, with the following:

Furnish and install turned bolts as follows:

- The body surface with a surface roughness of 125 microinches, or less, according to ANSI B46.1.
- The unthreaded body equals the total thickness of connected parts.
- The outer thread diameter equals the nominal diameter of the bolt specified.
- Hexagonal heads and nuts with standard dimensions for bolts of the nominal size specified or the next larger nominal size.
- Install bolts in carefully reamed holes with a tight driving fit.

00560.28(b) Ribbed Bolts - Replace this subsection, except for the subsection number and title, with the following:

Furnish and install ribbed bolts as follows:

- The body has an approved form with continuous longitudinal ribs.
- The diameter of the body, measured on a circle through the points of the ribs, is 5/64 inch greater than the nominal bolt diameter specified.
- Round heads meeting ASME B 18.5 unless otherwise specified.
- Ribbed bolts making a driving fit with the holes.
- The hardness of the ribs are such that the ribs do not permit the bolts to turn in the holes during tightening.
- If for any reason the bolt twists before drawing tight, ream the hole and use an oversized bolt as a replacement.

- Nuts that are hexagonal, with standard dimensions for bolts of nominal size specified or the next larger nominal size.

00560.28(d) Nuts - Replace this subsection, except for the subsection number and title, with the following:

Use single self-locking nuts or double nuts unless otherwise shown or specified. Ensure the finished side is against the washer or plate.

00560.29(a) General - Replace the paragraph that begins “When shown or specified…” with the following paragraph:

When shown or specified, assemble structural joint connections with high-strength bolts according to ASTM F3125, Grade A325 or Grade F1852 or equivalent fastener using bolts, nuts, and washers according to Section 02560 and in holes according to 00560.27.

Replace the bullet that begins "Provide all steel …" with the following bullet:

- Furnish all steel Material within the grip of high-strength bolts (no compressible material such as gaskets or insulation).

00560.29(b) Washer Requirements - Replace the bullet that begins "Where ASTM F3125, Grade A325 or Grade F1852 bolts of any diameter are to be installed in standard …" with the following bullet:

- Where ASTM F3125, Grade A325 or Grade F1852 bolts of any diameter are to be installed in standard, oversize, or short slotted hole in an outer ply, furnish a hardened washer under the element of the fastener (nut or bolt head) turned in tightening.

Replace the bullet that begins "Where ASTM F3125, Grade A325 or Grade F1852 bolts of any diameter are to be installed in a long …" with the following bullet:

- Where ASTM F3125, Grade A325 or Grade F1852 bolts of any diameter are to be installed in a long-slotted hole in an outer ply, use plate washers or continuous bars of at least 5/16-inch thickness with standard holes. Furnish washers or bars with sufficient size to completely cover the slot after installation. Make the plate washer from structural grade steel. In addition to a plate washer, furnish a hardened washer under element of the fastener (nut or bolt head) turned in tightening.

00560.29(c)(2) Non-Coated Weathering Steel Members - Replace the paragraph that begins “Prior to final bolting …” with the following paragraph:

Prior to final bolting, ensure all steel-to-steel contact surfaces have maintained the minimum requirements of SSPC-SP 6 *Commercial Blast Cleaning*. Provide the minimum appearance of the surface that approximates Pictorial Standard Sa 2 of SSPC-VIS 1, Pictorial Surface Preparation Standards for Painting Steel Surfaces. Hand tool or re-blast surfaces that do not meet the requirements of SSPC-SP 6 until the appearance of the blast-cleaned surface closely resembles Pictorial Standard Sa 2-1/2 of SSPC-VIS 1 as determined by the Engineer.

00560.29(d) Verification Testing, Installation, and Inspection - Delete the paragraph and bullets that begin “The Engineer will do the following…”

00560.29(d)(1)(a)(2) Verification Testing - Replace the paragraph that begins "First, demonstrate the method…" with the following paragraph:

First, use a calibrated torque wrench to estimate the snug-tight condition to be used on the final product. Record the snug-tight tension and the torque used to achieve tension. Calibrate the torque wrench annually.

00560.29(d)(1)(c) Inspection - Replace the paragraph that begins "Select at random 10 percent …" with the following paragraph:

Select at random 10 percent or at least two, whichever is greater, of the tensioned bolts and nuts on the Structure for each separate connection. Apply the Inspection Torque to each nut in the tensioning direction. If the Inspection Torque does not turn the bolt or nut, the connection is considered properly tensioned. If the Inspection Torque turns the bolt or nut, apply the Inspection Torque to all the bolts and nut in the connection. Re-tension and re-inspect all bolts and nuts that turned at this inspection. The Contractor may re-tension all the bolts in the connection and resubmit it for inspection, provided fasteners assemblies are not damaged.

00560.29(d)(2)(a)(2) Verification Testing - Replace the paragraph that begins "First, demonstrate the method…" with the following paragraph:

First, use a calibrated torque wrench to estimate the snug-tight condition to be used on the final product. Record the snug-tight tension and the torque used to achieve tension. Calibrate the torque wrench annually. Match mark the bolt, nut, and plate.

00560.29(d)(2)(c) Inspection - Replace the paragraph that begins "Select at random 10 percent …" with the following paragraph:

Select at random 10 percent or at least two, whichever is greater, of the tensioned bolts and nuts on the Structure for each separate connection. Apply the Inspection Torque to each nut the tensioning direction. If the Inspection Torque does not turn the bolt or nut, the connection is considered properly tensioned. If the Inspection Torque turns the bolt or nut, apply the Inspection Torque to all bolts in the connection. Re-tension and re-inspect all bolts and nuts that turned at this inspection. The Contractor may re-tension all the bolts in the connection and resubmit it for inspection, provided fastener assemblies are not damaged.

Replace Table 00560-3 with the following table:

Table 00560-3 Nut Rotation from Snug-Tight Condition [1,2]
Disposition of Outer Faces of Bolted Parts

Bolt Length[3] (underside of head to end of bolt)	Both faces normal to bolt axis	One face normal to bolt axis and other sloped not more than 1:20 (beveled washer not used)	Both Faces sloped not more than 1:20 from normal to bolt axis (beveled washer not used)
Up to and including 4 diameters	1/3 turn	1/2 turn	2/3 turn
Over 4 diameters but not exceeding 8 diameters	1/2 turn	2/3 turn	5/6 turn
Over 8 diameters but not exceeding 12 diameters	2/3 turn	5/6 turn	1 turn

[1] Nut rotation is relative to bolt, regardless of the element (nut or bolt) being turned. For all required nut rotations, the tolerance is plus 60 degrees (1/6 turn) and minus 0 degrees.

[2] Applicable only to joints where all material within the grip is steel.

[3] No research has been performed by the Research Council on Structural Connections to establish the turn-of-nut procedure for bolt lengths exceeding 12 diameters. Therefore, the required rotation is determined by actual test in a suitable tension measuring device according to 00560.29(d)(2).

00560.30 Fabricators - Replace this subsection, except for the subsection number and title, with the following:

Provide structural steel Bridge fabricators having an American Institute of Steel Construction (AISC) Certified Bridge Fabricator - Intermediate (IBR) certification. For fracture critical Structures, provide a fabricator with an AISC Fracture Critical Endorsement (FC). For earthquake restraints provide fabricators that have either a current AISC IBR certification or a Certified Bridge Fabricator - Simple (SBR) certification.

00560.40(c) Stiffeners - Replace this subsection, except for the subsection number and title, with the following:

Fabricate end stiffeners of girders and stiffeners intended as supports for concentrated loads to have full bearing (either milled, ground, or on weldable steel in compression areas of flanges, welded as specified) on the flanges where they transmit load or from where they receive load. Fabricate stiffeners not intended to support concentrated loads, according to AWS D1.5, unless specified otherwise.

00560.40(d) Abutting Members - Replace this subsection, except for the subsection number and title, with the following:

Mill, sawcut or flame cut abutting members carrying compression at joints in trusses, columns and girder flanges, to give a square joint and uniform bearing. Do not exceed 1/4 inch at joints not required to be faced.

00560.40(e) Annealing and Stress Relieving - Replace the paragraph that begins "Perform finished machining, boring …" with the following paragraph:

Perform finished machining, boring and straightening on structural members that are specified to be annealed or normalized subsequent to heat treatment. Normalize and anneal (full annealing) according to ASTM A941. Maintain the temperatures uniformly throughout the furnace during the heating and cooling so the temperature at no two points on the member will differ by more than 100 °F at any one time.

00560.40(f) Facing of Bearing Surfaces - Replace the paragraph that begins "The surface finish of bearing …" with the following paragraph:

Conform the surface finish of bearing and base plates and other bearing surfaces that are to come in contact with each other or with concrete to ANSI surface roughness requirements of ANSI B46.1, Surface Roughness, Waviness and Lay, Part I, and the following table:

00560.40(g) Pins and Rollers - Replace the paragraph that begins "Turn pins and rollers …" with the following paragraph:

Turn pins and rollers to the dimensions shown. Make them straight, smooth and free from flaws. Furnish pins and rollers more than 9 inches in diameter that are forged and annealed carbon-steel shafting. Pins and rollers 9 inches or less in diameter may be cold-finished or forged and annealed carbon-steel shafting.

00560.40(h) Pin Holes - Replace the paragraph that begins "The diameter of the pin …" with the following paragraph:

Do not allow the diameter of the pin hole to be larger than the pins by more than 0.02 inch for pins 5 inches or less in diameter, or by 0.03 inch for larger pins.

Replace the paragraph that begins "The distance outside …" with the following paragraph:

Do not vary more than 1/32 inch the distance outside-to-outside of end holes in tension members and inside-to-inside of end holes in compression members from that specified. Bore holes in built-up members after the fabrication is completed.

Add the following subsection:

00560.40(j) Surface Finish (Non-Coated Weathering Steel Only) -

(1) Sandblast and Mill Scale Removal - Sandblast all exposed surfaces of AASHTO M 270 (ASTM A709), non-coated weathering steel, according to SSPC-SP6, *Commercial Blast Cleaning, SSPC's Steel Structures Painting Manual*. Visually verify the

appearance of the blast-cleaned surface using Pictorial Standard Sa 2 of SSPC-VIS 1, *Pictorial Surface Preparation Standards for Painting Steel Surfaces*.

(2) Exterior Face of Fascia Girders - Brush-off blast clean, according to SSPC-SP7, *Brush-Off Blast Cleaning, SSPC's Steel Structures Painting Manual* to achieve a uniform surface finish and patina immediately after fabrication and prior to environmental exposure. After brush-off blast, and prior to environmental exposure or shipping, pressure wash exterior faces of fascia girders with a stream of potable water to ensure uniform weathering and patina.

(3) All Non-Coated Weathering Steel - Prior to environmental exposure, clean all exposed surfaces that do not receive a brush-off blast clean according to SSPC-SP 1, *Solvent Cleaning, SSPC's Steel Structures Painting Manual* to remove all visible oil, grease, dust, dirt, drawing and cutting compounds, and other visible contaminants.

(4) Post-Fabrication Sandblast - If, as determined by the Engineer, the uniform weathering properties of the steel have been compromised and solvent cleaning is unable to adequately clean the surface, sandblast all exposed surfaces after fabrication and prior to shipment according to SSPC-SP 6. Pressure wash sandblasted surfaces with a stream of potable water to ensure uniform weathering and patina.

00560.42 Cambering - Replace the paragraph that begins "Camber roll beams in …" with the following paragraph:

Camber roll beams in the fabricating shop by use of heat or hydraulic jacks. Do not exceed 1,200 °F temperature for the heated area, as controlled by pyrometric stick (temperature crayon) or thermometers. Do not quench to accelerate cooling.

00560.43(a) General - Replace the paragraph that begins "Furnish a Camber diagram …" with the following paragraph:

Provide a Camber diagram, prepared by the fabricator, showing the Camber at each panel point in the cases of trusses or arch ribs, and at the location of field splices and fractions of span length (quarter points minimum, tenth points maximum) in the cases of continuous beam and girders or rigid frames. When the shop assembly is Full Truss or Girder Assembly or Complete Structure Assembly, show the Camber measured in assembly. When any of the other methods of shop assembly is used, show calculated Camber.

00560.43(g) Check Assemblies with Numerically Controlled Punched and Drilled Field Connections - Replace the paragraph that begins "A check assembly consists …" with the following paragraph:

A check assembly consists of at least three connecting shop sections, or in a truss, all members in at least three connecting panels, but not less than the number of panels in three connecting chord lengths; that is, the length between field splices. Base check assemblies on the proposed order of erection, joints in bearings, special complex points such as the portals of skewed trusses, and similar considerations, as directed. Fabricate check assemblies first for each major structural type to be fabricated.

00560.43(h) Match-Marking - Replace this subsection with the following subsection:

Match-mark connecting parts assembled in the shop for the purpose of reaming holes in field connections, and provide a diagram showing such marks to the Engineer.

00560.45 Marking and Transporting to Site - Replace the bullet that begins "Mark each member with …" with the following bullet:

- Mark each member with an erection mark for identification and provide an erection diagram showing the erection marks.

Replace the bullet that begins "Furnish as many copies of material …" with the following bullet:

- Provide as many copies of material orders, shipping statements and erection diagrams as directed and show the weights of the individual members on the statements.

Replace the bullet that begins "Furnish the Engineer stamped detail …" with the following bullet:

- Provide the Engineer stamped detail Plans of loading, unloading, supporting and bracing of the steel plate girders on trucks or cars for shipment to the Project Site, according to 00150.35. The review will not relieve the Contractor of responsibility for safe transportation of steel members.

00560.46(e) Bearings and Anchorages - Replace the bullet that begins "Locate anchors and set rockers …" with the following bullet:

- Locate anchors and set rockers or rollers considering variation from mean temperature at the time of setting, and anticipated lengthening of bottom chord or bottom flange due to dead load after setting. As nearly as practicable, at mean temperature and under dead load, ensure the rockers and rollers stand vertically and anchor bolts at expansion bearings center their slots.

00560.46(f) Assembling Steel - Replace the paragraph that begins "Handle the Material carefully …" with the following paragraph:

Handle the Material carefully so no parts are bent, broken or otherwise damaged.

Replace the paragraph that begins "Do not perform hammering …" with the following paragraph:

Do not perform hammering that will injure or distort the members.

00560.46(h) Misfits - Replace this subsection with the following subsection:

The correction of minor misfits involving small amounts of reaming, cutting, and chipping is considered a legitimate part of the erection. However, immediately report to the Engineer any error in the shop fabrication or deformation resulting from handling, storage and transportation that prevents the proper assembling and fitting up of parts by the moderate use of drift pins, or by a moderate amount of reaming and slight chipping or cutting. Make the necessary corrections and replacements in the presence of the Engineer as approved or directed. The Contractor shall be responsible for all misfits, errors and injuries.

00560.70 Finish (Non-Coated Weathering Steel Only) - Replace this subsection with the following subsection:

00560.70 Surface Finish Cleanup (Non-Coated Weathering Steel Only) - At all times during fabrication, shipping, and installation, promptly clean exposed surfaces of steel contaminated with stains, oil or foreign material to preserve conditions for uniform weathering of steel. The use of acids to remove scale and stains in the field is not allowed.

00560.80 Measurement - Add the following to the end of this subsection:

The estimated quantity of structural steel is:

Structure	Steel Type	Quantity (Pound)
Bridge No. 24318	Steel Plate Girder	1,985,619
Bridge No. 24318	Steel Plate Girder with Haunch	462,756

00560.90 Payment - Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

SECTION 00582 - BRIDGE BEARINGS

Comply with Section 00582 of the Standard Specifications modified as follows:

00582.20 Composite Bearings - Replace the paragraph that begins "Provide only one type…" with the following paragraph:

Furnish only one type of Composite Bearing from the QPL for each Bridge, subject to the following requirements:

Replace the bullet that begins "Provide rotational elements between …" with the following bullet:

- Furnish rotational elements between upper and lower units to meet the following:

Replace the bullet that begins "**Upper Unit** - The upper unit …" with the following bullet:

- **Upper Unit** - The upper unit consists of a distribution plate that is permanently attached to the Superstructure and a sole plate attached to the distribution plate with cap screws. For a Guided or Nonguided bearing, weld a stainless steel sheet to the bottom surface of the sole plate.

Replace the bullet that begins "**Lower Unit** - The lower unit …" with the following bullet:

- **Lower Unit** - The lower unit consists of a masonry plate permanently anchored to the structural support and a base plate attached to the masonry plate with cap screws. A separate masonry plate and base plate are not necessary for Fabric Pad Bearings fabricated as outlined in 00582.27, third paragraph.

Replace the bullet that begins "The base pot of a Pot …" with the following bullet:

- Weld the base pot of a Pot Bearing, the lower bearing plate of a Disc Bearing, or the convex plate of a Spherical Bearing to the base plate.

Replace the bullet that begins "For Guided or Nonguided …" with the following bullet:

- For Guided or Nonguided bearings, furnish a polytetrafluoroethylene (PTFE) sheet recessed into and bonded to the top surface of the piston of a Pot Bearing, the upper bearing plate of a Disc Bearing, the top surface of the concave plate of a Spherical Bearing, or a steel backing plate bonded to the top surface of a fabric pad forming a sliding surface with the stainless steel surface of the sole plate.

Replace the bullet that begins "For Fixed bearings …" with the following bullet:

- For Fixed bearings, weld the piston of a Pot Bearing, the upper bearing plate of a Disc Bearing, or the concave plate of a Spherical Bearing to the sole plate.

Replace the paragraph that begins "Provide bearings that accommodate …" with the following paragraph:

Furnish bearings that accommodate the loads, movements, and rotations as shown.

00582.21 Disc Bearings - Replace this subsection, except for the subsection number and title, with the following:

Design Disc Bearings according to the following:

- Furnish the shear restriction mechanism that allows free rotation but prevents any shear being applied to the rotational element.
- Furnish guided bearings that resist the total horizontal load at the bent or hinge where it is located.

00582.25(b) Polytetrafluoroethylene Rotational Surface for Spherical Bearings - Replace this subsection, except for the subsection number and title, with the following:

Use only woven PTFE having a minimum thickness of 1/8 inch. Recess the PTFE 1/16 inch into the spherical element.

Furnish PTFE fabric having a minimum thickness of 1/16 inch when measured according to ASTM D1777.

00582.25(c) Stainless Steel Sliding Surfaces - Replace the paragraph that begins "Provide a flat stainless …" with the following paragraph:

Provide a flat stainless steel sliding surface that completely covers the PTFE surface in all operating positions, plus at least 2 inches more in every direction of possible movement.

00582.26 Guide Bars for Composite Bearings - Replace the paragraph that begins "Provide a sliding surface …" with the following paragraph:

Provide a sliding surface between the Guide Bars and the guide element made of polished stainless steel against virgin PTFE. Bond and mechanically fasten the virgin PTFE to the Guide Bars. Provide Guide Bars that:

00582.27 Sole, Base, Distribution, and Masonry Plates for Composite Bearings - Replace the paragraph that begins "For Fabric Pad Bearings …" with the following paragraph:

For Fabric Pad Bearings, fasten keeper bars at least 1/4 inch thick to the top surface of the base plate, around the perimeter of the fabric pad, with high-strength cap screws. Provide a gap at all bar ends to allow drainage.

Replace the paragraph that begins "Provide studded anchors …" with the following paragraph:

Furnish studded anchors or threaded bolts, as shown or specified, to anchor the masonry plates to the supported and supporting members. Locate anchoring devices to avoid conflict with metal reinforcement and prestressing systems.

00582.32(a) Steel Backing Plate - Replace the paragraph that begins "Minimum thickness of …" with the following paragraph:

The minimum thickness of the steel backing plate is 3/8 inch.

00582.35(a) Polytetrafluoroethylene Sliding Surfaces - Replace the paragraph that begins "After completion of the …" with the following paragraph:

After completion of the bonding operation, ensure the PTFE surface is smooth and free of bubbles.

00582.36 Guide Bars for Composite Bearings - Replace the paragraph that begins "Construct Guide Bars parallel …" with the following paragraph:

Construct Guide Bars parallel to the surface where they bear and to other Guide Bars to within a tolerance of plus or minus 1/32 inch for the full length of the bar.

00582.39(a) Pads - Replace this subsection, except for the subsection number and title, with the following:

Pads 1/2 inch and less in thickness are to be made entirely of elastomer. Pads over 1/2 inch in thickness consist of alternate laminations of elastomer and metal.

00582.39(b) Pad Sizing - Replace this subsection, except for the subsection number and title, with the following:

Mold pads individually to the sizes required. No shearing to size or drilling of holes is allowed except pads 1/2 inch and less in thickness may be sheared.

00582.39(c) Tolerances and Finishes - Replace this subsection, except for the subsection number and title, with the following:

Provide tolerances and finishes according to 02571.20(d).

00582.50(b) Elastomeric Bearings - Replace the paragraph that begins "Construct bearing seats …" with the following paragraph:

Construct bearing seats for Elastomeric Bearings parallel to the bottom surfaces of the members that will bear on them. Install as follows:

00582.90 Payment - Replace the paragraph that begins "In item (a) …" with the following paragraph:

In item (a), the type “disc”, “fabric pad”, “pot”, “spherical” of Composite Bearing device is inserted in the blank.

Replace the paragraph that begins "In item (b) …" with the following paragraph:

In item (b), for steel-reinforced elastomeric bearing pads, the width of bearing pad is inserted in the first blank, the length of the bearing pad is inserted in the second blank, and the thickness of the bearing pad is inserted in the third blank.

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

SECTION 00583 - ELECTRICAL CONDUIT ON STRUCTURES

Comply with Section 00583 of the Standard Specifications modified as follows:

00583.03 Submittals - Replace the paragraph that begins "Submit detailed descriptions …" with the following paragraph:

Submit detailed descriptions of all Materials to the Agency according to 00150.37 at least 21 Calendar Days before the scheduled start of the Work. Identify all relevant constituents and properties of each Material and the Specifications that it complies with. Data published by the manufacturer is acceptable.

00583.10(a) Extruded PVC - Replace this subsection, except for the subsection number and title, with the following:

Extruded PVC electrical conduit and factory bent elbows according to UL 651. Furnish gray conduit and elbows. Furnish solvent cement according to ASTM D2564 or as recommended by the conduit manufacturer.

00583.10(b) Hot-dip GRC - Replace this subsection, except for the subsection number and title, with the following:

Hot-dip GRC and elbows according to UL 6 and ANSI C80.1 with each end threaded per ANSI B1.20.1. Factory threads are to be hot-dip galvanized after cutting. Conform coating thickness to ASTM A153.

00583.10(c) 316 SS RMC - Replace this subsection, except for the subsection number and title, with the following:

316 SS RMC and elbows according to UL 6A and ANSI C80.1 with each end threaded per ANSI B1.20.1.

00583.10(d) RTRC - Replace this subsection, except for the subsection number and title, with the following:

RTRC and elbows according to UL 2515 for above ground applications. Furnish conduit with UV stabilized gray pigmented resin. Furnish a joint adhesive recommended by the manufacturer.

00583.10(e) LFNC - Replace this subsection, except for the subsection number and title, with the following:

LFNC according to UL1660.

00583.11 Fittings and Conduit Bodies - Replace the paragraph that begins "Furnish fittings and conduit …" with the following paragraph:

Furnish fittings and conduit bodies according to UL 514B. Furnish conduit bodies with a weather tight gasket and expansion fittings with a weather tight seal. Set screw type fittings and conduit bodies are not allowed. Furnish fittings and conduit bodies meeting one of the following requirements:

00583.12(a) PVC or Thermoplastic - Replace this subsection, except for the subsection number and title, with the following:

PVC or thermoplastic according to NEMA 250 Type 4X. Furnish gray junction boxes.

00583.12(b) Galvanized Steel - Replace this subsection, except for the subsection number and title, with the following:

Galvanized steel according to NEMA 250 Type 4. Coating thickness according to ASTM A153.

00583.12(c) 316 SS - Replace this subsection, except for the subsection number and title, with the following:

316 SS according to NEMA 250 Type 4X

00583.12(d) GFRP - Replace this subsection, except for the subsection number and title, with the following:

GFRP according to NEMA 250 Type 4X.

00583.13(b) 316 SS - Replace the paragraph that begins "316 SS wedge type anchors …" with the following paragraph:

316 SS wedge type anchors, bolts, threaded rod and nuts according to ASTM A193/194, Grade B8M, B8MA, B8M2, or B8M3, Class 1, 1A, 1D, or 2 or ASTM F593/594 Group 2 Condition CW. Furnish 316 SS channel strut, hangers, clamps, support straps, and coil inserts, and washers.

00583.16 Pull Line - Replace the bullet that begins "Furnish nylon, …" with the following bullet:

- Furnish nylon, polypropylene, or polyester pull line or rope with a minimum tensile strength of 1,000 pounds.

00583.40 General - Replace the bullet that begins "Any other local rules …" with the following bullet:

- Any other local rules, regulations and ordinances that may apply

Replace the paragraph that begins "Metallic raceways, fittings …" with the following paragraph:

Furnish metallic raceways, fittings, boxes, and cabinets free from contact with reinforcing steel.

00583.44 Joints and Terminations - Replace the paragraph that begins "Join RTRC conduit using …" with the following paragraph:

Join RTRC conduit using adhesive and fittings according to all manufacturer’s recommendations.

00583.90 Payment - Replace the paragraph that begins "In items (a), (b), (c) …" with the following paragraph:

In items (a), (b), (c), and (d) the nominal size of the pipe is inserted in the blank.

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

SECTION 00585 - EXPANSION JOINTS

Comply with Section 00585 of the Standard Specifications modified as follows:

00585.01 Definitions - Add the following paragraph after the paragraph that begins "**Asphaltic Plug Joint**…"

Bonded Preformed Silicone Seal - A Closed Joint system consists of a preformed silicone seal bonded to joint surfaces with epoxy adhesive recommended by the joint manufacturer to complete the joint system.

Replace the paragraph that begins "**Filled Joint**…" with the following paragraph:

Filled Joint - A joint using a preformed joint filler placed prior to concrete pour. Hot applied joint sealant or poured joint seal may be placed on top of the joint filler.

Add the following paragraph after the paragraph that begins "**Filled Joint**…"

Hot Applied Joint Seal - A joint filled with hot applied, single component sealant.

Replace the paragraph that begins "**Poured Joint Seal** …" with the following paragraph:

Poured Joint Seal - A Closed Joint seal made of Materials that remain flexible that is poured into the gap of a joint and adheres to the sides of the gap.

Replace the paragraph that begins "**Precompressed Foam Silicone** …" with the following paragraph:

Precompressed Foam Silicone Joint Seal - A Closed Joint system consisting of a preformed, pre-compressed, silicone-coated, self-expanding foam joint system bonded to joint faces using epoxy adhesive.

Replace the paragraph that begins "**Preformed Compression Joint** …" with the following paragraph:

Preformed Compression Joint Seal - A preformed elastomeric device that is precompressed in the gap of a joint to form a Closed Joint.

00585.02(b) Personnel Qualifications - Replace this subsection, except for the subsection number and title, with the following:

At the pre-construction conference, submit the following:

- Joint installer personnel certifications from the manufacturer affirming that the installers have been trained in application methods of Materials and health and safety to install Closed Joints as detailed.

- A letter from the manufacturer affirming that the technical representative is qualified to provide technical assistance regarding expansion joint installation.

00585.10 Materials - Add the following Material to the Material list:

Bonded Preformed Silicone Seal 02440.24
Portland Cement Concrete Repair Material..... 02015

00585.11 Concrete for Blockout Opening - Replace this subsection with the following subsection:

00585.11 Material for Blockout Opening - Fill blockout openings with the same class and type of concrete used in the deck, unless otherwise shown.

For joint surface reconstruction, fill openings with Material as shown or specified. If not shown, fill openings with one of the following Materials:

- Structural polymer concrete with a minimum compressive strength of 10 ksi, a minimum tensile strength of 1 ksi, and a minimum modulus of elasticity of 2,500 ksi.
- High early strength concrete (HESC), Class HESC4000 - 3/4 inch, designed according to Section 02001. Incorporate the following:
  - Rapid hardening hydraulic cement meeting the requirements of Section 02011.
  - Aggregate meeting the requirements of Section 02690.
  - Macro fibers meeting the requirements of 02045.20.
- Portland cement concrete repair materials meeting the requirements of Section 02015.

00585.30(b) Expansion Joint Seal Manufacturer's Representative - Replace this subsection with the following subsection:

00585.30(b) Expansion Joint Seal Manufacturer's Technical Representative - Provide a manufacturer's technical representative during the Work. Prior to beginning the Work, discuss with the representative regarding the Work to be done, methods of installation, installation procedures, and required Equipment to assure correct expansion joint installation. Ensure the manufacturer's technical representative remains available for consultation until the completion and acceptance of the Work. For strip seals, the manufacturer's technical representative is required to be on-site during the Work.

00585.42(c) Joint Preparation - Replace the paragraph that begins "For joint replacement, remove… " with the following paragraph:

For joint replacement, remove joint material from existing joints and clean the existing joints full depth and full width as directed by the Engineer. If existing joint surfaces have spalled, cracked, or deteriorated concrete, repair as shown or directed to provide a uniform and smooth surface. Unless otherwise shown or directed, epoxy inject cracks according to Section 00538 and repair surfaces using an approved PCC repair material.

00585.43 Armored Corners - Replace the title of this subsection with "**Armored Corners and Edgebeam"**

Replace the paragraph that begins "Provide joint corner armoring …" with the following paragraph:

Furnish joint corner armoring or Edgebeam with anchors as shown or specified, and according to the following:

00585.43(a) Tolerance - Replace the paragraph that begins "Install armored corners that are straight…" with the following paragraph:

Install Armored Corners or Edgebeams that are straight and do not deviate from a true line by more than 1/4 inch horizontal and 1/8 inch vertical over the length of the joint, nor more than 1/16 inch in either direction from a 12-foot straightedge.

00585.43(b) Installation - Replace the paragraph that begins "Furnish armored corners in the longest …" with the following paragraph:

Furnish Armored Corners or Edgebeams in the longest practical length as controlled by transportation and installation.

Replace the paragraph that begins "For new construction, install armored …" with the following paragraph:

For new construction, install Armored Corners or Edgebeams with anchors in preformed blockouts at least 14 Days after the deck is cast with the joint opening as shown. Support the Armored Corners or Edgebeams securely in position before placing concrete in the joint blockout. Install the preformed seal at least 7 Days after the concrete blockouts have been cast and after the deck concrete reaches 3,000 psi.

00585.44 Asphaltic Plug Joint Seal - Replace the bullet that begins "Provide a clean, intact …" with the following bullet:

- Provide a clean, intact, and plane surface to place the steel bridging plate on.

00585.47 Strip Seal - Replace the bullet that begins "Use steel retainers acting …" with the following bullet:

- Use steel retainers acting as the Edgebeams according to 00585.43.

00585.48 Precompressed Foam Silicone Joint Seal - Replace the paragraph that begins "Install Precompressed Foam Silicone Joint …" with the following paragraph:

Use this joint system for joint rehabilitation only, unless shown otherwise. Install Precompressed Foam Silicone Joint Seal according to the manufacturer's recommendations and the following:

00585.49 Hot-Dip Galvanizing - Replace this subsection with the following subsection:

00585.49 Bonded Preformed Silicone Seal - Use this joint system for joint rehabilitation only, unless shown otherwise. Install Bonded Preformed Silicone Seal according to the manufacturer's recommendations and the following:

- Ensure that top of joint system is at a minimum distance below deck surface as shown.
- Install joint seal in one continuous strip that extends across the full roadway width and into the bridge rails without splices.

00585.50 Control Joint - Replace this subsection with the following subsection:

00585.50 Hot Dip Galvanizing - Hot dip galvanize steel expansion joint surfaces, except stainless steel, according to AASHTO M 111 (ASTM A123).

Furnish contact surfaces at all galvanized slip critical structural bolted connections meeting Class C (slip coefficient 0.33) surface preparation requirements.

Add the following subsection:

00585.51 Control Joint - Construct Control Joints as shown. If details of the Control Joint are not shown, sawcut the surface 1 1/2 inches deep and 1/2 inch wide. Flush the sawcut thoroughly with a high-pressure water stream after the cut has been made. Before the cut dries out, blow it free of water and debris with compressed air. Fill the sawcut joint with a hot applied joint sealant from the QPL.

Add the following subsection:

00585.52 Hot Applied Joint Seal Replacement - Remove existing hot applied joint sealant from joint. Clean and repair joint surfaces and edges. Install hot applied joint sealant from the QPL and according to the manufacturer's recommendations.

Add the following subsection:

00585.53 Joint for Sidewalk, Multi-Use Path, or Other Facility Intended for Pedestrian Travel - Furnish an expansion joint seal having a firm, stable, and slip resistant top surface, not more than 3/8 inch below finished surface.

For joint seals installed greater than 1/4 inch below finished surface, bevel the joint surface corners with a Slope not steeper than 1V:2H.

For Precompressed Foam Silicone Joint Seals, furnish a joint seal having at least double width of the seal designed for the joint size. Install the joint seal according to the manufacturer's recommendations.

For joint openings 3 inches or wider, design and detail a steel cover plate for facilities with a Pedestrian Accessible Route, Temporary Pedestrian Accessible Route, Multi -Use Path, or other structures intended for pedestrian travel. Hot-dip galvanize the steel plate and provide a slip-resistant surface or coating. Limit the elevation change between the steel plate and deck surface with a vertical face to 1/4 inch not to exceed 1/2 inch. When the elevation change is greater than 1/4 inch, bevel the steel plate corners to a Slope not steeper than 1V:2H.

00585.80 Measurement - Replace the paragraph that begins "No measurement of … with the following paragraph:

No measurement of quantities will be made for joints, gland replacement for strip seals, or joint surface reconstruction. Estimated quantities of joints, gland replacement, and joint surface reconstruction are listed below. The listed quantities are based on the theoretical horizontal length from gutter line to gutter line.

Add the following to the end of the subsection:

The estimated quantities of joints are:

Structure	Joint Type	Quantity (Foot)
Bridge No. 24318	Strip Seals	187

00585.90 Payment - Replace Pay Item (h) with the following Pay Item:

(h) Hot Applied Joint Seal Replacement..... Lump Sum

Add the following Pay Items to the Pay Item list:

(i) Bonded Preformed Silicone Seal ..... Lump Sum
(j) Gland Replacement ..... Lump Sum
(k) Removal of Existing Joint Surfaces..... Lump Sum
(l) Joint Surface Reconstruction ..... Lump Sum

Replace the paragraph that begins "In item (d) …" with the following paragraph:

In item (d), the type of compression joint seal is inserted in the blank.

Add the following (four) paragraphs after the paragraph that begins “In item (d), the….”:

Item (g) includes sawcutting and hot applied joint sealant.

Item (h) includes removing existing seal material, cleaning joint, repairing joint surfaces and edges, and installing hot applied joint sealant.

Item (j) includes removing existing gland material, cleaning and repairing steel edgebeam and retainer surfaces, and furnishing and installing the new gland.

Item (k) includes removing concrete and existing Armored Corner or Edgebeams, if applicable, for new blockout opening.

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

Add the following four paragraphs after the paragraph that begins “Payment will be payment….”:

Elastomeric concrete nosing incorporated in the Work will be paid for according to 00584.90.

Payment for steel reinforcing will be paid for according to 00530.90.

Payment for concrete will be paid for according to 00540.90.

Modification to existing gland retainer Edgebeam or expansion joint type change will be paid for according to 00195.20.

In the paragraph that begins "No separate or additional payment…", replace the bullet beginning with “elastomeric concrete …” with the following bullet:

- structural patching material used to provide a smooth contact surface with joint seals, to provide a plane surface on which to place the steel bridging plate, or to make level surfaces between joint.

In the paragraph that begins "No separate or additional payment…", add the following bullet to the end of the bullet list:

- Furnishing and installing hot-dip galvanized steel cover plate with slip-resistant surface or coating for facilities with a Pedestrian Access Route.

SECTION 00587 - BRIDGE RAILS

Comply with Section 00587 of the Standard Specifications modified as follows:

00587.00 Scope - Replace the paragraph that begins "Bridge rails will be …" with the following paragraph:

Bridge rails are classified as concrete or steel according to the predominant Material used in the rail.

Add the following to the end of this subsection:

Work also includes ornamental protective screening, of the Material or combination of Materials, as shown or directed.

Add the following subsection:

00587.01 Definitions -

Panel - A Panel is a portion of screening between adjacent posts.

Run - A Run is the length of fence between end posts, intermediate posts and corner posts.

00587.10 Materials - Add the following to the end of this subsection:

Fasteners	02560
Fencing Materials	03010
Resin Bonded Anchor System	00535.10
Structural Steel	02530

00587.42(a) General - Replace the bullet that begins "Construct expansion joints …" with the following bullet:

- Construct expansion joints that permit freedom of movement. After all other Work is completed, use a sharp chisel to remove all loose or thin shells of concrete likely to spall under movement at expansion joints.

00587.42(b) Fixed Forms - Replace this subsection, except for the subsection number and title, with the following:

Provide forms that are smooth and tight fitting, rigidly held in line and grade, and removed without damage to the concrete. Make form joints in vertical planes. Construct all moldings, panel Work, and bevel strips as shown. Make corners in the finished Work true, sharp and free from cracks, spalls or other defects.

00587.42(c) Slipformed - Replace the paragraph that begins "Concrete rails may be …" with the following paragraph:

Concrete rails may be slipformed if the Plans contain details for slipforming. Before slipforming any permanent rail, meet one or both of the following requirements (1) and (2) as directed:

00587.42(c)(2) Replace the bullet that begins "Provide concrete with …" with the following bullet:

- Furnish concrete with a slump of 1 inch $\pm$ 1/2 inch.

00587.43(a) Construction - Replace this subsection, except for the subsection number and title, with the following:

Furnish structural steel tubing, tube or metal thrie beam rail as shown or specified. Fabricate and erect metal rails according to Section 00560. Adjust metal rails before fixing in place to ensure proper matching at abutting joints and correct alignment and Camber throughout their length.

Add the following subsection:

00587.45 Ornamental Protective Screening -

(a) General - Complete a check assembly for each panel of ornamental protective screening. Include all members except for welded wire mesh panels. Check assemblies based on the specified geometry, alignment and splice locations, proposed order of erection, and similar considerations that affect field erection of screening, as directed. If

the check assembly fails to demonstrate that the required accuracy is being obtained, additional check assemblies may be required at no additional cost to the Agency. Acceptance of the check assembly does not relieve the Contractor of the responsibility for assuring accurate fit-up during erection.

The sequence of assembly may start from any location in the Structure and proceed in one or both directions, so long as the preceding requirements are satisfied.

Do not exceed 0.01 foot / foot difference in slope between the longitudinal channels or plates and the bridge rail for any given screening panel. Maintain the vertical alignment of wire mesh and square tubing.

Match-mark connecting parts assembled in the shop for the purpose of reaming holes in field connections, and provide a diagram showing such marks to the Engineer. Before fabrication, field verify required dimensions.

Erect ornamental fence to the lines and grades shown. The overall height of the fence when erected is the height above the grade as shown.

Place posts and fully cure all resin bonded anchors before installation of the screening panels. Install anchors in new concrete according to 00535.40.

(b) Woven Wire Fabric - Assemble and install woven wire fabric according to 01050.44.

(c) Welding - Weld according to AWS D1.1 Structural Welding Code.

(d) Coatings - Hot dip galvanize all steel frames, panels and hardware according to 02530.70 and 02560.40.

When shown, powder coat ornamental protective screening according to Section 00593. Apply coatings from the QPL with identical top coat color to fasteners, exposed portions of resin bonded anchors and other uncoated or galvanized components and repair damage due to handling and erection according to 00593.60 after installation. Follow all coating manufacturer recommendations.

(e) Preassembly - When shown, fabricate and preassemble ornamental protective screening components in the shop, and ream holes to specified size while the connections are assembled. Obtain approval for each assembly, including horizontal and vertical curvature, alignment, accuracy of holes, and fit of milled joints before reaming is commenced or before a numerically controlled drilled check assembly is dismantled.

00587.80 Measurement - Replace the paragraph that begins "No measurement of quantities …" with the following paragraph:

No measurement of quantities will be made for bridge rails performed under this Section.

Add the following to the end of this subsection:

The estimated quantity of bridge rail is:

Quantity

Structure	Rail Type	(Foot)
Bridge No. 24318	Type “F” Concrete Rail, 42 Inch	1676

Bridge protective fence or ornamental protective screening will be measured on the length basis. Measurement will be between beginning and ending locations as shown.

00587.90 Payment -

Add the following paragraphs after the paragraph beginning “The accepted quantities…”

The accepted quantities of ornamental protective screening will be paid for at the Contract unit price per foot for the item "Ornamental Protective Screening".

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

SECTION 00593 - POWDER COATING METAL STRUCTURES

Comply with Section 00593 of the Standard Specifications modified as follows:

00593.01(b) Definitions - Replace the paragraph that begins "Substrate …" with the following paragraph:

Substrate - A surface where a Coating is to be applied. This may be the prepared surface of the metal Structure or a previous Coating.

00593.03 Required Submittals - Replace the title of this subsection with “**Submittals”**

00593.03(a) Powder Coating Plan - Replace the bullet that begins "A letter from the firm …" with the following bullet:

- A letter from the firm performing galvanizing, if other than the Contractor, certifying that neither water quenching nor a chromate conversion coating is used on the surfaces that are to be powder coated.

00593.10(a)(1) Steel Substrates - Replace the paragraph that begins "Provide a two-coat system …" with the following paragraph:

Provide a two-coat system for steel substrates consisting of a zinc-rich epoxy primer and a polyester topcoat, according to the following:

00593.10(a)(2) Galvanized and Other Non-Steel Metallic Substrates - Replace the paragraph that begins "Provide a two-coat system …" with the following paragraph:

Provide a two-coat system for galvanized and non-steel metallic substrates consisting of an epoxy primer and polyester topcoat, according to the following:

00593.10(b) Color - Replace the paragraph that begins "Unless otherwise specified …" with the following paragraph:

Unless otherwise specified, furnish top-coat color according to the following:

Add the following to the end of this subsection:

For 24318 Ornamental Protective Screening, provide a topcoat color of Gauntlet Grey that matches Sherwin-Williams #7019.

00593.10(c) Slip-Critical Connections - Replace this subsection, except for the subsection number and title, with the following:

Furnish a primer coat on steel-to-steel contact surfaces at all slip-critical bolted joints using high strength bolts that conforms to Class B (slip coefficient of 0.5) Coating requirements in *Test Method to Determine the Slip Coefficient for Coatings Used in Bolted Joints*, as adopted by the Research Council on Structural Connections.

00593.11 Blasting Abrasives - Replace this subsection, except for the subsection number and title, with the following:

Furnish abrasives that have no corrosion products, water, oil, or any other material detrimental to the application and adherence of the Coatings. Furnish abrasives that conform to SSPC-AB 1. When directed, test cleanliness according to ASTM D7393 and ASTM D4940. Do not exceed 100 microsiemens per centimeter conductivity results from ASTM D4940.

00593.12 Caulking - Replace the paragraph that begins "Furnish structural steel …" with the following paragraph:

Furnish structural steel caulking from the QPL and approved for use by the Coating manufacturer. Unless the caulking is to be over coated, furnish a clear caulking color or the approximate the color of the top Coating.

00593.42(a) Steel Structures - Replace this subsection, except for the subsection number and title, with the following:

Clean new steel Structure surfaces to be coated according to SSPC-SP 10 / NACE No. 2 *Near White Metal Blast Cleaning*, except as modified by the Specifications. Closely approximate the appearance of the final blast-cleaned surface to Pictorial Standard SP 10 of SSPC-Vis 1 and have a 1.0 to 2.5 mil profile finish.

00593.42(b)(2) Aluminum, Stainless Steels, and Non-Ferrous Metals - Replace the bullet that begins "Solvent clean surfaces …" with the following bullet:

- Solvent clean surfaces to be coated according to SSPC-SP 1, followed by a light brush blast according to SSPC-SP 16 *Brush-Off Blast Cleaning of Coated and Uncoated Galvanized Steel, Stainless Steels, and Non-Ferrous Metals* with a maximum nozzle pressure of 75 psi. Ensure the prepared surface has a 1.0 to 2.5 mil profile finish.

00593.42(c)(1) Cleaning Methods - Replace the paragraph that begins "Surfaces shall be …" with the following paragraph:

Dry surfaces before Cleaning. Use methods specified in SSPC-SP 1, *Solvent Cleaning*, SSPC-SP 2, *Hand Tool Cleaning*, SSPC-SP 3, *Power Tool Cleaning*, and SSPC-SP 15 *Commercial Grade Power Tool Clean*, as necessary to augment blast-cleaning.

00593.42(c)(2) Abrasives - Replace the paragraph that begins "Perform blast-cleaning …" with the following paragraph:

Perform blast-cleaning using an abrasive of a size that will continually produce an angular Surface Profile of at least 1 mil, but not more than 4 mils, as measured according to ASTM D4417 using replica tape on the prepared surface. Perform blast-cleaning that results in a roughened steel surface comparable to a Keane-Tator Surface Profile Comparator for sand or grit using ASTM D4417.

Replace the paragraph that begins "Use abrasives conforming…" with the following paragraph:

Use abrasives meeting 00593.11. Wet abrasives are allowed if wet sandblasting methods are used.

00593.43(c)(2) Coating Thickness and Coverage Requirements - Replace this subsection, except for the subsection number and title, with the following:

Each Coat consists of as many applications as necessary to cover the Work and achieve the minimum thickness specified. Apply each Coat in sufficient thickness to achieve uniform and complete coverage and appearance. If all thickness measurements are not within the specified minimum dry film thickness, or if the visual inspection does not satisfy the Engineer, make additional applications, as necessary, to meet the thickness and coverage required. Film thickness is measured above the peaks of the profile of the anchor pattern in the substrate.

The dry film thickness is measured for acceptance using a Type 2 gauge according to SSPC-PA 2. If a question arises about an individual Coat thickness or coverage, it will be verified using a Tooke gauge, according to ASTM D4138. If the Tooke gauge shows a prime Coat to be less than the specified minimum thickness the total Coating System is rejected even if the thickness of the total system equals or exceeds the total specified thickness.

00593.44 Inspecting - Replace the paragraph that begins "Provide documentation of the QA/QC …" with the following paragraph:

Provide documentation of the QA/QC testing to the Engineer. Assemblies failing these tests are rejected. Repair and recoat the rejected assemblies as directed.

00593.45(c) Handling, Shipping, or Surface Damage - Replace the paragraph that begins "After erection, repair …" with the following paragraph:

After erection, repair marred and damaged coated surfaces due to the Contractor's shipping, storage, handling, and erection operations according to 00593.60 at no additional cost to the Agency.

00593.90(b) Existing Metal Structures - Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

SECTION 00594 - PREPARING AND COATING METAL STRUCTURES

Comply with Section 00594 of the Standard Specifications modified as follows:

00594.01(b) Definitions - Replace the paragraph that begins "**Hold Point** …" with the following paragraph:

Hold Point - A time when the Contractor is required to stop a particular activity until a phase of Work is inspected or tested. If the Engineer finds this phase conforms to the Specifications, the subsequent phase of Work may proceed.

Replace the paragraph that begins "**Paint** …" with the following paragraph:

Paint - A pigmented liquid, applied as a thin layer, that is converted to a solid colored film after curing. This film provides a decorative and protective Coating to the Substrate. The binder is a resin that may or may not be modified with natural vegetable oils, fish oils, or other ingredients.

Replace the paragraph that begins "**Skimming** …" with the following paragraph:

Skimming - The process where a film forms over a liquid Coating, either during storage or after application.

Replace the paragraph that begins "**Substrate** …" with the following paragraph:

Substrate - A surface where a Coating is to be applied. This may be the prepared surface of the metal Structure or a previous Coating.

00594.01(c) References - Replace the paragraph that begins "In these Specifications, references …" with the following paragraph:

In these Specifications, references are made to FTMS 141, *Paint, Varnish, Lacquers, and Related Materials: Methods of Inspection, Sampling and Testing*, that is distributed by the U.S. General Services Administration.

00594.10 Materials - Add the following to the end of the subsection:

For girder ends at bents 1, 2, 4, 5 on Bridge No. 24318:

Furnish a shop girder coating, 2 coat system with weathering steel coatings from the QPL. Provide top-coat color that conforms to #30059 of SAE AMS-STD-595.

Furnish coating materials for metal galvanized guardrail transition and guardrail terminal materials according to Non-Steel Metallic Substrates except the color shall be brown that closely matches aged weatherized steel. Submit samples to the Engineer for review and approval.

00594.10(b) Color - Replace the paragraph that begins "Unless otherwise specified …" with the following paragraph:

Unless otherwise specified, furnish top-coat color according to the following colors:

00594.11(b) Packaging - Replace the bullet that begins "If necessary, constructed …" with the following bullet:

- If necessary, constructed with an interior lining to prevent attack by the Coating Material. Furnish container wall lining that does not delaminate and contaminate the Coating.

00594.11(d) Slip-Critical Connections - Replace this subsection, except for the subsection number and title, with the following:

Furnish a primer Coat on steel-to-steel contact surfaces at all slip-critical structural bolted connections using high strength bolts according to Class B (slip coefficient of 0.5) Coating requirements in *Test Method to Determine the Slip Coefficient for Coatings Used in Bolted Joints*, as adopted by the Research Council on Structural Connections.

00594.12 Caulking - Replace the paragraph that begins "Furnish structural steel …" with the following paragraph:

Furnish structural steel caulking from the QPL and approved for use by the Coating manufacturer. Furnish a caulking color that is clear, approximate the color of the top Coating, or be over coated.

00594.30 Quality Control Personnel - Replace this subsection, except for the subsection number and title, with the following:

Provide an on-site quality control manager who is responsible for managing quality control related to all Preparation and Coating quality control activities. Provide a quality control manager that is not employed in a supervisory role for any Preparation or Coating Work.

00594.42(a) New Steel Structures - Replace this subsection, except for the subsection number and title, with the following:

Clean new steel Structure surfaces to be coated according to SSPC-SP 10 / NACE No. 2 *Near White Metal Blast Cleaning*, except as modified by this Section. Closely approximate the appearance of the final blast-cleaned surface to Pictorial Standard SP 10 of SSPC-Vis 1.

00594.42(c) Rehabilitation of Existing Steel Structures - Replace this subsection, except for the subsection number and title, with the following:

When performing Rehabilitation on a Structure that is not receiving a Maintenance Coating outside the immediate area of the Rehabilitation details, prepare all existing steel surfaces to be coated according to SSPC-SP 15, *Commercial Grade Power Tool Cleaning*. Provide a cleaned surface with a minimum Surface Profile of 1 mil.

Prepare all existing coated surfaces exposed by the removal of the existing components involved in the Rehabilitation, all areas that rivets, bolts, or plates are to be removed, and areas damaged by erection or other Contractor operations. Completely clean all existing lead-based Coatings exposed by the removal of any structural or miscellaneous member to SSPC-SP 15 *Commercial Grade Power Tool Cleaning* requirements. Extend all prepared areas at least 2 inches into tightly adhering, intact paint. Overlap the subsequent Coating and the still intact Coating by a minimum of 2 inches. Lightly sand the overlap area of the intact Coating to provide a profile for the subsequent repair Coating to adhere to.

00594.42(e)(1) Cleaning Methods - Replace the paragraph that begins "Surfaces shall be …" with the following paragraph:

Dry surfaces before Cleaning unless a wet blast Cleaning method is used. Use methods specified in SSPC-SP 1, *Solvent Cleaning*, SSPC-SP 2, *Hand Tool Cleaning*, SSPC-SP 3, *Power Tool Cleaning*, and SSPC-SP 15 *Commercial Grade Power Tool Clean*, as necessary to augment blast-cleaning.

00594.42(e)(2) Abrasives - Replace the paragraph that begins "Perform blast-cleaning using …" with the following paragraph:

Perform blast-cleaning using an abrasive of a size that will continually produce an angular Surface Profile of at least 1 mil, but not more than 4 mils, as measured according to ASTM D4417 using replica tape on the prepared surface. Perform blast-cleaning that results in a roughened steel surface comparable to a Keane-Tator Surface Profile Comparator for sand or grit using ASTM D4417.

Replace the paragraph that begins "Provide abrasives that have …" with the following paragraph:

Provide abrasives that have no corrosion products, water, oil, or any other material detrimental to the application and adherence of the Coatings. Provide abrasives according to SSPC-AB 1. When directed, test cleanliness according to ASTM D7393 and ASTM D4940. Do not exceed 100 microsiemens per centimeter for the conductivity results from ASTM D4940. Wet abrasives are allowed if wet sandblasting methods are used.

00594.43(b)(3) Thinning - Replace this subsection, except for the subsection number and title, with the following:

Do not add additional Thinner at the application site unless approved by the Engineer. If allowed, furnish the amount and type of Thinner according to the Manufacturer's Recommendations.

00594.43(c)(2) Application Methods - Replace the paragraph that begins "Apply Coating Materials …" with the following paragraph:

Apply Coating Materials by air or airless spray, brush, roller, any combination of these methods, or as recommended by the Coating Material manufacturer, unless otherwise specified. If air is used for application, ensure that it is free of water, oil, or any other material detrimental to the Coating System. Provide adequate separators and traps and test air cleanliness daily according to ASTM D4285, or as directed. Regardless of the application method used to apply the Coating, use brushes to push the Coating into complex details, crevices, gaps, areas difficult to access, and where spraying does not adequately cover or penetrate. Conform all application techniques to Section 7 in SSPC-PA 1 and the applicable sections of SSPC Paint Application Guide No. 11.

00594.43(d)(1) Number of Coats and Film Thickness - Replace the paragraph that begins "The dry film …" with the following paragraph:

Ensure the dry film thickness of the primer on steel-to-steel contact surfaces is not less than 3 mils nor more than the manufacturer's class "B" certification allows.

00594.43(d)(2) Stripe Coats - Replace the paragraph that begins "Apply a prime stripe Coat …" with the following paragraph:

Apply a prime stripe Coat by brush after applying the full brush augmented prime Coat and apply an intermediate stripe Coat by brush before applying the full intermediate Coat. For two Coat Paint systems, except non-ferrous Coating Systems from the QPL, apply a top Coat stripe Coat prior to full top Coat application. Apply the stripe Coat by brush only. Use brushes to push the Coating around and into complex details and irregular surfaces identified as usually stripe coated by SSPC Paint Application Guide No. 11. Make each stripe Coat a different color than the preceding and subsequent full Coat, extending a minimum of 1 inch from the irregular surface, and completely hiding the Substrate. Furnish a different color for the stripe Coat. Coat the stripe coat approximately 3 mils thick. Each stripe Coat has its own Hold Point and is not be used to correct deficiencies in the preceding or subsequent Coats. Apply stripe Coats according to the applicable sections of SSPC Paint Application Guide No. 11 that do not conflict with this Section or the Special Provisions.

00594.43(d)(3) Coating Thickness and Coverage Requirements - Replace this subsection, except for the subsection number and title, with the following:

The Engineer will take dry Coating thickness measurements after the application of each Coat and before application of the succeeding Coat. In addition to Coating thickness measurements, a visual inspection for complete coverage is made by the Engineer after each Coat. Apply each Coat in sufficient thickness to achieve uniform and complete coverage and appearance. If all thickness measurements are not within the specified minimum dry film thickness, or if the visual inspection does not satisfy the Engineer, make additional applications, as necessary, to meet the thickness and coverage required. Film thickness is measured above the peaks of the profile of the anchor pattern in the metal Substrate.

The Engineer will take dry film thickness measurements with a type 2 gauge according to SSPC-PA 2. Furnish a minimum dry film thickness measurements and frequency of measurements according to SSPC-PA 2, modified as follows:

Take a single gauge reading for each 10 square feet of surface area.
A spot measurement is only taken at locations where a gauge reading is less than 100 percent of the Project's specified minimum DFT.
Meet 100 percent of the Project's specified minimum DFT for all spot measurements.
Additional readings may be required to identify the limits of the non-compliant areas.

If a question arises about an individual Coat thickness or coverage, it will be verified using a Tooke gauge, according to ASTM D4138. If the Tooke gauge shows a prime Coat to be less than the specified minimum thickness, or reveals a missing intermediate Coat, the total Coating System is rejected even if the thickness of the total system equals or exceeds total specified thickness.

In areas where dry film thickness measurements are impracticable, Wet Film Thickness measurements are made according to ASTM D4414.

00594.43(h) Environmental Conditions - Replace the paragraph that begins "If a Coating System allows …" with the following paragraph:

If a Coating System allows application in environmental conditions different from those specified, submit a letter from the manufacturer stating the conditions that the Coatings can be applied. Application under conditions other than specified is not allowed without the Engineer's written approval.

00594.43(i) Stenciling - Replace this subsection, except for the subsection number and title, with the following:

Stencil the month and year of application and the type of Coating used in block letters 2 inches high at a location on each end of each span on the Structure being coated. The exact location of stenciling is determined by the Engineer. Use flat black color stenciling unless otherwise directed.

00594.45(c) Handling, Shipping, or Surface Damage - Replace the paragraph that begins "Repair marred or damaged …" with the following paragraph:

Repair marred or damaged coated surfaces according to 00594.60 at no additional cost to the Agency.

00594.45(d) Other Damage - Replace the bullet that begins "Abrasive material or …" with the following bullet:

- Abrasive material or debris falling into an area that would create a traffic hazard.

00594.90(a) New Metal Structures - Replace this subsection, except for the subsection number and title, with the following:

No separate payment will be made for preparing and coating new metal Work. Payment for this Work, including correction of damages, will be included in payment made for appropriate items under which this Work is required.

00594.90 Payment - Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

SECTION 00596A - MECHANICALLY STABILIZED EARTH RETAINING WALLS

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

00596A.01 Proprietary MSE Walls - Add the following to the end of this subsection:

Select one of the following preapproved proprietary MSE retaining wall systems for the wall, structure no. 24391, as shown:

- Reinforced Soil Embankment Smooth Face (MSE system), MSE Retaining Wall System, provided by Hilfiker Retaining Walls HW®, telephone: (800) 762-8962.
- Reinforced Earth® (MSE system), MSE Retaining Wall System, provided by The Reinforced Earth® Company, telephone: (303) 790-1481.
- Retained Earth® (MSE system), MSE Retaining Wall System, provided by The Reinforced Earth® Company, telephone: (303) 790-1481.
- MSE Plus™ (precast panel face MSE system), MSE Retaining Wall System, provided by SSL™, LLC, telephone: (831) 430-9300.
- ARES® (MSE system), MSE Retaining Wall System, provided by Tensar® International Corp., telephone: (360) 981-0222.

00596A.04(a) Working Drawings - Replace the paragraph that begins "Working Drawings shall meet…" with the following paragraph:

Submit Working Drawings meeting the requirements of the Project documents and the AASHTO *LRFD Bridge Design Specifications*, as modified by the ODOT GDM, and are consistent with the preapproved Retaining Wall System.

00596A.04(a)(7) Facing Components - Replace the bullet that begins "Details necessary to construct …" with the following bullet:

- Details necessary to construct the facing components. For two-stage MSE retaining walls, provide details for stage-1 wire facing and stage-2 concrete facing.

Replace the bullet that begins "Location of tension Soil …" with the following bullets:

- Location and details of soil reinforcement and anchorage connections to the permanent facing. For two-stage MSE retaining walls, provide details and calculations demonstrating permanent anchorage and connection of stage-2 facing to the MSE wall.

- Unstamped Working Drawings for reinforcing steel in the stage-2 reinforced concrete facing are allowed unless changes are made to the details shown.

00596A.04(b) Design Calculations - Replace the paragraph that begins "Design calculations shall meet…" with the following paragraph:

Submit design calculations meeting the requirements of the Project documents and AASHTO *LRFD Bridge Design Specifications*, as modified by the ODOT GDM, and are consistent with the preapproved Retaining Wall System. Retaining wall design parameters are listed below.

Add the following to the end of this subsection:

The following retaining wall design parameters have been established for this Project:

Structure No. 24391: Sta. "W1" 1+50.00 to Sta. "W1" 9+85.00

- Foundation soil unit density 120 lbs./cu. ft.
- Foundation soil angle of internal friction 34 degrees
- Foundation soil nominal (unfactored) bearing resistance.
  Varies by effective footing width. Shown in table below.

Effective Footing Width. B' (ft)	Bearing Resistance (lbs./sq. ft.)
8	13,660
9	14,460
10	15,260
11	16,050
12	16,850
13	17,640
14	18,440
15	19,230
16	20,020
17	20,810
18	21,600
19	22,390
20	23,180

- Retained soil unit density 135 lbs./cu. ft.
- Retained soil angle of internal friction 36 degrees
- Reinforced soil unit density 130 lbs./cu. ft.
- Reinforced soil angle of internal friction 34 degrees
- Peak ground acceleration coefficient (*PGA*) 0.1575g
- Short period spectral acceleration coefficient (S_S). 0.3429
- Long period spectral acceleration coefficient (S_1) 0.1245

- Site class D
- Peak seismic ground acceleration coefficient modified by zero period site factor (A_s) 0.2338
- Horizontal seismic acceleration coefficient (k_h) 0.1169
- Total (static plus seismic) external seismic thrust (P_{AE}) Varies by wall height (H). Shown in table below.

Wall Height. H (ft)	Total (static plus seismic) external seismic thrust (P_{AE}) (lbs./ft.)
5	3,600
6	4,300
7	5,000
8	5,900
9	6,700
10	7,400
11	9,000
12	10,500
13	12,000
14	13,500
15	15,000
16	16,500
17	18,000
18	19,300
19	20,800
20	22,300
21	24,500
22	27,000
23	29,500
24	32,000
25	34,500

- Between Stations

  “W1” 1+50.00 and Station **“W1” 2+95.00**

  “W1” 4+60.00 and Station **“W1” 5+21.00**

  “W1” 9+51.00 and Station **“W1” 9+85.00**

  - Minimum length of soil reinforcement for overall stability 8 ft.

- Minimum length of soil reinforcement for external stability 8 ft.

- Between Stations

  "W1" 2+95.00 and Station **"W1" 4+60.00**

  "W1" 5+21.00 and Station **"W1" 9+51.00**

  - Minimum length of soil reinforcement for overall stability 0.7H
  - Minimum length of soil reinforcement for external stability 0.7H

00596A.04(b)(4) Internal Stability Calculations - Replace the bullet that begins "Calculations showing adequate resistance …" with the following bullet:

- Calculations showing adequate resistance against soil reinforcement rupture, pullout, and reinforcement-facing connection failure. For two-stage MSE retaining walls include calculations showing adequate resistance against soil reinforcement rupture, pullout, and reinforcement to stage-1 wire facing connection failure; and calculations showing adequate resistance against failure for anchorage of the stage-2 concrete facing.

00596A.04(c) Manufacturer's Field Construction Manual - Replace this subsection, except for the subsection number and title, with the following:

Provide a field construction manual from the manufacturer that includes detailed instructions for constructing the retaining wall.

00596A.10(b) Nonproprietary Retaining Wall Systems - Replace this subsection, except for the subsection number and title, with the following:

Furnish Materials according to the applicable material Specifications.

00596A.11(b)(1) Material Passing No. 200 Sieve - Replace this subsection, except for the subsection number and title, with the following:

Ensure the amount of Material passing the No. 200 sieve does not exceed 15 percent by weight. Test according to AASHTO T 11.

00596A.11(b)(2) Plasticity Index - Replace this subsection, except for the subsection number and title, with the following:

Ensure the plasticity index of the Material passing the No. 40 sieve does not exceed 6. Test according to AASHTO T 90.

00596A.11(b)(4) Organic Content - Replace this subsection, except for the subsection number and title, with the following:

Ensure the organic content of material finer than the No. 10 sieve does not exceed 1.0 percent. Test according to AASHTO T 267.

00596A.12(e)(1) Portland Cement Concrete - Add the following paragraph to the end of this subsection:

For ARES™ retaining wall systems, furnish Class 4500 structural concrete meeting the requirements of Section 02001, except the maximum water-cementitious material ratio shall not exceed 0.44. For all other retaining wall systems use Class 4000 structural concrete meeting the requirements of Section 02001.

00596A.12(e)(5)(b) Soil Reinforcement Connection Devices - Replace the bullet that begins "Retention slots within …" with the following bullet:

- Retention slots within ± 1 inch of the plan location. Do not exceed 1/8-inch slot openings. Check all slot openings with a Manufacturer supplied feeler gauge according to the manufacturer's recommendations. Panels from where the feeler gauge is pulled from the slot are rejected.

00596A.12(e)(6) Acceptance of Panel Concrete Strength - Replace this subsection, except for the subsection number and title, with the following:

Acceptance is according to 00540.17 except:

- Acceptance of concrete strength is determined based on production sublots. A production sublot will consist of either 40 panels or a single Day's production, whichever is less. Cast one set of cylinders for each production sublot.
- Precast panel concrete strength may be conditionally accepted if the 7-Day initial strength exceeds 85 percent of the required 28-Day strength. Final acceptance of precast panel concrete strength is based on the required 28-Day test results.

00596A.12(e)(9) Rejection - Replace this subsection, except for the subsection number and title, with the following:

Panels not meeting the requirements of this Subsection are rejected.

00596A.14(f)(1) Geotextile - Replace this subsection, except for the subsection number and title, with the following:

Furnish geotextile according to Section 02320.

00596A.14(f)(2) Geogrid - Replace this subsection, except for the subsection number and title, with the following:

Furnish geogrid according to Section 02320.

00596A.41 Excavation and Foundation Preparation - Replace the bullet that begins "Do not construct backfill …" with the following bullet:

- Do not construct backfill when the backfill, the foundation, or the embankment it would be placed on is frozen, or unstable.

00596A.44(g)(1) Placement - Replace the paragraph that begins "Place geotextile wrapped …" with the following paragraph:

Place geotextile wrapped-face construction according to Section 00350 and the ODOT GDM.

00596A.44(g)(2) Tolerances - Replace the bullet that begins "Maximum outward bulge …" with the following bullet:

- Maximum outward bulge of the face between Soil reinforcement layers does not exceed 6 inches.

00596A.46(a) Inextensible Soil Reinforcement Components - Replace the paragraph that begins "To avoid horizontal obstructions …" with the following paragraph:

To avoid horizontal obstructions, it is permissible to deflect Soil reinforcements up to 15 degrees along a vertical plane normal to the wall face (vertical skew). Construct soil reinforcement deflections that are gradual and smooth to avoid damage to the steel galvanization.

00596A.47(c)(3)(c) Spread Footing for Bridge Abutment on MSE Retaining Wall - Replace the bullet that begins "Extends to a depth …" with the following bullet:

- Extends to a depth that is twice the footing width or 6 feet, whichever is greater.

00596A.47(c)(4)(b) Test Pad Method - Replace this subsection, except for the subsection number and title, with the following:

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

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

The estimated quantities of retaining walls are:

Structure Number 24391 :

Station Limits	Area

Sta. “W1” 1+50.00 to Sta. “W1” 9+85.00 9850 sq. ft.

00596A.90 Payment - Replace the paragraph that begins "In item (b) …" with the following paragraph:

In item (b), the height of barrier is inserted in the blank.

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

In the paragraph that begins “No separate or additional…” add the following bullet:

- Stage-1 and stage-2 facing for two-stage MSE retaining walls

SECTION 00596B - PREFABRICATED MODULAR RETAINING WALLS

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

00596B.03 Definitions - Add the following definition after the definition for “Manufacturer”:

Minor Retaining Wall - A prefabricated modular retaining wall that meets all of the following conditions for the full length of the wall:

- Wall height (H) from the top of leveling pad to the top of wall does not exceed 4.0 feet.
- Wall fore slope and back slope are both flatter than 1V:4H within a horizontal distance of H, measured from the nearest point on the wall.
- Surcharge loading is not allowed on the retaining wall back slope within a horizontal distance of H, measured from the nearest point on the wall.
- Failure of the wall would not result in significant loss of access and performance of adjacent public or private structures.
- The wall is labeled as a Minor Retaining Wall in the Plans.

Replace the definition that begins “Nonproprietary Retaining Wall System…” with the following definition:

Nonproprietary Retaining Wall System - A Retaining Wall System that is fully designed in the bid documents.

Replace the definition that begins “Preapproved Proprietary Retaining Wall System…” with the following definition:

Preapproved Proprietary Retaining Wall System - A wall system that is listed in Appendix 16-D of the Geotechnical Design Manual (GDM).

00596B.04 Proprietary Retaining Walls - Replace the bullet that begins “Complete stamped Working…” with the following bullet:

- Complete stamped Working Drawings and design calculations according to 00150.35. Minor Retaining Walls do not require stamped Working Drawings unless prepared by a registered professional engineer. Preparation of Working Drawings and design calculations for Minor Retaining Walls does not require professional engineering registration according to ORS 672.060 (See also OAR 820-040-0005(4)(d)(A)).

00596B.04(a) Working Drawings - Replace the paragraph that begins "Working Drawings shall …" with the following paragraph:

Submit Working Drawings meeting the requirements of the Project documents and the AASHTO *LRFD Bridge Design Specifications*, as modified by the ODOT GDM, and are consistent with the preapproved Retaining Wall System.

00596B.04(c) Manufacturer's Field Construction Manual - Replace this subsection, except for the subsection number and title, with the following:

Prepare a field construction manual from the manufacturer that includes detailed instructions for constructing the retaining wall.

00596B.10(a) Proprietary Retaining Wall Systems - Replace this subsection, except for the subsection number and title, with the following:

Furnish all Proprietary Retaining Wall System components from the same wall Manufacturer. If there are conflicts between the Manufacturer's requirements and the Agency's requirements, the Agency's requirements prevail.

00596B.10(b) Nonproprietary Retaining Wall Systems - Replace this subsection, except for the subsection number and title, with the following:

Furnish Materials according to the applicable material Specifications.

00596B.11(d)(1) Material Passing No. 200 Sieve - Replace this subsection, except for the subsection number and title, with the following:

Ensure the amount of Material passing the No. 200 sieve does not exceed 15 percent by weight. Test according to AASHTO T 11.

00596B.11(d)(2) Plasticity Index - Replace this subsection, except for the subsection number and title, with the following:

Ensure the plasticity index of the material passing the No. 40 sieve does not exceed 6. Test according to AASHTO T 90.

00596B.12(b)(6) Acceptance of Bin Unit Concrete Strength - Replace this subsection, except for the subsection number and title, with the following:

Acceptance is according to 00540.17, except acceptance of concrete strength is determined based on production sublots. A production sublot will consist of either 10 units or a single Day's production, whichever is less. Cast one set of cylinders for each production sublot. The concrete strength of a production sublot is represented by a single compressive strength test on a cylinder.

00596B.12(b)(9) Rejection - Replace this subsection, except for the subsection number and title, with the following:

Units not meeting the requirements of this Subsection are rejected.

00596B.12(c)(1) Aggregate, Strength, Freeze-Thaw Durability, Unit Weight, and Water Absorption - Replace the bullet that begins "Test, no longer than …" with the following bullet:

- Test, no longer than 18 months before delivery, freeze-thaw durability of five test specimens made with the same materials, concrete mix design, manufacturing process, and curing method that will be used on the Project. A weight loss of not more than 1 percent of the block's initial weight after 150 freeze-thaw cycles as tested according to ASTM C1262 is required in at least four of the five test specimens.

00596B.12(c)(7) Acceptance of Blocks - Replace this subsection, except for the subsection number and title, with the following:

Acceptance is determined on tolerances, visual inspection, compressive strength, water absorption, freeze-thaw durability, and unit weight. Acceptance of compressive strength, water absorption, and unit weight is based on production sublots. The maximum number of blocks per production sublot is 2,000 blocks. Test blocks at the frequency of one set for each production sublot. Acceptance of freeze-thaw durability is based on the freeze-thaw testing requirements of 00596B.12(c)(1).

00596B.12(c)(10) Rejection - Replace this subsection, except for the subsection number and title, with the following:

Blocks not meeting the requirements of this Subsection are rejected.

00596B.12(d)(1) Concrete - Replace this subsection, except for the subsection number and title, with the following:

Furnish Class 4000 structural concrete meeting the requirements of Section 02001. Furnish aggregate with 3/4 inch or greater maximum nominal aggregate size.

00596B.12(d)(7) Acceptance of Blocks - Replace this subsection, except for the subsection number and title, with the following:

Acceptance is determined by tolerances, visual inspection, and concrete strength. Concrete strength is based on production sublots. A production sublot is 20 blocks or a single Day's production, whichever is less. The production sublot is represented by a single compressive strength sample of one set of cylinders.

00596B.12(d)(8) Rejection - Replace the paragraph that begins "Blocks not meeting the …" with the following paragraph:

Blocks not meeting the requirements of this Subsection, or that exhibit any of the following defects are rejected:

00596B.12(e)(6) Acceptance of Concrete Strength - Replace this subsection, except for the subsection number and title, with the following:

Acceptance of concrete strength is determined based on production sublots. A production sublot will consist of either 100 Crib Wall members or a single Day's production, whichever is less. Cast one set of cylinders for each production sublot. The concrete strength of a production sublot is represented by a single compressive strength test on a cylinder.

00596B.12(e)(7) Rejection - Replace this subsection, except for the subsection number and title, with the following:

Crib units not meeting the requirements of this Subsection are rejected.

00596B.40(a) Proprietary Retaining Walls - Replace the paragraph that begins "Construct proprietary retaining …" with the following paragraph:

Construct proprietary retaining walls according to Agency requirements, Manufacturer's Working Drawings, and the Manufacturer's field construction manual. If the Manufacturer's Working Drawings or the Manufacturer's field construction manual conflict with Agency requirements, Agency requirements take precedence.

00596B.41 Excavation and Foundation Preparation - Replace the bullet that begins "Do not construct backfill …" with the following bullet:

- Do not construct backfill when the backfill, the foundation, or the embankment that it would be placed on is frozen, or unstable.

00596B.44(c)(1) General - Replace the bullet that begins "Minimum overlap shall …" with the following bullet:

- With a minimum overlap of 12 inches.

00596B.47(b)(5)(a) Test Pad Method - Replace this subsection, except for the subsection number and title, with the following:

Before placing the wall backfill, determine the number of Passes necessary to achieve the specified density by constructing a test pad that is at least 5 feet wide, 15 feet long, and 3 feet in final depth. Construct test pad fill in layers no more than 8 inches thick using the same Equipment and methods that are used to compact the wall backfill. Perform at least one density test according to AASHTO T 310 on each test pad layer. Construct and test a new test pad when changes in material occur or different Equipment is used during the construction of the wall backfill, except a new test pad is not required for modular block drainage backfill.

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

The estimated quantities, for estimating purposes only, of excavation, shoring, leveling pads, and specified backfill for nonproprietary retaining wall systems are:

Gabion Headwall and Energy Dissapator :

Material	Estimated Quantities	
Gravel Leveling Pad	4	cu. yd.
Maccaferri Gabion Basket 3'x3'x6'	9	each
Maccaferri Gabion Basket Reno Mattress, 6'x12'x1'	1	each
Gabion Basket Fill	25	cu. yd.
Stone Embankment, headwall backfill	20	cu. yd.
Geotextile Filter Layer Between Backfill and Gabion Walls	30	sq. yd.

00596B.90 Payment - Replace the paragraph that begins "In item (b) …" with the following paragraph:

In item (b), the height of barrier is inserted in the blank.

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

SECTION 00620 - COLD PLANE PAVEMENT REMOVAL

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

00620.40(b) Depth 1 inch to 2 inches - Replace this subsection, except for the subsection number and title, with the following:

If the depth of the existing Pavement to be removed is 2 inches or less, but more than 1 inch and the section is under traffic, schedule the Work so the full width and length of travel lanes Pavement can be removed during the same shift. Remove the Shoulder area within 24 hours.

00620.40(c) Depth over 2 inches - Replace this subsection, except for the subsection number and title, with the following:

If the depth of the existing Pavement to be removed is over 2 inches and the section is under traffic, schedule the Work so the full width and length of the travel lanes and Shoulders can be removed, leaving no longitudinal or transverse drop-offs, during the same shift.

00620.41 Surface Tolerance - Replace this subsection, except for the subsection number and title, with the following:

Test with a 12-foot straightedge furnished and operated by the Contractor, as directed. The maximum variation of the top of the ridges from the testing edge of the straightedge, between any two ridge contact points, is 1/4 inch.

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

If the cold planed Pavement surface is exposed to traffic, sweep and clean prior to allowing traffic to use the Roadway.

Traffic is not allowed on the cold planed surface. Before opening the area to traffic, pave the surface according to (00745.51.

SECTION 00641 - AGGREGATE SUBBASE, BASE, AND SHOULDERS

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

00641.10(a) Base and Shoulder Aggregate - Replace the paragraph that begins "Aggregate for Bases …" with the following paragraph:

Furnish Aggregate for Bases and Shoulders meeting sizes as specified. Furnish dense-graded Base Aggregate unless otherwise specified. For Shoulder Aggregates use either 1" - 0 or 3/4" - 0 size as the Contractor elects.

In the paragraph that begins "Aggregate for bases…", add the following sentence after the first sentence:

Furnish Base Aggregate sized either 1” - 0 or 3/4" - 0.

00641.10(b) Subbase Aggregate - Replace this subsection, except for the subsection number and title, with the following:

Furnish crushed or uncrushed Aggregate, including Sands, reasonably well graded from coarse to fine for Subbases.

The maximum size Aggregate is not to exceed 75 percent of the compacted thickness of the layer that it is incorporated in. Furnish Aggregates passing the 1/4-inch sieve not less than 10 percent nor more than 50 percent of the whole, by weight. Furnish Aggregate with not more than 10 percent of the Aggregate passing the No. 100 sieve. Within these limits, furnish Subbase Aggregate with a gradation adequate to produce a dense, firm Base when placed and compacted.

(1) Grading - All of the grading requirements are given as percentages by weight. The gradation is determined by sieve analysis according to AASHTO T 27.

(2) Abrasion - Do not exceed 45 percent wear when tested according to AASHTO T 96 for the source materials for Aggregate Subbase unless otherwise approved.

(3) Sand Equivalent - Aggregate Subbase is tested according to AASHTO T 176, with a Sand equivalent of not less than 25.

00641.12 Limits of Mixture - Replace the paragraph that begins "Furnish a mixture …" with the following paragraph:

Furnish a mixture of Aggregate and water having a uniform moisture content sufficient to obtain the required compaction. Proportions are in percentages by weight and is known as the Mix Design. Determine the proportion of Aggregate and water according to Section 00165. The amount of water for the Mix Design is based on the dry weight of the Aggregate.

00641.15(b) Preproduced Aggregate - Replace the paragraph that begins "Compliance of Aggregates …" with the following paragraph:

Compliance of Aggregates produced and stockpiled before issuance of Notice to Proceed is determined according to (1) or (2) below.

00641.16 Acceptance of Aggregates - Replace the paragraph that begins "Acceptance will be …" with the following paragraph:

Acceptance is according to Section 00165.

00641.16(a) Stockpiled Aggregate for Aggregate Base and Shoulders - Replace the paragraph that begins "Acceptance will be …" with the following paragraph:

Acceptance is based on the Contractor's quality control testing, if verified, as required in Section 00165.

00641.16(a)(2) Non-specification Aggregate Gradation - Replace this subsection, except for the subsection number and title, with the following:

Stockpiled Aggregates having non-specification Aggregate gradation are rejected unless the non-specification material is removed from the stockpile. Do not add additional material to the stockpile until enough non-specification material has been removed so that the QL for each sieve size is equal to or greater than the QL in Table 00165-2 for a 1.00 PF.

No payment is made for non-specification materials.

00641.16(b) Aggregate Base and Shoulder Mixture - Replace this subsection, except for the subsection number and title, with the following:

Acceptance testing is performed on random samples obtained immediately following mixing with water according to Section 00165. For non-specification mixture the Engineer will

determine the appropriate price reduction or order its removal from the Work according to 00150.25.

00641.16(c) Aggregate Subbase - Replace this subsection, except for the subsection number and title, with the following:

Aggregate Subbase is accepted based on the Engineer's visual inspection. Samples are obtained and tested for compliance with 00641.10 by the Engineer if it is suspected that the material does not meet Specifications.

00641.20(a) Mixing Plant - Replace the bullet that begins "Discharges water into …" with the following bullet:

- Discharges water into the mixer by weighing or metering. Provide an adjustable device and assure uniform water content in the mixture.

00641.24 Compacting Equipment - Replace this subsection, except for the subsection number and title, with the following:

Provide self-propelled rollers and compactors capable of reversing without backlash. Use rollers and compactors with a gross static weight of at least 8 Tons, and capable of compacting to specified density while the mix is still moist.

00641.40 Preparation of Foundation - Replace this subsection, except for the subsection number and title, with the following:

Provide a firm surface or material, where Aggregates are to be placed, according to Sections 00320, 00330, or 00610 as applicable.

00641.41 Mixing, Hauling, and Placing - Replace the sentence that begins "Add water to the Aggregate…" with the following sentence:

Add water to the Aggregate while mixing to provide a moisture content meeting the requirements of 00641.12.

00641.43(a) Aggregate Base Courses - Replace the paragraph that begins "If the required …" with the following paragraph:

If the required compacted depth of the Base Course exceeds 6 inches, construct it in two or more layers of nearly equal thickness. The maximum compacted thickness of any one layer is 6 inches unless approved.

00641.43(b) Aggregate Subbase Courses - Replace this subsection, except for the subsection number and title, with the following:

The maximum compacted thickness of any one layer is 9 inches unless approved.

00641.43(c) Shoulder Courses - Replace this subsection, except for the subsection number and title, with the following:

Place Aggregates in Shoulder areas, other than as part of the Base Course, in one layer, or in two or more layers of nearly equal thickness. The maximum compacted thickness of any one layer is 9 inches.

00641.44(a)(2) Open-graded Aggregates - Replace the paragraph that begins "Compact the surface …" with the following paragraph:

Compact the surface of each layer of open-graded Aggregates using rollers according to 00641.24. Roll until there is no appreciable reaction or yielding under the compactor.

00641.45 Surface Tolerance - Replace this subsection, except for the subsection number and title, with the following:

Parallel the finished surface of the Aggregate and the surface of each underlying layer with the established grade and Cross Section for the finished surface within 0.04 foot.

Do not vary the finished surface of the compacted Aggregate, when tested with a 12-foot straightedge, from the testing edge by more than 1/2 inch at any point. Provide and operate the straightedge as directed.

Add the following subsection:

00641.46 Small, Irregular Areas - Haul, place, shape and compact small irregular areas according to 00640.41 through 00640.43. A small or irregular area is outside of the Traveled Way and requires no more than 5 Tons of Aggregate Base or as otherwise approved by the Engineer.

In areas not accessible to the Equipment specified in 00641.24, use a weighted roller, vibratory plate compactor, tamping rammer compactor, or other approved Equipment suitable for the area as approved by the Engineer.

00641.90 Payment - Replace the paragraph that begins "In items (c) and (e) …" with the following paragraph:

In items (c) and (e), the designated size of Aggregate to be used is inserted in the blank.

Replace the paragraph that begins "In item (g) …" with the following paragraph:

In item (g), the depth of Aggregate Base is inserted in the blank.

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

SECTION 00730 - EMULSIFIED ASPHALT TACK COAT

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

00730.11 Emulsified Asphalt - Replace the paragraph that begins “Excessive delay in the …” with the following paragraph:

Excessive delay in the use of the Emulsified Asphalt or excessive pumping of the Emulsified Asphalt may significantly reduce the viscosity and may make the material unsuitable for tack coat use. For this reason limit pumping between the bulk storage tank, hauling transportation, field storage tanks and distributor to an absolute minimum to maintain proper viscosity. Final acceptance of Emulsified Asphalt is at the point of application.

Replace the paragraph that begins “Obtain samples according …” with the following paragraph:

Obtain samples according to AASHTO R 66 prior to dilution with water, if allowed, according to Section 00165. Samples are tested at the ODOT Materials Laboratory, or other laboratory as designated by the Agency. Emulsified Asphalt is tested within 30 Calendar Days from the date it is sampled.

Replace the sentence that begins “Furnish CSS-1, CSS-1h…” with the following sentence:

Furnish CSS-1, CSS-1h, CMS-2, CMS-2S, CMS-2h, CRS-1, CRS-2, HFRS-2, HFMS-2 or HPTC as selected by the Contractor.

Replace the paragraph that begins “Dilution of the tack coat …” with the following paragraph:

Except for HPTC, dilution of the tack coat material may be allowed to a maximum 1:1 ratio. Determine the proportion of water to be added to the Emulsified Asphalt. Do not dilute the Emulsified Asphalt until the Engineer approves the dilution ratio. Add the water to the Emulsified Asphalt and mix according to the asphalt Supplier. For HPTC, dilution of the tack coat material is allowed only by the asphalt Supplier at a ratio meeting the requirements of ODOT's publication *Standard Specifications for Asphalt Materials*.

00730.22 Asphalt Distributor - Replace this subsection, except for the subsection number and title, with the following:

Provide an asphalt distributor designed, equipped, maintained and operated so the Emulsified Asphalt Material may be applied uniformly at even heat. Provide a distributor capable of applying the asphalt on variable surface widths up to 16 feet, at readily determined and controlled rates from 0.05 to 2.0 gallons per square yard, and with uniform pressure. Do not vary any specified rate by more than 0.02 gallons per square yard. Provide distributor Equipment that includes a tachometer, pressure gauges, accurate volume measuring devices and a thermometer for measuring temperature of tank contents. Provide distributors equipped with a positive power unit for the asphalt pump, and full circulation spray bars adjustable both laterally and vertically. Set the bar height for triple lap coverage.

00730.41 Traffic Control - Replace this subsection, except for the subsection number and title, with the following:

Do not apply the tack to more than one-half the width of the travel way at one time. Allow the remaining width to remain open to traffic. Do not close the open lane until traffic controlled by pilot car is operating on the new surface.

00730.42 Preparation of Underlying Surfaces - Replace this subsection, except for the subsection number and title, with the following:

Immediately before applying the tack coat, provide a clean and dry surface to be tacked. Clean all loose material by brooming, flushing with water or other approved methods.

00730.44 Applying Tack Coat - Replace the paragraph that begins "Apply the Emulsified Asphalt …" with the following paragraph:

Apply the Emulsified Asphalt with a pressure distributor according to 00730.22, unless otherwise allowed. Apply the Emulsified Asphalt to the prepared surface at a rate between 0.05 and 0.20 gallons per square yard as directed and with the Emulsified Asphalt temperature between 140 °F and 185 °F as recommended by the manufacturer. Application rates for tack coat diluted according to 00730.11 are increased as necessary to provide the same amount of residual asphalt as the application rates specified above.

00730.90 Payment - Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

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 8 Tons of Emulsified Asphalt in tack coat is required on this Project.

SECTION 00745 - ASPHALT CONCRETE PAVEMENT - STATISTICAL ACCEPTANCE

Comply with Section 00745 of the Standard Specifications modified as follows:

00745.10 Aggregate - Replace the paragraph that begins "When requested by the Engineer …" with the following paragraph:

When requested by the Engineer, meet with the Engineer at a mutually agreed upon time to discuss accomplishing all phases of the crushing Work, including supervisory personnel of the Contractor and any Subcontractors who are to be involved in ACP Aggregate crushing.

00745.10(a) New Coarse and Fine Aggregates - Replace the paragraph that begins "Provide and stockpile …" with the following paragraph:

Furnish and stockpile new Aggregates according to the following requirements:

00745.10(a)(1)a. Separated Sizes - Replace the paragraph that begins "Advise the Engineer …" with the following paragraph:

Advise the Engineer of the separated sizes of Coarse and Fine Aggregate that are used and the proposed targets for each individual sieve size for each stockpile. A minimum of one Coarse Aggregate and one Fine Aggregate stockpile is required. If the Contractor proposes to produce Coarse and Fine Aggregates in separated sizes other than those specified, request the proposed size changes in writing, and state the proposed target value and specified tolerance for each of the individual sieve sizes of the proposed Materials.

00745.10(a)(1)b. Scalping - Replace the paragraph that begins "Scalp the Rock …" with the following paragraph:

Scalp the Rock on a 3/4-inch sieve screen deck. For quarry Rock, scalp the Rock after it has passed through the primary crusher. The Material remaining may be accepted for use by visual inspection. The Engineer may perform verification testing of the gradation. Meet the following Material requirements:

00745.10(a)(1)c. Soundness - Replace this subsection, except for the subsection number and title, with the following:

Furnish Coarse and Fine Aggregate with a weighted loss not exceeding 12 percent when subjected to five cycles of the soundness test using sodium sulfate solution according to AASHTO T 104.

00745.10(a)(1)d. Durability - Replace the paragraph that begins "Provide Aggregate …" with the following paragraph:

Furnish Aggregate not exceeding the following maximum values:

00745.10(a)(1)e. Fractured Faces - Replace the paragraph that begins "Provide crushed Aggregate …" with the following paragraph:

Furnish crushed Aggregate with not less than the minimum number of fractured faces as determined by AASHTO T 335 as follows:

00745.10(a)(2) Coarse Aggregate - Replace the paragraph that begins "Provide Coarse Aggregate …" with the following paragraph:

Furnish Coarse Aggregate meeting the following:

00745.10(a)(3) Fine Aggregate - Replace the paragraph that begins "Provide Fine Aggregate …" with the following paragraph:

Furnish Fine Aggregate meeting the following:

00745.10(a)(3)e. Blend Sand - Replace the paragraph that begins "No natural or uncrushed …" with the following paragraph:

No natural or uncrushed blend Sand is allowed in Level 4 ACP. Blend Sand is allowed for Levels 1, 2, and 3 mixes. For these mixes, establish the target gradation and produce all Material within the following tolerances (T):

00745.10(b) Reclaimed Asphalt Pavement - Replace the paragraph that begins "RAP Material used …" with the following paragraph:

RAP Material used in the production of new ACP is optional. No more than 30 percent RAP is allowed in Level 1, Level 2, and Level 3 ACP. No more than 30 percent RAP is allowed in Level 4 Base Courses. No more than 20 percent RAP is allowed in Level 4 wearing Courses.

00745.10(d) Reclaimed Asphalt Pavement and Recycled Asphalt Shingle Aggregate - Replace this subsection, except for the subsection number and title, with the following:

Blend the RAP, RAS, or RAM Material with new Aggregate to provide a mixture according to the JMF within the tolerances specified. Have a CAT-I perform sampling and testing of RAP and RAS Aggregates according to Section 00165.

00745.11(a) Asphalt Cement - Replace the paragraph that begins "Use the grade of …" with the following paragraph:

Use the grade of asphalt specified in the Contract Documents. Furnish asphalt cement according to ODOT's publication *Standard Specifications for Asphalt Materials*. The applicable Specifications are those contained in the current publication on the date the Project is advertised.

00745.11(b) Asphalt Cement Additives - Replace the paragraph and bullets that begins "Use standard recognized …" with the following paragraph and bullets:

Use standard recognized asphalt cement additive products that are of known value for the intended purpose and approved for use on the basis of laboratory tests and capable of being thoroughly mixed. Do not use asphalt cement additives that have deleterious effects on the asphalt material. Do not use silicones as an additive. When required by the JMF add asphalt cement admixtures to aid in the mixing.

Add the following subsection:

00745.11(e) Liquid Anti-Stripping Additive - An asphalt cement liquid anti-stripping additive (LASA) may be used instead of lime treatment of Aggregate.

(1) General - For LASA to be considered for use, meet the following criteria:

- Be designated as an asphalt anti-strip additive, with test results posted on the Warm Mix Asphalt Technologies category on the *AASHTO Product Evaluation and Audit Solutions (APEAS)* website.
- APEAS test results indicate an increase of 10 percent or greater in TSR (AASHTO T 283) performed on durable Aggregate, not limestone.
- Be approved for use by another State DOT as an anti-stripping additive.

If a product meets these criteria, it may be used in the JMF development according to the *ODOT Contractor Mix Design Guidelines for Asphalt Concrete*. The standard addition rate of LASA for the JMF is the rate used in the APEAS testing. If no rate is published, the minimum rate is 0.5% of the virgin binder. If the APEAS published rates are 0.5% of total binder or higher, the minimum rate may be reduced to 0.5% of the virgin binder.

Approval of the JMF is also dependent on Hamburg wheel-track testing results conducted at the ODOT Central Materials Laboratory. When tested according to AASHTO T 324 for 20,000 passes at a test temperature of 50 °C the minimum requirements are:

Rut depth (Level 4 wearing Course).....5mm max.
Rut depth (All others).....7mm max.
Stripping inflection point (All levels)..... none

(2) Addition to Asphalt Cement - Blend the LASA at the asphalt terminal prior to delivery to the mixing plant. Use LASA compatible with the asphalt cement. Comply with all asphalt cement requirements for the blended product. Do not change the LASA addition rate without prior approval from the Engineer.

(3) Field Testing During Production - At the Agency's discretion, production mixture may be tested at the Central Materials Laboratory. Failure to meet the criteria listed above may require a change in addition rate, a change of approved LASA, or lime-treatment of Aggregate to continue production.

00745.13 Job Mix Formula Requirements - Replace the paragraph that begins "Do not begin production of ACP for use..." with the following paragraph:

Do not begin production of ACP for use on the Project until the JMF is reviewed by the Engineer and written consent is provided to proceed. The JMF proposed for use on the Project is evaluated based on the criteria identified in 00745.13(a) and 00745.13(b) and the latest *ODOT Contractor Mix Design Guidelines for Asphalt Concrete*. A new JMF is required if the asphalt cement source or grade, any additives, or the source of the Aggregate change during production. A change in the source of asphalt cement requires a new passing TSR.

Replace the paragraph that begins "A separate JMF..." with the following paragraph:

A separate JMF is issued for WMAC. Do not use RAS in WMAC mixes with minimum compaction temperatures less than 260 °F.

00745.13(b) Performance Test - Replace this subsection, except for the subsection number and title, with the following:

For Level 3 wearing Course mixes and all Level 4 mixes, include the results of performance testing as outlined in the latest ODOT *Contractor Mix Design Guidelines for Asphalt Concrete* in the mix design submittal.

00745.14 Tolerances and Limits - Replace the paragraph that begins "When a JMF tolerance..." with the following paragraph:

When a JMF tolerance applies to a constituent, full tolerance is given even if it exceeds the control points established in 00745.12(b). Full tolerance is given for RAP content even if it

exceeds the limits established in 00745.10(b). Full tolerance is given for RAS or RAM content even if it exceeds the limits established in 00745.10(c).

00745.16(a)(2) Laboratory Requirements - Replace this subsection, except for the subsection number and title, with the following:

Provide and maintain an ODOT certified quality control laboratory. Provide the laboratory with the necessary Equipment and supplies for performing Contractor quality control testing. Calibrate all testing Equipment according to the required test methods. The Engineer may inspect measuring and testing devices to confirm both calibration and condition.

Ensure the laboratory is operational before beginning the ACP production and be equipped with a telephone or cellular telephone, if either service is available. Provide laboratory Equipment meeting the requirements of the applicable test methods identified in the Specifications and selected for use on the Project.

00745.16(b)(1)a. General - Replace the paragraph that begins "Before beginning production..." with the following paragraph:

Before beginning production and placement of WMAC, perform mix design verification (MDV) tests on the HMAC as required at start-up according to 00745.16(b)(1)(c). Ensure two consecutive MDV test results from testing of HMAC are within the limits of 00745.16(b)(1)(a). The Engineer may waive ODOT TM 306 for HMAC production required before WMAC production for one shift.

Replace the paragraph that begins "The running averages..." with the following paragraph:

Provide running averages of four MDV results within the limits given below:

00745.16(b)(1)b. Reconciliation of Laboratory and In-place Properties - Replace this subsection, except for the subsection number and title, with the following:

Have a CDT provide the results from the initial control strip to the CAT-II for evaluation and comparison with the MDV results at the completion of the control strip. If the MDV and density test results are contradictory, inform the Engineer and initiate an investigation. The CAT-II is responsible for recommending a plan to the Engineer for resolving the discrepancy based on the results of the investigation. Submit results of investigation and plan no later than the end of two shifts after investigation has been initiated.

00745.16(b)(1)c. Mix Design Verification Requirements at Start-Up - Replace the paragraph that begins "Use the initial MDV …" with the following paragraph:

Use the initial MDV sample as the first random QC sublot test. Subsequent MDV samples required due to failure of start-up criteria is used for a sublot QC test if the sample is taken within 100 Tons of the scheduled random QC sample location. If not, perform the MDV testing separate from, and not included in, the random QC testing program. Complete all required MDV testing at no additional cost to the Agency.

00745.16(b)(1)c.3. Replace the paragraph that begins "If the Va and VMA …" with the following paragraph:

If the Va and VMA mix properties are out of tolerance in 00745.16(b)(1)(a), then make mix adjustments within the requirements of 00745.16(b)(1)(d) and immediately obtain another sample and perform MDV testing. Two adjustments are given. If any of the test results for Va and VMA are not within the limits of 00745.16(b)(1)(a) after second adjustment, then stop production and go to step "4".

00745.16(b)(1)c.4. Replace the paragraph that begins "Have the CAT-II …" with the following paragraph:

Have the CAT-II submit the revised JMF targets and production and plant adjustments to the Engineer. Obtain the approval of the Engineer before restarting production. Production is restarted with MDV testing according to this Subsection.

00745.16(b)(1)f. Request for Job Mix Formula Target Adjustment - Replace this subsection, except for the subsection number and title, with the following:

A request for an adjustment to the JMF targets may be made to the Engineer by the Contractor's CAT-II. The requested change is reviewed and documented by the Engineer. If acceptable, a revised JMF is allowed. Document the sublot test when the adjusted targets are in effect. When making adjustments for gradation do not exceed the tolerances specified for the original JMF limits. Keep AC content adjustments for HMAC within 0.5 percent of the original JMF. Keep AC content adjustments for WMAC within 0.3 percent of the original JMF. The JMF asphalt content may only be adjusted if the production VMA meets the requirements of 00745.16(b)(1)(a). Keep adjustments for RAP or RAM within 5 percent of the original JMF blend percentage, but do not exceed the requirements of 00745.10(b) or 00745.10(c). Adjusting proportions of the combined RAP and RAS is not allowed during production of the mixture. Keep adjustments for RAS content within 1 percent of the original JMF, but do not exceed the requirements of 00745.10(c). A gradation adjustment is required if the VMA is outside of the 00745.16(b)(1)(a) limits. Regardless of these tolerances, keep the adjusted JMF within the mixture specification control points of 00745.12. If a redesign of the mixture becomes necessary, submit a new JMF according to the Specifications.

00745.16(b)(3) Mix Design Verification for Warm Mix Asphalt Concrete - Replace this subsection, except for the subsection number and title, with the following:

Perform MDV testing on WMAC according to 00745.16(b)(1)(a). Continued production and placement of WMAC is allowed at the discretion of the Engineer.

00745.16(c) Quality Assurance and Acceptance - Replace this subsection, except for the subsection number and title, with the following:

The Agency will provide quality assurance according to Section 00165. When QA testing is performed, the Contractor's quality control results is used for acceptance if they are within acceptable limits of the QA test results as defined in the Quality Assurance Program.

00745.17(a) Within Specification Limits - Replace this subsection, except for the subsection number and title, with the following:

If all sublot sample test results are within Specification limits for all constituents, including compaction, the Material is accepted and the Contract unit price is paid for the Material represented by that test.

00745.17(b) Outside Specification Limits - Replace this subsection, except for the subsection number and title, with the following:

If a sublot sample test result for any constituent is outside the specification limit the Engineer will have the backup sample tested.

(1) Backup Within Specifications - If the backup sample test results for all constituents are within specification, the Material is accepted and the full Contract unit price is paid for the Material represented by that test.

(2) Backup Out of Specifications - If the backup sample test results are out of specification, the Contractor may choose to accept the price adjustment calculated according to 00745.95 or may choose to sample the in-place Material for further testing according to 00745.17(b)(3). The price adjustments is computed using all original test results as well as all backup test results. If there are less than three tests, average the two tests and use the average as a third test result. The maximum composite pay factor (CPF) is 1.0.

(3) In-Place Samples - If the Contractor chooses to sample the in-place Material, sample from a minimum of three random locations from the area represented by the lot in question under the observation of the Engineer. If the in-place sample test results are within specification, the Material is accepted and paid for at the full Contract unit price. If the in-place sample test results are not within specification, the Material is accepted and paid for at an adjusted price according to 00745.95. The maximum CPF is 1.0. Perform sampling and testing of in-place Material at no additional cost to the Agency.

Replace the paragraph that begins "Provide hauling vehicles …" with the following paragraph:

Coat the beds with a minimum amount of asphalt release agent from the QPL. Do not use diesel oil. Drain excess coating material before loading by raising the truck bed, opening belly dump gates, or operating the conveyor belt, as appropriate.

00745.23 Pavers - Replace the bullet that begins "Self-contained, self-propelled …" with the following bullet:

- Self-contained, self-propelled, supported on tracks or wheels, and does not contact the mixture being placed.

Replace the bullet that begins "Equipped with augers …" with the following bullet:

- Equipped with augers and a screed, heated when necessary, that:

Replace the bullet that begins "Equipped with a paver …" with the following bullet:

- Equipped with a paver control system that:

00745.24(b) Vibratory Rollers - Replace the paragraph that begins "If vibratory rollers..." with the following paragraph:

If vibratory rollers are used for finish rolling, provide rollers that:

Replace the bullet that begins "Not be operated …" with the following bullet:

- Are not operated in the vibratory mode.

00745.24(c) Pneumatic-tired Rollers - Replace the paragraph that begins "Pneumatic-tired rollers..." with the following paragraph:

Pneumatic-tired rollers that:

Replace the bullet that begins "Be tandem …" with the following bullet:

- Are tandem, or multiple axle, multiple wheel type.

Replace the bullet that begins "Be fully skirted …" with the following bullet:

- Are fully skirted to reduce tire heat loss and mixture pick up.

00745.42 Preparation of Underlying Surfaces - Replace the paragraph that begins "All Bases and foundations..." with the following paragraph:

Prepare all Bases and foundations where the Pavement is to be constructed meeting the applicable Specifications. Obtain approval before the start of paving. Recondition existing Bases and foundations according to Section 00610. Trim broken or ragged edges to firm material when directed.

Replace the paragraph that begins "Treat all paved..." with the following paragraph:

Treat all paved surfaces on and against where ACP is to be placed with an asphalt tack coat, according to Section 00730.

Replace the paragraph that begins "Treat all waterproofing..." with the following paragraph:

Treat all waterproofing membranes on and against where ACP is to be placed with an asphalt tack coat meeting the requirements of 00745.11(a) or as recommended by the membrane manufacturer.

00745.43(b) Heating Temperatures - Replace the paragraph that begins "Establish the allowable..." with the following paragraph:

Establish the allowable mixing and placement temperature ranges by the JMF. Measure the mixture temperature at the discharge of the mixer. Measure the placement temperature behind the paver. The allowable production temperatures may be adjusted based on the asphalt cement Supplier's recommendation if approved by the Engineer. The maximum mixture temperature of the ACP and the minimum placement temperature is as follows:

00745.44 Asphalt Concrete Pavement Storage - Replace the paragraph that begins "Temporary storing..." with the following paragraph:

Temporary storing or holding of ACP in storage silos is allowed if the Contractor complies with the following:

00745.44(d) Heated Silos - Replace this subsection, except for the subsection number and title, with the following:

Store ACP in heated, insulated silos no more than 72 hours only if an atmosphere is maintained in the silo at all times that prevents damage to the mixture or asphalt properties.

00745.45 Control of Line and Grade - Replace this subsection, except for the subsection number and title, with the following:

Use a floating beam device of adequate length and sensitivity to control the grade of the paver. Where this method is impracticable, manual control of grade is allowed when approved.

00745.46(a) Hauling - Replace the paragraph that begins "ACP will be..." with the following paragraph:

ACP is rejected before placing if one or more of the following occurs:

00745.46(b) Depositing - Replace the paragraph that begins "When ACP is windrowed..." with the following paragraph:

When ACP is windrowed, provide pick-up Equipment that:

Replace the bullet that begins "Pick up substantially …" with the following bullet:

- Picks up substantially all of the ACP deposited on the Roadway.

Replace the bullet that begins "Be self-supporting, not …" with the following bullet:

- Be self-supporting, not exerting any vertical load on the paving machine, or causing vibrations or other motions that could have a harmful effect on the riding quality of the completed Pavement.

00745.46(c) Placing - Replace the paragraph that begins "Do not intermingle..." with the following paragraph:

Do not intermingle ACP produced from more than one JMF. Use a single JMF for each Base Course Panel placed during a working shift. Use a single JMF for the wearing Course, except for adjustments in the JMF according to 00745.16(b)(1).

00745.47 Longitudinal Joints - Replace the paragraph that begins "At longitudinal joints..." with the following paragraph:

At longitudinal joints, bond, compact and finish the new ACP equal to the ACP against where it is placed.

00745.47(a) Location - Replace the paragraph that begins "Place the ACP..." with the following paragraph:

Place the ACP in Panel widths that hold the number of longitudinal joints to a minimum. Offset the longitudinal joints in one Panel by at least 6 inches from the longitudinal joints in the Panel immediately below.

00745.47(a)(2) Wearing Course - Replace this subsection, except for the subsection number and title, with the following:

Construct longitudinal joints six inches from permanent lane markings, or as shown or directed.

00745.47(b) Drop-Offs - Replace the bullet that begins "Construct, maintain, remove, …" with the following bullet:

- Construct, maintain, remove, and dispose of the temporary wedge at no additional cost to the Agency. ACP for the temporary wedge is paid for at the Contract unit price.

00745.48(a)(1) Temporary End Panel - Replace the bullet that begins "For wedges that will be under traffic for less …" with the following bullet:

- For wedges that are under traffic for less than 24 hours, construct an 8-foot-long wedge (1V:50H taper rate).

Replace the bullet that begins "For wedges that will be under traffic for 24 …" with the following bullet:

- For wedges that are under traffic for 24 hours or longer, construct a 25-foot-long wedge (1V:160H taper rate).

Replace the bullet that begins "Construct, maintain, remove, …" with the following bullet:

- Construct, maintain, remove, and dispose of the temporary wedge at no additional cost to the Agency. ACP for the temporary wedge is paid for at the Contract unit price.

00745.48(a)(3) Excess Asphalt Concrete Pavement - Replace this subsection, except for the subsection number and title, with the following:

After completing a temporary end Panel as specified, dispose of unused, remaining ACP as directed. Payment is made for the entire load of ACP, but is limited to only one load for each joint of each Panel.

00745.48(a)(5) Joint Requirements - Replace this subsection, except for the subsection number and title, with the following:

Compact both sides of the joint to the specified density. Test the joint surface according to 00745.70 with a straightedge placed across the joint.

00745.48(c) Bridge Deck Overlays - Replace the paragraph that begins "Saw cut the wearing Course of Pavement …" with the following paragraph:

Sawcut the wearing or base Course of Pavement directly over the joints in bridge decks, bridge end joints and end Panel end joints as soon as practical but within 48 hours of paving

each stage of the wearing or base Course, unless otherwise directed. Saw the cut 3/8 inch wide, ± 1/8 inch, by 1/2 inch less than the thickness of the Panel of Pavement depth or 1 1/2 inches deep, whichever is less.

00745.49(a)(2) Rolling - Replace the paragraph that begins "Provide sufficient rollers …" with the following paragraph:

Provide sufficient rollers of the types appropriate to compact the mixture while it is still within the specified temperature. Do not use equipment that crushes the Aggregate. Do not displace the line and grade of edges. Moisten steel roller wheels with a minimum amount of water, or other approved material, necessary to prevent the ACP from sticking to them and spotting or defacing the ACP.

Replace the paragraph that begins "Operate rollers at …" with the following paragraph:

Operate rollers at a slow, uniform speed recommended by the manufacturer. Operate drive rolls or wheels nearest to the paver unless otherwise approved. Operate pneumatic rollers no faster than 3 mph. Operate vibratory rollers at frequencies of at least 2,000 vibrations per minute.

00745.49(b)(1) General - Replace the paragraph that begins “Compliance with the density …” with the following paragraph:

Determine compliance with the density Specifications for ACP by random testing of the compacted road surface with calibrated nuclear gauges. Use the MAMD method of compaction measurement.

Replace the paragraph that begins “A pneumatic tired roller …” with the following paragraph:

A pneumatic tired roller is not required for Level 1 and Level 2 ACP. Have at least one available pneumatic tired roller according to 00745.24(c) on the Project and in good operating condition for Level 3 and Level 4 ACP.

00745.49(b)(2) Random Testing -

Replace the paragraph that begins “Determine the density of each sublot by averaging…” with the following paragraphs:

Determine the density of each sublot by averaging five QC tests performed at random locations with the nuclear gauge operated in the backscatter mode. Lots and sublots are as defined in 00745.02. In addition, perform at least one density test each Day of production. The additional testing may be waived by the Engineer.

00745.49(b)(2)(b) Core Correlation of Nuclear Gauge Readings -

Replace the paragraph that begins “Apply correlation factors …” with the following paragraphs:

Apply correlation factors to all nuclear gauge readings for the Lift where the core correlation was performed.

Replace the paragraph that begins “Both the Engineer and the Contractor …” with the following paragraphs:

Both the Engineer and the Contractor may request additional core correlation of nuclear gauge readings. Core correlations requested by the Contractor or that are required due to a change in Aggregate or asphalt cement source is at no additional cost to the Agency. The party requesting the core correlation pays the costs of coring and lab testing of the cores. The party performing nuclear gauge testing pays the costs of the nuclear gauge testing.

00745.49(b)(3) Moving Average Maximum Density Method - Replace the paragraph that begins "* If any part of the …" with the following paragraph:

* If any part of the width of a Lift at a station requires 91.0 percent, then the entire width of that Lift at that station is 91.0 percent

00745.49(c) Thin Pavement - Replace the paragraph that begins "Compaction to a specified …" with the following paragraph:

Compaction to a specified density will not be required for Leveling, patches, or where the nominal compacted thickness of a Course of ACP is less than 2 inches.

Add the following subsection:

00745.51 Opening Sections to Traffic - Schedule Work so that, during the same shift, the surfaces being paved are paved full width and length through the wearing Course before opening to traffic.

00745.70 Pavement Smoothness -

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

Provide a 12-foot straightedge and, when required a 12-foot rolling straightedge, and test as specified. Additional testing may be required. Mark areas not meeting the surface tolerance.

(a) Level 1 and Level 2 ACP - Test with the 12-foot straightedge in travel lanes parallel to and perpendicular to the centerline, as directed. Do not vary the Pavement surface by more than 1/4 inch.

(b) Level 3 and Level 4 ACP:

(1) Single Course Construction - Test with the 12-foot straightedge in travel lanes parallel to and perpendicular to the centerline, as directed. Do not vary the Pavement surface by more than 1/4 inch.

(2) Multiple Course Construction - Test the surface of the Course where the wearing Course is placed according to 00745.70(a).

Test the wearing surface with the rolling straightedge in the designated wheel path of a 0.1-mile strip of each travel lane per mile, where directed, and on each transverse joint throughout the Project. Operate the rolling straightedge parallel to the centerline. Do not vary the surface by more than 0.015 foot.

Also test the wearing surface with a 12-foot straightedge placed perpendicular to the centerline at least once within the above-mentioned 0.1-mile strip. Do not vary by more than 1/4 inch.

If the 0.1-mile testing strip meets the Specifications, no further testing of the mile represented by the testing strip is required, except at the transverse joints. If any part of the testing strip does not meet the Specifications, test both wheel paths of the entire mile.

(c) Utility Appurtenances - If the Contractor constructs or adjusts Utility appurtenances, manhole covers, and valve boxes, the tolerances of 00745.70(a) and 00745.70(b) apply. If the Utility appurtenances are adjusted by others, these tolerances do not apply.

(d) Shoulders and Paved Medians - Test the Base and wearing Course with the 12-foot straightedge parallel to and perpendicular to the centerline for Shoulders and paved Medians where permanent traffic barriers are located. Do not vary the Pavement surface by more than 1/4 inch.

00745.80 Measurement - Add the following paragraph to the beginning of this subsection:

The quantities of ACP shown in the Contract Schedule of Items were computed on the basis of Aggregates having a specific gravity of 2.7.

00745.90 Payment - Replace the paragraph and bullets that begins "In item (a)..." with the following paragraph and bullets:

In item (a), the following is inserted in the blanks:

- The level of ACP “1”, “2”, “3”, “4” is inserted in the first blank.
- The type of ACP “3/4 inch”, “1/2 inch”, “3/8 inch” is inserted in the second blank.
- The words "Lime Treated" is inserted in the third blank when applicable.
- The words "in Leveling", "in Temporary", or "in Leveling and Temporary" is inserted in the fourth blank when applicable.

Replace the paragraph that begins "In item (b), the..." with the following paragraph:

In item (b), the performance graded asphalt binder is inserted in the first blank. The level and type of ACP is inserted in the second blank. This item applies to all asphalt used in ACP, including residual asphalt in RAP, RAS, or combined RAP and RAS. Substituted asphalt cement described in 00745.11(a) will be paid for under the asphalt specified in the Contract Schedule of Items.

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

Replace the paragraph and bullets that begins "No separate or additional …" with the following paragraph and bullets:

No separate or additional payment will be made for:

- Reconditioning existing Roadway
- Leveling Work
- Lime
- QC testing
- Sawing, cleaning, and filling joints on bridge deck overlays

In the paragraph that begins "No separate or additional payment…", add the following bullet to the end of the bullet list:

- liquid anti-stripping asphalt cement additives

SECTION 00756 - PLAIN CONCRETE PAVEMENT

Comply with Section 00756 of the Standard Specifications modified as follows:

00756.04 Aggregate Production and Prepaving Conference - Replace this subsection, except for the subsection number and title, with the following:

(a) Aggregate Production Conference - Meet with the Engineer, at a mutually agreed time, to discuss methods of accomplishing Aggregate production, and include supervisory personnel of the Contractor and any Subcontractors or Suppliers who are to be involved in the Aggregate production Work.

(b) Prepaving Conference - Meet with the Engineer, at a mutually agreed time, to discuss methods of accomplishing all phases of the paving Work, and include supervisory personnel of the Contractor and any Subcontractors who are to be involved in the concrete paving Work.

00756.16 Acceptance of Concrete Replace this subsection, except for the subsection number and title, with the following:

(a) General - Acceptance of concrete is based on the results of the Contractor's quality control testing according to Section 00165.

(b) Aggregate - Acceptance of Aggregate is based on the Contractor's quality control testing, if verified by the Agency according to Section 00165.

(1) 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 specified in Table 00165-2 for a PF of 1.00. Each

required sample represents a sublot. When the quality level specified in Table 00165-2 yields a PF of less than 1.00 for any constituent, the material is non-specification.

(2) Non-specification Aggregate Gradation - Stockpiled Aggregates that contain non-specification Aggregate gradation is 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.

(c) Plastic Concrete - Acceptance of the plastic concrete is based on the tests performed by the Contractor's QCT, according to the tolerances and limits of Section 02001.

(d) Hardened Concrete - Cast and cure the test specimens according to AASHTO R 100 in 6-inch x 12 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 is based on an analysis of compressive strength tests of cylinders cast by the QCT. Test the cylinders at an ODOT certified laboratory.

(2) Sampling and Testing - Provide sampling and testing according to Section 00165.

(3) Acceptance - The ASTV is required to exceed the f'c (specified strength) for the mix design. If a set of cylinders has an ASTV less than f'c, the Engineer will review the results to determine if the concrete represented by the cylinders is to be removed. In any case, remove concrete that has an ASTV of less than 85 percent of the specified strength unless otherwise authorized, in writing, by the Engineer. Be responsible for the cost of removal, replacement and all related Work, subject to a price adjustment according to 00150.25, if the concrete is allowed to remain in place.

If an ASTV falls below the f'c, the Contractor may submit a written plan within 3 Days of the test for review by the Engineer. Outline a proposed alternate method of evaluating compressive strength and provide evidence that a reasonable f'cr (over-design) was maintained and that there is credible evidence (besides low strength) that warrants consideration of this option. If the Engineer determines that the compressive strength test results are suspect from definable external factors, the Engineer may allow an alternate method of acceptance.

00756.22 Hauling Equipment - Replace this subsection, except for the subsection number and title, with the following:

Transport concrete in non-agitating Equipment. Truck mixers may be used to transport concrete only as allowed in 00756.45. When allowed, provide hauling Equipment according to AASHTO M 157.12 or AASHTO M 157.11.6.

00756.23 Paving Equipment - Replace the paragraph that begins "Provide self-propelled …" with the following paragraph:

Provide self-propelled paving machines according to the following:

00756.23(a) Placer/Spreader - Replace this subsection, except for the subsection number and title, with the following:

Provide a placer/spreader that:

- Receives the concrete mixture in its hopper on the Shoulder area.
- Delivers the concrete mixture to the slipform paver and uniformly spread at the proper thickness for the full width of the area being paved.
- Does not segregate the concrete mixture or displace the reinforcing steel.

00756.23(c) Paving Machine - Replace this subsection, except for the subsection number and title, with the following:

If a paving machine riding on stationary side forms is used, provide Equipment meeting the following:

- A self-propelled, screening type machine used for initial strike-off and consolidation of PCC that rides on and is guided by steel side forms or the edge of contiguous PCC Pavement. Provide a machine designed and operated to strike-off, consolidate and compact the PCC to prescribed line, grade and Cross Section. Make provisions to prevent chipping or marring previously placed PCC.
- Vibratory Equipment of the surface pan type or internal type with immersed tube or multiple spuds. Provide a vibrator capable of full slab width vibration to the concrete. Provide vibration rates not less than 3,500 cycles per minute for surface vibrators and not less than 7,000 cycles per minute for internal vibrators and as necessary for proper consolidation and compaction.
- A self-propelled floating and finishing machine that rides on and is guided by steel side forms or the edge of contiguous PCC Pavement. Provide floating action to the PCC surface by means of screeds, floats, rollers or combinations of them. Provide screed type machines that have at least two oscillating type transverse screeds and that have sufficient wheel base length, weight, float surface and adjustments to true up the PCC surface to accurate Cross Section and grade without dragging, marking or defacing the surface.

00756.25(b) Inertial Profiler - Replace the paragraph that begins "Provide competent and …" with the following paragraph:

Provide competent and experienced operator(s) for the Equipment, certified with the profiler according to ODOT TM 769. Meet with the Engineer and the profile operator at a mutually agreed upon time prior to beginning smoothness measurements to discuss all aspects of smoothness measurement on the Project.

00756.30 Quality Control Personnel - Replace the bullet that begins "Provide and designate …" with the following bullet:

- Provide and designate an individual who is present at the placement site at all times during concrete placements, and who is authorized and responsible for acceptance and rejection of Materials.

Replace the bullet that begins "Reject loads …" with the following bullet:

- Reject loads that arrive at the Project Site without a batch ticket.

00756.40 Weather Limitations - Replace the paragraph that begins "Coordinate all operations involved…" with the following paragraph:

Coordinate all operations involved in constructing the Pavement so the Work will result in a finished Pavement according to the Specifications regardless of the variations in weather, temperature and humidity when the Work is allowed to proceed.

Replace the paragraph that begins "Do not place PCC during …" with the following paragraph:

Do not place PCC during periods of rain. Do not place PCC on frozen Bases, or when descending air temperature falls below 35 °F. Do not resume placement until ascending air temperature reaches 35 °F. Measure air temperature in the shade and away from artificial heat.

00756.41 Preparation of Base - Replace the paragraph that begins "The base shall …" with the following paragraph:

Provide a moist base before placing the concrete. When the Base is a treated Base the surface, provide a clean surface free of all loose material. Place concrete on existing and new treated Base only when the surface temperature is less than 90 °F. If water is used for cooling, remove all excess water standing in pools or flowing on the surface before placing concrete.

Replace the paragraph that begins "Manholes, inlets and …" with the following paragraph:

Ensure manholes, inlets and other such Structures are completed, adjusted, cured and otherwise prepared, as applicable, and ready to have concrete placed in contact with them. Prepare manhole frames and other independent metal Structures in the Pavement area with an approved bond-preventing agent.

00756.42 Construction Widths - Replace the paragraph that begins "If the Contractor proposes …" with the following paragraph:

If the Contractor proposes a method of placement other than that shown or specified, it will be at no additional cost to the Agency. Any changes require the Engineer's approval.

00756.43(a) Dowel Bars - Replace this subsection, except for the subsection number and title, with the following:

Provide smooth, round, epoxy coated dowel bars. Coat dowel bars with a lubricant or bond breaking compound approved by the Engineer. Use a framework to place dowels that is continuous across the entire lane width, holds the dowels parallel with each other, holds the dowels parallel with the surface of the Pavement, and holds the dowels parallel to the Roadway centerline. For dowels placed across an expansion joint, use a dowel bar basket or other system of support that leaves no permanent incompressible members in place within

the joint. Place dowels with a maximum alignment tolerance of 5 degrees or 3/16 inch in the length of the dowel. Place dowels within 3/8 inch of the center of the slab vertically.

Place dowel bars for joint contact at existing concrete Pavement surfaces by drilling the existing concrete section and then inserting the dowel bars and grouting them in place. Drill the holes large and deep enough to insert the dowel bars with adequate epoxy or non-epoxy grout. Adjust hole locations to avoid damaging any existing reinforcement when drilling the holes. Blow the dowel bar holes clean with compressed air before grouting. Center the bar in the hole for the full length of embedment before grouting. Pump the grout into the hole around the bar so the back of the hole is filled first. Do not allow blocking or shimming to impede the flow of the grout into the hole. If dams are needed, place them at the front of the holes to confine the grout. Place the dams to permit the escape of air without leaking grout. Do not remove dams until grout has cured in the hole.

00756.43(b) Tie Bars - Replace the bullet that begins “By using threaded mechanical …" with the following bullet:

- By using threaded mechanical splice couplers from the QPL. Submit splices for approval before using. Accompany rebar splices with a manufacturer's quality compliance certificate according to 00165.35.

Delete the bullet that begins “Accompanied by…”.

Replace the bullet that begins "Installed according …" with the following bullet:

- Install rebar splices according to manufacturer's recommendations.

00756.44 Handling, Measuring, and Batching Materials - Replace the paragraph that begins "The plant site, layout …" with the following paragraph:

Provide the plant site, layout, Equipment and provisions for transporting Material that is adequate to assure a continuous supply of Material to the Project Site.

00756.46 Placing Concrete - Replace the bullet that begins “By using threaded mechanical …" with the following bullet:

- In short sections of Pavement that are necessary to facilitate traffic movement.

00756.46(b) One Lift - Replace this subsection, except for the subsection number and title, with the following:

Place the concrete in final position by the slipform method in one Lift, so a minimum of finishing is necessary to provide a dense, homogenous Pavement conforming to true grade and Cross Section.

00756.46(e) Stationary Side Form Method - Replace this subsection, except for the subsection number and title, with the following:

Place the PCC between stationary side forms by means that will prevent segregation of constituents of the PCC, displacement or deformation of the forms or Base, forming of piles, and unequal consolidation.

Spread and distribute the PCC with a mechanical concrete spreader that will fill all corners and spaces with PCC and leave it at such height that after consolidation and finishing it is at specified grade and Cross Section. Spread and vibrate the PCC against and along the forms, and in the vicinity of joints comprising load transfer devices, with care to avoid displacement of the forms or devices.

Use shovels or muckrakes, not rakes, for hand spreading and distributing. Do not foul the PCC with foreign matter.

After being placed, strike-off, vibrate and consolidate the PCC with Equipment conforming to the requirements of 00756.23. If more than one machine is required to properly handle production, the vibrating of PCC precedes or accompanies the first or leading machine only.

Perform the operations above within 15 minutes after the PCC is placed. Provide continuous operations until the surface has been worked the equivalent of not less than two Passes of a single screed machine. In each Pass of the machine, maintain a roll of PCC ahead of the screed for the entire width of Pavement being placed. Furnish a surface of uniform texture, true to grade and Cross Section following the strike-off, vibrating and consolidating.

Provide Equipment in good mechanical condition at all times and be adjusted for wear at the direction of the Engineer. Keep forms and other controls of line and grade clean and true to line and grade.

00756.46(h) Protect Surface - Replace this subsection, except for the subsection number and title, with the following:

Equip supports of the slipform paver, and other Equipment that ride on previously placed Pavement to meet the requirements of 00756.60, to prevent marring, edge breaking, or chipping of the previously placed Pavement.

When concrete is placed adjacent to an existing Pavement, equip that part of the Equipment that is supported on the existing Pavement with protective pads on crawler tracks or use rubber-tired wheels. Offset the track or wheels to run a sufficient distance from the edge of the Pavement to avoid breaking the Pavement edge.

00756.46(i) Hand Operated Equipment - Replace this subsection, except for the subsection number and title, with the following:

Use shovels and muckrakes, not rakes, for hand spreading and distributing. Do not foul the concrete with foreign matter, or disturb joint devices during such operations. Provide hand operated mechanical vibrators satisfactory to the Engineer. Use these vibrators to consolidate the concrete Pavement at least 6 feet on each side of construction and expansion joints and any other areas as directed.

00756.47 Test Strip - Replace the paragraph that begins "At the beginning …" with the following paragraph:

At the beginning of paving operations, construct one initial test strip of concrete Pavement at least 0.1 mile long at the specified paving width. Do not perform further paving until the test strip is evaluated according to 00756.55. An additional test strip is required when:

00756.48(a) General - Replace this subsection, except for the subsection number and title, with the following:

Construct joints of the kinds shown and where shown or directed. Joint types in the concrete Pavement are contraction, construction or expansion. Construct transverse or longitudinal joints, as shown or directed. Extend all joints and joint filler to Pavement edges or to each other.

Do not vary joints from specified or indicated line by more than 1/4 inch. When required, construct the tops of joint filler, slightly below, but not more than 1/8 inch, and paralleling finished Pavement grade and Cross Section. Protect top edges of filler from damage by paving operations.

All joints that contain preformed filler are to be constructed before the final floating and surface finishing of the concrete, unless otherwise directed.

00756.48(b) Longitudinal Joints - Replace the paragraph that begins "If the Contractor elects …" with the following paragraph:

If the Contractor elects to pour the entire width of Pavement at one time, construct the longitudinal joint as shown. Construct longitudinal joints of the contact type or weakened plane type as shown:

00756.48(c) Construction Joints - Replace the paragraph that begins "The new concrete …" with the following paragraph:

Furnish new concrete placed against the construction joint closely conforming to the proportions and consistency of the previously placed concrete except vibrate and consolidate it to a greater degree and with more care than normal. Unless otherwise shown, do not construct construction joints within 10 feet of a transverse expansion or contraction joint. If sufficient concrete has not been mixed at the time of interruption to form a slab at least 10 feet long, remove the concrete back to the last joint and dispose of as directed.

00756.49 Surface Finishing - Replace the paragraph that begins "After the concrete has …" with the following paragraph:

After the concrete has been given a preliminary finish by the finishing devices in the slipform paving Equipment, check the surface of the fresh concrete in the longitudinal and transverse direction with a 12-foot straightedge. Correct surface deviations more than allowed by 00756.55(a). Lap each successive check with the previous check path by at least half the length of the straightedge. This longitudinal checking and correction on areas to be profiled for IRI smoothness is waived if it is successfully demonstrated that a Pavement surface is otherwise produced according to 00756.55(b)(1)(a).

Replace the paragraph that begins "Following hand floating …" with the following paragraph:

Following hand floating, use a 12-foot proof (grout) rod to check the surface of the Pavement. For each Pass of the proof rod in the longitudinal direction, over the entire surface of the Pavement placement, overlap the previous Pass by half of its width. Check the transverse direction as required. Use of a proof rod on areas to be graphically profiled is waived if it is

successfully demonstrated that required Pavement profile surface is otherwise produced according to 00756.55(b)(1)(a).

00756.51 Modification of Strike-off, Consolidation, Final Floating, and Surface Finishing - Replace the paragraph that begins "Where the width …" with the following paragraph:

Where the width of Pavement is narrow, tapering or of irregular pattern, not lending itself to being constructed by prescribed machine methods, the Contractor is allowed to perform the strike off, consolidation, final floating, and surface finishing with Equipment, tools, means, labor and methods other than those specified, provided the Work meets with the approval of the Engineer and the following requirements:

00756.53(b) Other Coverings - Replace this subsection, except for the subsection number and title, with the following:

Apply the covering to damp concrete as soon as it can be placed without marring the surface. Place the membrane in contact with the surface, extend beyond the sides or edges of the slabs or forms, and weight down as required to hold it in position as a waterproof and moisture-proof covering. Lap covering sufficiently to maintain tightness equivalent to the sheeting and use:

- Clear or white polyethylene film.
- Waterproof paper with transverse laps at least 18 inches, and cement longitudinal seams.
- Cotton or jute mats that are saturated with water and kept fully wetted during the curing period.

00756.54 Pavement Cracks - Replace this subsection, except for the subsection number and title, with the following:

Within 28 Days after concrete placement and before opening the Pavement to Public Traffic, the Engineer will perform a Pavement crack survey. Clean the Pavement before the crack survey. Pavement with uncontrolled longitudinal or transverse cracks that are visible without magnification are considered unacceptable and be repaired or removed as determined by the Engineer. Perform all remedial Work at no additional cost to the Agency.

00756.55 Surface Tolerance, Testing, and Correction - Replace the paragraph that begins "The surface of finished …" with the following paragraph:

Ensure the surface of finished Pavement does not deviate from longitudinal and transverse smoothness more than the prescribed limits. Perform straightedge testing and IRI profile testing under the supervision of the Engineer with Equipment furnished and operated by the Contractor as soon as the hardness of the concrete permits.

00746.55(a) Straightedge Testing and Tolerance - Replace this subsection, except for the subsection number and title, with the following:

Test the longitudinal and transverse smoothness of the Pavement surface with a 12-foot straightedge. The extent of the testing is as the Engineer determines necessary or expedient.

Do not deviate the Pavement surface from the straightedge at any point by more than 1/8 inch for all areas that are constructed by the prescribed machine methods and for all Traffic Lanes and ramps. Do not deviate other areas by more than 1/4 inch. Longitudinal 12-foot straightedge testing is not required for Pavement accepted under 00756.55(b).

(1) Transverse Joints - Test with the 12-foot straightedge parallel to the centerline, as directed. Do not vary the Pavement surface by more than 1/8 inch.

00756.55(b)(1)a. Daily Surface Test - Replace the paragraph that begins "The pavement shall…" with the following paragraph:

Acceptable Pavement requires an average IRI of 65.0 inches, or less. If the average 0.1-mile IRI exceeds 95.0 inches per mile for any segment of Pavement constructed in any Day's production, discontinue paving operations and construct one or more test strips as described in 00756.47. The test strip may be comprised of Pavement placed during the shift, but in no case is it allowed to be less than 0.1 mile in length.

00756.55(b)(1)b. Quality Control Surface Test - Replace the paragraph that begins "In the presence of …" with the following paragraph:

In the presence of the Engineer and according to ODOT TM 772 obtain profiles on the Pavement surface in the right and left wheel path of the Traffic Lane along a line parallel to longitudinal Pavement markings, at 3 feet and 9 feet offsets from the left edge of the Traffic Lane. Take the profile on transition areas of entrance and exit ramps, as close to the right and left wheel path of the through Traffic Lane as practical. Submit data files to the Engineer at the completion of each shift when profiling has taken place. For the Pavement sections tested, provide the raw data files and electronic copies of the profile data in PPF and manufacturer proprietary formats, as required by the Engineer.

00756.55(c)(1) General - Replace the paragraph that begins "In the presence of …" with the following paragraph:

Locate IRI profiling excluded areas prior to smoothness measurement. Meet the straightedge requirements of 00756.55(a) for areas excluded from longitudinal profile measurement.

00756.55(d) Shoulders and Paved Medians - Replace this subsection, except for the subsection number and title, with the following:

Test the Pavement with the 12-foot straightedge parallel to and perpendicular to the centerline for Shoulders and paved Medians, as directed by the Engineer. Do not vary the Pavement surface by more than 1/4 inch.

00756.55(e) Correcting Deficiencies - Replace the paragraph that begins "Should testing described …" with the following paragraph:

Should testing described in 00756.49, 00756.51, and 00756.55 show the Pavement does not conform to the prescribed limits of deviation, the following applies:

00756.55(e)(2) Failure to Meet IRI Smoothness Requirements - Replace the paragraph that begins "If testing described …" with the following paragraph:

If testing described in 00756.55(b) shows that the Pavement does not conform to the prescribed limits, the Contractor is responsible for locating areas that require corrective work. All segments with an IRI value more than 95.0 inches per mile and areas of Localized Roughness are subject to corrective action. Disagreements are resolved by the Engineer.

00756.56 Pavement Thickness - Replace the paragraph that begins "Construct the Pavement …" with the following paragraph:

Construct the Pavement to the thickness shown. Pavement not so constructed is subject to replacement according to 00756.57, or to payment at adjusted prices according to 00756.93.

00756.56(a) Sticking Measurements - Replace the paragraph that begins "Divide the Panel …" with the following paragraph:

Divide the Panel into units and partial units equivalent to a maximum of 200 lane feet. Normally, unit lengths are 200 feet for one lane, 100 feet for two lanes, 70 feet for three lanes and as appropriate for transition areas. When directed, take one sticking measurement at a randomly selected location in each unit and partial unit. Record measurements to the nearest 0.1 inch. Take the measurements:

Replace the paragraph that begins "If a sticking …" with the following paragraph:

If a sticking is not obtained for a unit or a partial unit, or is not available to represent the area of Pavement remaining after the limits of Pavement over 1.0 inch deficient is determined, the measurement is assumed to be the same as the preceding or following sticking measurement, that is nearest in distance.

00756.56(c) Coring Requirements - Replace the paragraph that begins "Perform required coring …" with the following paragraph:

Perform required coring, or coring requested by the Engineer according to AASHTO T 24 and repair core holes as directed, at no additional cost to the Agency. Cores are measured by the Engineer according to AASHTO T 148 and the measurements reported to the nearest 0.1 inch. Core measurements will replace survey methods.

00756.56(d) Thickness Over 1.0 Inch Deficient - Replace this subsection, except for the subsection number and title, with the following:

If a depth measurement determined according to 00756.56(a) shows Pavement over 1.0 inch deficient, obtain a core at the depth measurement site. If this core, or a core determined by 00756.56(c), shows Pavement over 1.0 inch deficient, obtain additional cores. Take these additional cores at the same distance from the centerline and at 25-foot intervals each direction from the first core until a core in each direction shows Pavement 1.0 inch deficient or less. These two core locations are considered the limits of the Pavement more than 1.0 inch deficient. The Pavement Panel between these two cores will represent the area of Pavement subject to removal and replacement under 00756.57 or no payment under 00756.93.

When it is suspected by the Engineer that the Pavement in the adjacent travel lanes in the Panel may be more than 1.0 inch deficient for a greater distance than determined by the above procedure, core the Pavement in the adjacent travel lanes in the nearest wheel track

(3 feet from the nearest edge) opposite both limit cores. If these cores are more than 1.0 inch deficient, utilize the above procedure to determine the limits.

00756.57 Deficient Pavement - Replace the paragraph that begins "Remove and replace …" with the following paragraph:

Remove and replace Pavement deficient in thickness by more than 1.0 inch, according to 00756.56(d), at no additional cost to the Agency. If allowed by the Engineer, the Pavement may be left in place without payment. Replace Pavement with the specified design, quality and thickness as follows:

00756.60 Protection of Concrete - Replace the paragraph that begins "**(b)** The concrete attains a compressive…" with the following paragraph:

(b) The concrete attains a compressive strength of at least 70 percent of the specified 28-Day strength as determined by testing at least three cylinders cured according to AASHTO R 100 (field cure) and tested according to AASHTO T 22.

Replace the paragraph that begins "The maturity method …" with the following paragraph:

The maturity method, AASHTO T 325, may be used to estimate concrete strength for opening Pavement to construction traffic. Install at least two maturity thermocouples for each Day's placement in areas where the maturity method is used for early opening. Install the thermocouples near the Day's final placement for areas being evaluated for early opening.

00756.90 Payment - Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

SECTION 00759 - MISCELLANEOUS PORTLAND CEMENT CONCRETE STRUCTURES

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

00759.02 Definitions - Delete this subsection.

00759.03 Required Submittals - Replace the title of this subsection with "**Submittals"**

Replace the paragraph that begins "Material ordered or Work …" with the following paragraph:

Material ordered or Work performed before the Engineer reviews and returns the documents is at the Contractor's risk.

00759.03(d) Corrective Action Plan - Replace the paragraph that begins "At least 21 Calendar Days …" with the following paragraph:

At least 21 Calendar Days before concrete Structures Work is scheduled to begin, submit a corrective action plan. Address procedures to correct deficient Structures through minor corrective action or replacement according to 00759.55(a) in the corrective action plan, and include:

Replace the bullet that begins "List of minor …" with the following bullet:

- List of minor corrective actions that are used to correct deficiencies, according to 00759.50 and 00759.55.

00759.11 Aggregate Base - Replace this subsection, except for the subsection number and title, with the following:

Furnish Aggregate Base Materials for Base, foundation courses, Leveling courses, or bedding meeting the requirements of 00640.10 or dense graded Base Aggregate in 00641.10 as appropriate and included in the Special Provisions.

00759.12 Curb Ramp Treatment - Delete this subsection.

00759.21 Concrete Extruding Machine - Replace this subsection, except for the subsection number and title, with the following:

Provide concrete extruding machines that operate under sufficient restraint to forward motion to produce a well consolidated mass of concrete.

00759.22(a) Qualified Smart Levels - Replace this subsection, except for the subsection number and title, with the following:

Measure Slopes with the use of a 24-inch SmartTool level model 92379 or model 92500, and a 6-inch SmartTool level model 92346 or 92510.

00759.23 Concrete Resurfacing Equipment - Replace this subsection, except for the subsection number and title, with the following:

Provide power-operated scarifying Equipment capable of uniformly removing and preparing the existing surface to depths required. For concrete grinding operations, provide 12 segment grinders, fine-toothed scarifying Equipment, or other approved grinding Equipment.

00759.42 Foundations - Replace this subsection with the following subsection:

00759.42 Aggregate Base - Before placing concrete, prepare underlying Aggregate Base surfaces according to Section 00641.

00759.43 Foundation Preparation - Replace the paragraph that begins “Bring areas …” with the following paragraph:

Bring areas where Structures are to be constructed to established line, and make firm, dry and free of all Unsuitable Material before placing concrete. Provide clean and moist existing concrete surfaces at the time of placing new concrete.

00759.45 Reinforcement, Dowels, and Tie Bars - Replace the paragraph that begins “Provide dowels …” with the following paragraph:

Furnish dowels with "slip sleeves" and place as load transfer devices where shown. Place dowels without "slip sleeves" as fastenings or ties between new and existing underlying concrete when shown.

00759.48 Expansion Joints - Replace the bullet that begins "Not less than …" with the following bullet:

- Not less than 1/2 inch wide, except where abutting or underlying concrete joints are larger, then match those joints’ width.

Replace the bullet that begins "Which completely …" with the following bullet:

- That completely separate the concrete segments.

00759.48(a) Curbs, Islands, and Traffic Separators - Replace the paragraph that begins “Provide expansion …” with the following paragraph:

Construct expansion joints:

00759.48(b) Driveways, Walks, Monolithic Curbs and Sidewalks, and Surfacings - Replace this subsection, except for the subsection number and title, with the following:

Do not construct expansion joints within the curb ramp, and between separate concrete pours on the same Project.

Construct expansion joints:

- Between driveways and concrete Pavement.
- Transversely in walks opposite expansion joints in adjoining curbs and elsewhere so the distance between joints does not exceed 45 feet.
- Transversely in walks at a distance of 16 feet to 8 feet from ends of walks that abut curbs.
- Around poles, posts, boxes, and other fixtures that protrude through or against the Structures.

00759.48(c) Stairs - Replace this subsection, except for the subsection number and title, with the following:

Construct expansion joints for stairs at the top and bottom landings as shown.

00759.49(c) Requirements - Replace this subsection, except for the subsection number and title, with the following:

Construct contraction joints that:

- Are not less than 1/8 inch or more than 1/4 inch wide.

- Have a depth of one-third the thickness of the concrete.
- Have clean, unfilled grooves (if preformed expansion joint filler is not used).

00759.50(a) General - Replace the paragraph that begins “The top and face…” with the following paragraph:

Construct the top and face of Structures true and straight, free from humps, sags, or other irregularities. Do not vary the surface by more than 1/4 inch from the edge of 12-foot-long straightedge laid on the top or face of the Structure, except in curves. Provide and operate the straightedge as directed. Unless otherwise shown or directed, tool edges to 1/4-inch radius.

Replace the paragraph that begins “Install truncated domes…” with the following paragraph:

Construct tactile surface indicators according to Section 00765 to the slopes, lines, grades, and dimensions as shown or established.

00759.50(c) Driveways, Walks, and Surfacings - Replace the paragraph that begins “The 24-inch smart …” with the following paragraph:

The 24-inch smart level is used to measure driveway and sidewalk cross slopes on the pedestrian access route.

00759.50(d) Curb Ramps - Replace the paragraph that begins “The 6-inch smart …” with the following paragraph:

Use the 6-inch smart level to measure the curb running Slope. Use the 6-inch smart level to measure Slopes on portions of the curb ramp, gutter pan, or adjacent surfaces that cannot accommodate a 24-inch smart level. All other curb ramp locations will use a 24-inch smart level to measure Slopes.

00759.51 Curing - Add the following paragraph to the end of this subsection:

Concrete Structures may be opened to Public Traffic before 7 Calendar Days if the concrete has reached a minimum compressive strength of 2,000 psi as verified by the rebound number determined according to ASTM C805. Test at locations as directed.

00759.53 Welding - Replace this subsection, except for the subsection number and title, with the following:

Conform welding, welder qualifications, prequalification of weld details and inspection of welds to AWS D1.1. Submit all welding procedure specifications to the Engineer for approval.

00759.54(b) Accuracy of Punched Holes - Replace this subsection, except for the subsection number and title, with the following:

Locate all holes punched full size so accurately that when multiple anchor plates are stacked with the edges even, a cylindrical pin 1/8 inch smaller in diameter than the nominal size of the punched hole may be entered perpendicular to the face of the plate without drifting in each of the connecting holes in the same plane. Non-conforming pieces are rejected.

00759.55(a)(2)a. Keyway - Replace this subsection, except for the subsection number and title, with the following:

Sawcut a keyway at the boundaries of repair areas that are not already defined by panel control joints. Sawcut the keyway 1/8 inch wide and 1/4 inch deeper than the edge of the repair area. Bevel inside edge of keyway at a 45-degree angle.

00759.55(a)(2)d. Resurface - Replace this subsection, except for the subsection number and title, with the following:

Furnish concrete resurfacer from the QPL according to 02015.60; refer to QPL remarks to select an appropriate material based on allowable installation depths. Furnish resurfacer in a color that closely matches the color of surrounding concrete surfaces. Mask boundaries of the repair area. Use hand tools to work resurfacer into keyways and match existing grade at boundaries. Apply a light broom-finish to achieve non-slip surface.

00759.55(b) Acceptance of Structures - Replace this subsection, except for the subsection number and title, with the following:

Once the corrective work or replacement has been completed, acceptance is based on the Engineer's inspection and approval of the Structure.

00759.80 Measurement - Replace the bullet that begins "**Each Basis**…" with the following bullet:

- **Each Basis** - Measurement will be by actual count.

00759.90 Payment - Delete Pay Items (k), (l) and (m) from the Pay Item list.

Replace the paragraph that begins "In item (a) the type …" with the following paragraph:

In item (a) the type of curb is inserted in the blank, if appropriate. Item (a) includes the curb runs constructed adjacent to the curb ramps.

Replace the paragraph that begins "In item (g)…" with the following paragraph:

In item (g), the specified thickness, or type, of concrete Surfacings is inserted in the blank, if appropriate.

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

Delete the paragraph that begins "Item (k) includes…".

Delete the paragraph that begins "Item (l) includes…".

Delete the paragraph that begins “Item (m) includes…”.

Add the following paragraph before the paragraph that begins "No separate or additional payment…":

Tactile surface indicators will be paid for according to Section 00765.

In the paragraph that begins "No separate or additional payment…", add the following bullet to the end of the bullet list:

- The additional Work required to construct a curb ramp or replace an existing curb ramp, including any corrective action.

SECTION 00810 - METAL GUARDRAIL

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

00810.00 Scope - Replace the paragraph that begins "Metal guardrail and metal …" with the following paragraph:

Metal guardrail and metal Median barrier is referred to in this Section as "guardrail". The types of guardrail are shown.

00810.10 Materials - Add the following paragraph(s) to the end of this subsection:

Furnish "weatherized" Class IV metal rail meeting the requirements of AASHTO M 180.

00810.11 Posts - Replace this subsection with the following subsection:

00810.11 Wood Posts - Furnish wood guardrail posts meeting the requirements of 00810.10.

00810.12 Median Barrier on Bridges - Replace this subsection, except for the subsection number and title, with the following:

Furnish metal Median barrier on bridge decks comprised of metal beam rail, metal posts, and hardware meeting the requirements of 00810.10.
At expansion joints on bridge decks, construct special dimension slots in the rail member for post bolt and rail joint bolts as shown.

00810.14 Condition of Materials - Replace this subsection, except for the subsection number and title, with the following:

All Materials are subject to inspection of condition at the latest practical time available before or during incorporation of Materials in the Work.

00810.15(b) Metal Beam Rail Members - Replace this subsection, except for the subsection number and title, with the following:

Furnish metal beam rail members unpainted, straight and free of breaks, kinks, dents, damage to galvanized coating, or any other damage that would affect the integrity of the member. If paint is removed from metal beam rail members salvaged from the Project, remove the paint at a location outside of the Highway Right-of-Way, and in a manner that will not damage the galvanizing. Repair minor damage to galvanizing according to 00810.43.

Add the following subsection:

00810.17 Painted Guardrail - Paint all galvanized metal guardrail transition and guardrail terminal Materials according to Section 00594.

00810.40 Timing and Coordination of Work - Replace the paragraph that begins "Do not leave posts …" with the following paragraph:

Do not leave posts installed for guardrail and Median barrier exposed to traffic for more than 24 hours before installing the rail members, rail end pieces and anchors and tightening all bolts. Install replacement rail according to 00310.40(a).

00810.41 Excavation and Backfill - Add the following paragraph to the end of this subsection:

Hand dig guardrail post holes or use other non-invasive methods when posts are located within 24 inches surrounding the outside dimension of all sides of underground utilities as shown or directed.

00810.43 Erection of Rails and Other Components - Replace the paragraph that begins "Normally, all fabrication …" with the following paragraph:

Fabricate metal beam rail members and other components in the shop or by the manufacturer. Limit field cutting, drilling and other field fabrication to the minimum and perform in a manner that will not impair the appearance or structural quality of the material. Burning new holes in metal beam rail members is not allowed.

Replace the paragraph that begins "Draw tight all …" with the following paragraph:

Draw tight all bolts. Furnish bolts of sufficient length to extend slightly beyond the nuts.

00810.90 Payment - Replace the paragraph that begins "In item (a), the …" with the following paragraph:

In item (a), the type of guardrail is inserted in the blank. Item (a) includes all posts including steel, base plates, and base plate concrete anchors.

Replace the paragraph that begins "Items (a), (b), and (k) include …" with the following paragraph:

Items (a), (b), and (k) include constructing the respective items except for:

- End pieces

- Anchors
- Transitions
- Extra costs involved in constructing guardrail connections to existing Bridges
- Terminals
- Guardrail height conversions

Replace the paragraph that begins "In item (c), the …" with the following paragraph:

In item (c), the type of anchor is inserted in the blank.

Replace the paragraph that begins "In item (d), the …" with the following paragraph:

In item (d), the type of guardrail end piece is inserted in the blank.

Replace the paragraph that begins "In item (g) the …" with the following paragraph:

In item (g), the type of terminal is inserted in the blank. Item (g) includes guardrail terminals, posts, anchors, rails, guards, end pieces, struts, Soil tubes, and all necessary appurtenances and hardware.

Replace the paragraph that begins "In item (h) the …" with the following paragraph:

In item (h), the length of post is inserted in the blank. Item (h) includes installing 8 foot long or longer posts instead of standard 6-foot-long posts. The extra costs for the longer posts are costs that are not covered and included in the unit price for one or more of the other listed Pay Items.

Replace the paragraph that begins "In item (k), the …" with the following paragraph:

In item (k), the type of guardrail is inserted in the blank. Item (k) includes all posts including steel, base plates, and base plate concrete anchors.

Replace the paragraph that begins "In item (l), the …" with the following paragraph:

In Item (l), the type of guardrail is inserted in the blank. Item (l) includes posts, rails, and all necessary appurtenances and hardware to construct the guardrail height conversion.

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

Add the following paragraph to the end of this subsection:

No separate or additional payment will be made for painting galvanized metal guardrail Material.

SECTION 00820 - CONCRETE BARRIER

Comply with Section 00820 of the Standard Specifications modified as follows:

00820.11(a) Concrete - Replace this subsection, except for the subsection number and title, with the following:

Furnish concrete meeting the requirements of Section 00440, except modify Aggregates as follows:

(1) Fine Aggregate - Furnish Fine Aggregate meeting the test requirements of 02690.30(c) and 02690.30(d) with test results less than 1 year old.

(2) Coarse Aggregate - Furnish Coarse Aggregate meeting the test requirements of 02690.20(b) and 02690.20(c) with test results less than 1 year old.

00820.11(b) Hardware - Replace this subsection, except for the subsection number and title, with the following:

Furnish pins, bolts, and dowels according to ASTM A449 and hot-dip galvanized according to AASHTO M 232 (ASTM A153).

00820.12(b) Barrier Used on Previous Projects - Replace this subsection, except for the subsection number and title, with the following:

Precast concrete barriers used on previous projects may be reused in permanent installations, provided they meet all the requirements of this Section. Prior to delivery to the Project Site provide documentation required by 00165.10(b) and barriers:

- Are restored to like-new condition, without visible cracks, chips, spalls or corroded loops.
- Present a surface of uniform texture and appearance.
- Are free of markings, except as required by 00820.11(e).

Apply two coats of a water-based coating Material meeting the requirements of 02210.30 after installation in final position.

00820.41 Line and Grade - Replace this subsection, except for the subsection number and title, with the following:

Place precast barrier sections on the Pavement surface. Ensure new Pavement surfaces placed as a part of this Project meet the appropriate smoothness requirement prior to placing the barrier. If corrective work is required for existing surfaces to receive concrete barrier, it is paid according to 00195.20.

Place the barrier sections so that the joints offset no more than 1/4 inch transversely and no more than 1/2 inch vertically.

Construct the top and face of finished barriers true and straight. Construct the top surface of the barriers to uniform width and free from humps, sags, or other irregularities. When a 12-foot straightedge is laid on the top or face of the barrier, do not vary the surface does more than 1/4 inch from the edge of the straightedge, except at grade breaks or curves. To compensate for variations in the Roadway grade and cross Slope, adjust the height of the barrier at no additional cost to the Agency.

00820.43(a)(2) Latex Paint Cure - Replace the paragraph that begins "Barriers cured in this …" with the following paragraph:

Barriers cured in this manner are considered to have met the surface finishing requirements of 00820.45 except that additional coats may be necessary to provide uniform coverage and appearance to correct construction damage.

00820.43(b)(2) Steam Cure - Replace the paragraph that begins "Steam curing can be …" with the following paragraph:

Steam curing can be substituted for water curing if done under a suitable enclosure constructed to contain live steam and to minimize moisture and heat loss. Steam cure at 100 percent relative humidity to prevent loss of moisture and to provide excess moisture for proper hydration of cement. Do not apply the steam directly to the concrete.

00820.45 Surface Finishing - Replace the paragraph that begins "After stripping forms …" with the following paragraph:

After stripping forms and while the concrete is still green, remove all fins and form marks, and repair all rock pockets and holes having a surface opening over 3/8 inch in diameter with portland cement grout meeting the requirements of 02080.40. Prevent grout from drying prematurely. Additional finishing after precast concrete barrier is set in its permanent position may be required to present a surface of uniform texture and appearance.

00820.49(a) Test Section - Replace this subsection, except for the subsection number and title, with the following:

Cast a test section at least 25 foot long that:

- Is placed off the final barrier location site
- Has the same section and reinforcement as detailed
- Includes one typical contraction or expansion joint.
- Is removed and disposed of at no additional cost to the Agency

00820.49(b) Prior Performance - Replace the paragraph that begins "Identify at least two …" with the following paragraph:

Identify at least two recent projects where the Contractor installed slipformed single-slope concrete barrier. For each project, provide the name and phone number of a person the Engineer may contact to determine the success of the installation. The Engineer will determine whether to allow slipforming on the current project.

00820.90 Payment - Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

Replace the paragraph and bullets that begins "No separate or additional …" with the following paragraph and bullets:

No separate or additional payment will be made for:

- Excavating and backfilling buried ends of concrete barrier
- Securing concrete barrier to the Roadway by means of grout or keyways
- Moving, stockpiling, handling, and pinning removed and reinstalled concrete barrier.

SECTION 00840 - DELINEATORS AND MILEPOST MARKER POSTS

Comply with Section 00840 of the Standard Specifications modified as follows:

00840.11(a) General - Replace the paragraph that begins "* As defined in U.S.…" with the following paragraph:

* As defined in U.S. Department of Commerce Commercial Standard 1CS 150-48, furnish rail steel products rolled from standard tee-section steel rails. Do not substitute other materials, such as those known by the terms "rerolled", "rail steel equivalent", and "rail steel quality".

00840.11(b) Multiple Punching - Replace this subsection, except for the subsection number and title, with the following:

Milepost marker posts with holes in addition to those called for on the Plans are acceptable provided that the critical net width of the section measured on the frontal plane projection of the post is not less than 2 1/2 inches.

00840.11(d) Acceptance - Replace this subsection, except for the subsection number and title, with the following:

Acceptance of milepost marker posts is according to 00165.35. Accompany each shipment of support posts with a quality compliance certificate.

00840.90 Payment - Replace the paragraph that begins "In item (a) the.…" with the following paragraph:

In item (a), the type of delineator is inserted in the blank regardless of the color or number of reflectors and targets.

Replace the paragraph that begins "Payment will be payment…." with the following paragraph:

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

SECTION 00842 - FACILITY IDENTIFICATION MARKERS

Comply with Section 00842 of the Standard Specifications modified as follows:

00842.10(a)(2) Type S2 Markers - Replace the paragraph that begins "Furnish white markers …" with the following paragraph:

Furnish white markers made of aluminum alloy meeting the requirements of ASTM B209 approximately half-hard temper, suitable for enameling by continuous roller or other acceptable method. Fabricate from aluminum sheet havin
g a nominal thickness of 0.050 inch, subject to standard manufacturer's tolerances and free of burrs, irregularities, and turned edges. When resting on a plane surface, ensure the markers do not show warp, twist, or variation from the surface in excess of 1/4 inch. Finish the markers as follows:

00842.10(b)(2) Type 2 Drainage Markers - Replace the paragraph that begins "Furnish white markers …" with the following paragraph:

Furnish white markers made of aluminum alloy meeting the requirements of ASTM B209 approximately half-hard temper, suitable for enameling by continuous roller or other acceptable method. Fabricate the aluminum sheet having a nominal thickness of 0.050 inch, subject to standard manufacturer's tolerances and free of burrs, irregularities, and turned edges. When resting on a plane surface, ensure the markers do not show warp, twist, or variation from the surface in excess of 1/4 inch. Finish the markers as follows:

00842.40(a) Stormwater Control Field Facility Markers - Add the following to the end of this subsection:

Install field markers as indicated in Table 00842-1.

Table 00842-1

Facility Station	HWY/MP	DFI Number	Type S1 Marker Red (Beginning of Facility)	Type S1 Marker Green (End of Facility)	Type S2 Marker Begin	Type S2 Marker End	Type S3 Marker
Sta. "Lwb2" 1152+28 RT	I-84/63.19	D01801	X		X		
Sta. "Lwb2" 1154+30 RT	I-84/63.23	D01801		X		X	
Sta. "Lwb2" 1158+30 RT	I-84/63.32	D01802	X		X		
Sta. "Lwb2" 1159+47 RT	I-84/63.34	D01802		X		X	
Sta. "Lwb2" 1170+30 RT	I-84/63.56	D01803	X		X		
Sta. "Lwb2" 1171+88 RT	I-84/63.58	D01803		X		X	

00842.90 Payment - Replace the paragraph that begins "In item (a), …" with the following paragraph:

In item (a), the type of facility field marker is inserted in the blank.

Replace the paragraph that begins "In item (b), …" with the following paragraph:

In item (b), the type of culvert drainage marker is inserted in the blank.

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

SECTION 00850 - COMMON PROVISIONS FOR PAVEMENT MARKINGS

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

00850.11 Flexible Bituminous Adhesive - Replace this subsection, except for the subsection number and title, with the following:

At least 2 weeks before using, submit for Agency testing and approval a 15-pound brick sample of flexible bituminous adhesive for each manufacturer lot number, including previously tested and approved lot numbers that are over 1 year old, that are used on the Project. All previously rejected lot number samples will not be retested. Agency testing and approval is only for acceptance of use of the adhesive.

00850.44 Alignment Layout - Replace the paragraph that begins "Place control points for lines every …" with the following paragraph:

Place control points for lines every 40 feet on tangent and every 25 feet on a curve. Place layout transition details at the start of pavement markings, where pavement markings transition into a different pavement marking, and at the end of pavement markings. Using these control points and layout transition details, layout a continuous narrow guideline for each line, along one edge of, or uniformly offset from the intended permanent line location. Do not proceed with installation until the guidelines are approved by the Engineer.

00850.45 Installation - Replace the sentence that begins "Apply pavement marking …" with the following sentence:

Apply pavement marking Materials to clean dry Pavement surfaces and according to the following:

Replace the bullet that begins "The Pavement surface …" with the following bullet:

- Ensure the Pavement surface is not visible through the pavement marking.

Replace the bullet that begins "The top of pavement …" with the following bullet:

- Provide a smooth and uniform top of pavement marking.

Replace the bullet that begins "Skip line ends …" with the following bullet:

- Provide square and clean skip line ends.

00850.46 Placement Tolerance - Replace the bullet that begins "**Skip Cycle** …" with the following bullet:

- **Skip Cycle:** A tolerance of 1/10 of the skip line length on the first skip line of a run, but on cycle within one skip

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

Except for paint applications, evaluate longitudinal and transverse marking retroreflectivity according to ODOT TM 777. Acceptance is according to the following:

In the bullet that begins "**Longitudinal Markings",** replace the paragraph that begins "Each longitudinal marking …" with the following paragraph:

- Each longitudinal marking sublot is accepted if the average of the measurements and at least 90 percent of the individual measurements within the sublot meet or exceed the required minimum initial retroreflectivity.

In the bullet that begins "**Transverse Markings",** replace the paragraph that begins "Each transverse marking …" with the following paragraph:

- Each transverse marking sublot is accepted if the average of the measurements and at least 90 percent of the individual measurements within the sublot meet or exceed the required minimum initial retroreflectivity.

SECTION 00855 - PAVEMENT MARKERS

Comply with Section 00855 of the Standard Specifications modified as follows:

00855.40(b) Surface Preparation - Replace the paragraph that begins "Remove contaminants from …" with the following paragraph:

Remove contaminants from the wearing Course surface that would adversely affect the bond of the adhesive.

00855.41(a) Surface Preparation - Replace this subsection, except for the subsection number and title, with the following:

Construct grooves in the Pavement to Neat Lines according to width, length and depth shown, and prepare the surface according to 00855.40(b).

00855.90 Payment - Replace this subsection, except for the subsection number and title, with the following:

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

Pay Item	Unit of Measurement
(a) Mono-Directional _____ Type I Markers	Each
(b) Mono-Directional _____ Type IAR Markers	Each
(c) Bi-Directional _____ Type I Markers	Each
(d) Bi-Directional _____ Type IAR Markers	Each
(e) _____ Type II Markers	Each
(f) Mono-Directional White Type IAR Markers, Recessed	Each
(g) Bi-Directional _____ Type IAR Markers, Recessed	Each

In items (a), (b), (c), (d), (e), (f) and (g) the color of marker is inserted in the blank.

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

No separate or additional payment will be made for constructing Pavement grooves, Pavement preparation, adhesive, or clean-up.

SECTION 00857 - RUMBLE STRIPS

Comply with Section 00857 of the Standard Specifications modified as follows:

00857.20 Equipment - Replace this subsection, except for the subsection number and title, with the following:

(a) Longitudinal Rumble Strips - Construct continuous or gap pattern longitudinal Shoulder, edge line, and centerline rumble strips as shown using a rotary type cutting head with a maximum outside diameter of 24 inches. Provide a cutting head length that matches the rumble strip width as shown. Arrange the cutting head cutting tips in a pattern that provides a relatively smooth cut with approximately 1/16 inch between peaks and valleys. Attach the cutting heads to the power unit in a manner that allows the tool to self-align with the Slopes of the Pavement and Shoulder and any irregularities in the Pavement and Shoulder surfaces. Provide cutting Equipment capable of cutting rumble strips of the required width in a single Pass while moving in the same direction as the flow of traffic.

(b) Transverse Rumble Strips - Form transverse rumble strips using a rotary type cutting head 5 1/2 inches long. Arrange the cutting head cutting tips in a pattern that provides a relatively smooth cut (approximately 1/16 inch between peaks and valleys). Attach the cutting heads to the power unit in a manner that allows the tool to self-align with the Slope of the travel lane and any irregularities in the travel lane surface. Provide cutting Equipment capable of cutting rumble strips perpendicular to the travel lane.

00857.40 Construction - Replace the paragraph that begins "Where rumble strips …" with the following paragraph:

Where rumble strips are constructed at the same locations where permanent pavement markings are installed, construct rumble strips within 3 weeks after temporary pavement markings have been placed for the final Roadway configuration, but before installing permanent pavement markings.

SECTION 00865 - LONGITUDINAL PAVEMENT MARKINGS - DURABLE

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

00865.45 Installation - Replace the bullet that begins "For grooved markings, grind …" with the following bullet:

- For grooved markings, grind the slot depth as shown. Apply the specified marking Material centered in the slot as shown. Ensure the top of the marking is flat or slightly convex.

00865.75 Manufacturer Warranty - Replace the paragraph that begins "Furnish a manufacturer …" with the following paragraph:

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

00865.90 Payment - Replace the paragraph that begins "In items (a) and (b), …" with the following paragraph:

In items (a) and (b), the word "Surface" or "Grooved" is inserted in the first blank and the word "Profiled" or "Non-Profiled" is inserted in the second blank.

Replace the paragraph that begins "In items (e) and (f), …" with the following paragraph:

In items (e) and (f), "Rolled-In" or "Grooved" is inserted in the first blank and "Patterned" or "Non-Patterned" is inserted in the second blank.

Replace the paragraph that begins "In items (g) and (h), …" with the following paragraph:

In items (g) and (h), the word "Surface" or "Grooved" is inserted in the first blank and the word "Profiled" or "Non-Profiled" is inserted in the second blank.

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

SECTION 00905 - REMOVAL AND REINSTALLATION OF EXISTING SIGNS

Comply with Section 00905 of the Standard Specifications modified as follows:

00905.40 General - Replace the paragraph that begins "Do not remove signs …" with the following paragraph:

Do not remove signs from existing supports until new supports are in place, ready to receive the signs. Install the signs on the new supports immediately after removing from existing supports. Furnish temporary supports as required. Furnish permanent supports according to Sections 00910, 00920, and 00930 as required.
Replace the paragraph that begins "Protect specific service signs …" with the following paragraph:

Protect specific service signs (business logos) and TODS from damage, whether the signs are to remain in place or are placed on temporary supports, until reinstalled on permanent supports. Repair or replace damaged signs at no additional cost to the Agency. Liquidated damages are assessed against the Contractor in the amount of $200 per Day for each sign out of service for more than 5 Calendar Days.

00905.90 Payment - Replace the paragraph that begins "Payment will be …" with the following paragraph:

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

SECTION 00910 - WOOD SIGN POSTS

Comply with Section 00910 of the Standard Specifications modified as follows:

00910.90 Payment - Replace the paragraph that begins "Secure temporary concrete barrier to bridge …" with the following paragraph:

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

SECTION 00920 - SIGN SUPPORT FOOTINGS

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

00920.10 Materials - Replace this subsection, except subsection number and title, with the following:

Furnish Materials for constructing sign support footings meeting the following requirements:

Anchor Bolts 02560.30
Backfill, unless otherwise directed.... 00510.10 or 00510.11
Commercial Grade Concrete..... 00440
Reinforcement..... 02510
Structural Concrete 00540

Furnish Commercial Grade Concrete for minor sign support foundations. Furnish structural concrete for major sign support foundations.

00920.41 Concrete - Replace the paragraph beginning “Construct concrete sign foundations…” with the following:

Construct concrete minor sign support foundations according to Section 00440 and the applicable portions of 00540.48(a). Construct major sign support footings according to Section 00540.

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
Multi-Post Breakaway Sign Supports	2.67 cu. yd.
Triangular Base Breakaway Sign Supports	2.21 cu. yd.

00920.90 Payment - Replace the paragraph that begins "Secure temporary concrete barrier to bridge …" with the following paragraph:

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

SECTION 00930 - METAL SIGN SUPPORTS

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

00930.01 Definitions - Add the following definition at the end of this subsection:

Street Name Sign Mount - This group includes plates, brackets, and fasteners necessary to install a street name sign on a sign support.

00930.02 Working Drawings - Replace the paragraph that begins “Submit six copies…” with the following paragraph:

Submit six copies of unstamped Working Drawings according to 00150.35 for all structural metal Work. Submit six copies of stamped designs, details, Plans, and calculations according to 00150.35 for all engineered details and drawings that are not prepared by the Agency but are required by the Contract Documents and Specifications for the Project prior to fabrication. Include the Field Verification of Post Lengths form, available from the Engineer. Material ordered or Work performed before the Engineer finishes and returns the documents is at the Contractor's risk.

Replace the paragraph that begins “Working Drawings for these supports…” with the following paragraph:

Working Drawings for these supports are provided by the Engineer. Use the Field Verification of Post Lengths form, available from the Engineer, to provide the necessary site data for the engineer of record to use in producing Working Drawings. Work performed, or Materials ordered, before receiving Working Drawings from the Engineer is at the Contractor’s risk.

Replace the paragraph that begins “Include the completed Field Verification…” with the following paragraph:

Include the completed Field Verification of Post Lengths forms that are available from the Engineer for these intelligent transportation systems supports. Material ordered or work performed before receiving approved Working Drawings from the Engineer is at the Contractor's risk.

00930.09 Identifying Tags - Replace this subsection, except for the subsection number and title, with the following:

Furnish stainless steel or brass identifying tags for overhead and butterfly sign support Structures, except structure mounts. Attach tags to all posts, arms, and truss sections. Furnish tags that are at least 1/16 inch thick with lettering at least 1/4 inch in height, and stamped into the tag. Attach the tags with stainless steel pop rivets of at least 3/16-inch nominal body diameter. Do not locate pop rivet holes within 6 inches of welds. Locate post tags approximately 5 feet above the baseplate. Drill holes for pop rivets prior to hot-dip

galvanizing. Remove excess hot-dip galvanizing from holes and repair according to ASTM A780.

Include the following information on the tags:

- Structure number
- Manufacturer
- Month and year of manufacture
- Highway number and mile point

00930.10 Materials - Replace the paragraph that begins “Except for Perforated Steel Square …” with the following paragraph:

Except for Perforated Steel Square Tube Slip Base Sign Supports and for Perforated Steel Square Tube Anchor Sign Supports, galvanize according to the requirements of Section 02530. Galvanize Perforated Steel Square Tube Slip Base Sign Supports and Perforated Steel Square Tube Anchor Sign Supports according to ASTM A653 G90, zinc coat corner seam weld after scarfing, apply a conversion coating, and apply a final clear polymer coating.

Add the following to the end of this subsection:

For Multi-Post and Triangular Base Breakaway Sign Supports, furnish a topcoat color of brown that matches SAE AMS-STD-595 color # 30099.

00930.30 Fabricators - Replace this subsection, except for the subsection number and title, with the following:

Fabricators of metal sign supports are required to have either a current AISC Simple Steel Bridge Structures (Sbr) certification or a current AISC Major Steel Bridges (Cbr) certification.

00930.40(a) General - Replace the paragraph that begins “Except for Perforated Steel Square …” with the following paragraph:

Where two or more posts are required to support a sign, orient and position both posts so that no twist or warp is imparted to the sign panels.

00930.40(b) Assembly of Metal - Replace this subsection, except for the subsection number and title, with the following:

Accurately assemble the parts as shown and follow any match marks. Handle the material carefully so that no parts are bent, broken or otherwise damaged. Clean bearing surfaces and surfaces to be in permanent contact before the members are assembled. Roughen faying surfaces of slip-critical structural connections utilizing high strength bolts by means of hand wire brushing after galvanizing. Power wire brushing is not allowed.

Furnish faying surfaces of plates flat to within a tolerance of 1/32 inch in 12 inches and a tolerance of 1/16 inch overall. Furnish base plates with leveling nuts that are flat to within a tolerance of 1/8 inch in 12 inches and a tolerance of 3/16 inch overall.

00930.40(c) Welding - Replace the paragraph that begins “The fabricator shall …” with the following paragraph:

Complete the welding inspection by the fabricator according to the details and requirements called out on the Contract Documents. This requirement overrides all appropriate weld inspection requirements called out in Section 5.15 WELDED CONNECTIONS in AASHTO *Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals*. Submit all Procedure Qualification Records, Welding Procedure Specifications, and testing procedures for Engineer's review prior to starting manufacturing. Submit certified copies of inspection reports to the Engineer for review.

Replace the paragraph that begins “If requested by the Engineer …” with the following paragraph:

If requested by the Engineer, additional weld inspection may be required upon arrival of the material at the Project Site. If defects are found by this additional inspection, the Contractor is responsible for the additional testing and repair costs. If no defects are found, the Engineer is responsible for the additional inspection costs.

00930.40(d) Bolt Installation - Replace the paragraph that begins “Provide all high …” with the following paragraph:

Furnish all high strength bolts with hardened washers under the element (nut or bolt head) turned in tightening. If a high strength bolt is installed in an oversized or short slotted hole in an outer ply, use a hardened washer. If a high strength bolt is installed in a long slotted hole in an outer ply, use a plate washer or a continuous bar made of structural grade steel at least 5/16 inch thick with standard holes. Make the washer or bar sufficiently large to completely cover the slot after installation.

00930.40(d)(1) Bolt Installation for Slip Bases (Breakaway) - Replace the paragraph that begins “Furnish, at no additional …” with the following paragraph:

Provide, at no additional cost to the Agency, a calibrated torque wrench of a capacity appropriate to the size of the high-strength bolts installed and tightened. Confirm the accuracy of the calibrated torque wrench through calibration by an approved testing agency at least once a year.

00930.40(e)(1) General - Replace this subsection, except for the subsection number and title, with the following:

Notify the Engineer in writing at least 24 hours before starting installation. The Engineer will observe the installation and tightening of bolts to determine that the selected tightening procedure is properly used and that all bolts are tightened, and in the case of direct tension indicators that the correct indication of tension has been achieved. Bolts may reach tensions substantially above the value given in Table 00560-1, but this will not be cause for rejection. The installation is rejected if the geometry does not satisfy the requirements of 02560.05.

00930.40(e)(2) Direct Tension Indicator Method - Replace this subsection, except for the subsection number and title, with the following:

Upon completion of a bolted joint, the Engineer will determine that all bolts have been tightened. A minimum of 10 percent, but not less than two bolts in each joint, are inspected. The joint is accepted as properly tightened when one open space allows entry of a 0.005-inch feeler gauge. If there is more than one space between the direct tension indicator protrusions that allow entry of a 0.005-inch feeler gauge, re-inspect all bolts, retighten bolts in the joint as required, and resubmit the joint for inspection. If no spaces exist between the direct tension indicator protrusions that allow entry of a 0.005-inch feeler gauge, replace bolt assembly, tighten bolts in the joint as required, and resubmit the joint for inspection. For connections with all bolts fully tightened, one bolt at a time may be replaced without providing crane support of the mast arm.

00930.40(e)(3) Turn-of-Nut Method - Replace the bullet that begins "In the presence …" with the following bullet:

- In the presence of the Engineer, use an inspection wrench, that may be a calibrated torque wrench.

Replace the bullet that begins "Tighten each bolt specified …" with the following bullet:

- Tighten each bolt specified in the paragraph above in the calibration device by any convenient means to an initial condition equal to 20 percent of the required tension, and then to a tension not less than 5 percent greater than specified for its size in Table 00560-1 in Section 00560. Do not produce greater nut rotation than 1.5 times that allowed in Table 00560-3 in Section 00560 when tightening beyond the initial condition. Then apply the inspecting wrench to the tightened bolt and determine the torque necessary to turn the nut or head 5 degrees, approximately 1 inch at 12 inches radius, in the tightening direction. Take the average torque measured in the tests of three bolts as the job inspecting torque to be used in the manner specified in the next paragraph.

Replace the bullet that begins "Test bolts that have been …" with the following bullet:

Test bolts that have been tightened in the Structure and are represented by the sample prescribed above with the inspecting wrench. Apply the job inspecting torque to 10 percent of the bolts, but not less than two bolts selected at random. If no nut or bolt head is turned by this application of the job inspecting torque, the connection is accepted as properly tightened. If any nut or bolt head is turned by the application of the job inspecting torque, test all bolts in the connections. Retighten all bolts whose nut or head is turned by the job inspecting torque, and re-inspect. Retighten all of the bolts in the connection and then resubmit the connection for the specified inspection.

00930.40(f) Tube Bending - Replace this subsection, except for the subsection number and title, with the following:

For Major sign supports, bend tube using induction heating methods according to TPA-IBS-98 *Recommended Standards for Induction Bending of Pipe and Tube*. Provide written bend qualifications that include bending procedures, essential variables, material group, and destructive testing results. Destructive testing results includes yield strength, tensile strength, and elongation at locations indicated in Table 2-1 of the TPA-IBS-98.

00930.41 Adjustable Sign Mounts - Replace this subsection, except for the subsection number and title, with the following:

Furnish adjustable sign mounts that allow vertical adjustment for positioning the sign and allow rotation to plumb the sign. Use galvanized or stainless steel nuts, bolts and washers for fasteners.

Add the following subsection:

00930.48 Coating - Prepare and powder coat supports according to the applicable portions of Section 00593 or prepare and coat supports according to the applicable portions of Section 00594. Furnish coating materials for field application, repairing damaged coatings, and coating hardware after installation, according to Section 00593 or 00594. Do not coat:

- Slip plate or arm connection surfaces.
- Slip base bolting hardware.
- Anchor rods, anchor rod washers, and anchor rod nuts.

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

The estimated quantities of structural steel are as follows:

Item	Quantity (Pound)
Mounts	
Exit Number Mounts	80
Minor Sign Supports	
Multi-Post Breakaway Sign Supports	880
Triangular Base Breakaway Sign Supports	1200

00930.90 Payment - Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

Replace the paragraph that begins "No separate or additional payment will…" with the following paragraph:

No separate or additional payment will be made for:

- Coating steel sign supports
- Route marker frames
- Wind bracing
- Pole clamps
- Stainless steel clamps

- Mast Arm Street Name Sign Mounts
- Street Name Sign Mounts
- Special sign brackets.

SECTION 00940 - SIGNS

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

00940.03 Drawings - Replace this subsection, except for the subsection number and title, with the following:

Copies of Working Drawings for non-standard signs are made available to the Contractor by the Engineer. Construct standard signs called for in the Contract Documents using drawings available in FHWA's *Standard Highway Signs* (FHWA English Version) or ODOT's *Sign Policy and Guidelines for the State Highway System*. The ODOT sign policy is available on the ODOT Traffic Roadway Section website.

00940.10 Materials - Replace the paragraph that begins "Use sign sheeting colors…" with the following paragraph:

Use sign sheeting colors according to the Federal Highway Administration *Color Specifications for Retroreflective Sign and Pavement Marking Materials*. The Engineer will visually determine if all panels in any one sign match the specified color(s).

00940.40 General - Replace the paragraph that begins "Finished signs shall…" with the following paragraph:

Construct finished signs to the designs shown or specified.

00940.41(a) General - Replace this subsection, except for the subsection number and title, with the following:

Fabricate aluminum panel signs as shown or specified. Do not round corners of panels outside the border. Reinforced sheet aluminum signs are not allowed. Furnish new Material for all aluminum used for sign panels.

00940.41(b) Extruded Aluminum - Replace this subsection, except for the subsection number and title, with the following:

Furnish a continuous section for each panel of extruded aluminum panel signs. Apply the sign sheeting to the extrusion a sufficient distance around the edge to ensure that no aluminum surface is visible on the face of the sign.

00940.41(c) Sheeting - Replace this subsection, except for the subsection number and title, with the following:

Apply the sign sheeting background color of the sign to the extrusions.

00940.42(a) General - Replace the paragraph that begins ”Cut the sheet…” with the following paragraph:

Cut the sheet aluminum sign to size and shape as shown or specified. Furnish signs free of buckles, warps, dents, cockles, burrs and defects resulting from fabrication.

00940.42(b)(1) On Posts - Replace this subsection, except for the subsection number and title, with the following:

Signs having a vertical dimension of less than 48 inches and mounted on wood or metal posts are required to have at least two mounting holes. Signs having a vertical dimension of 48 inches or greater are required to have three mounting holes. Place the third mounting hole near the center of the sign. Locate mounting holes so the mounting hardware will not cover any portion of the legend unless otherwise shown.

00940.44 Retroreflective, Reflective, or Nonreflective Sheeting Application - Replace this subsection, except for the subsection number and title, with the following:

Apply the sheeting according to the sheeting manufacturer's recommendations on extruded aluminum panel signs. Up to 25 percent of the extruded aluminum panel signs required in the Plans are allowed one manufacturer's splice for each sign. One patch is allowed for each 50 square feet of sign to a maximum of three patches for each sign. Furnish patches that are between 3/4 inches and 3 3/8 inches in diameter. Contractor splices are not allowed.

On all other signs, manufacturer's splices are not allowed except as noted on approved shop drawings, or when sign dimensions exceed the sheeting manufacturer's capabilities. Make these splices horizontal with the upper section of sheeting overlapping the lower by a minimum of 3/8 inch on encapsulated lens sheeting, and butt splice prismatic lens sheeting with no appreciable substrate visible. The use of overlaid transparent paste or electronic cuttable film is not allowed on overlapped splices. Contractor splices are not allowed.

00940.45(a) General - Replace the paragraph that begins ”Spacing between letters or …” with the following paragraph:

Ensure spacing between letters or numbers meet the requirements of the FHWA *Standard Alphabets for Highway Signs manual*.

Replace the paragraph that begins ”Spacing between words for Series…” with the following paragraph:

> Spacing between words for Series "E" (modified) legend are 1.5 times the upper case letter height. Spacing between words for other fonts is as tabulated below unless otherwise shown:

Replace the paragraph that begins ”Spacing between symbols …” with the following paragraph:

Follow the FHWA *Standard Highway Signs* for spacing between symbols, unless otherwise shown.

00940.45(b) Attachment - Replace this subsection, except for the subsection number and title, with the following:

Attach removable legend to aluminum panels using aluminum, domed head, 1/8-inch diameter, self-plugging blind rivets. Remove aluminum shavings from the sign face before attaching the legend. The entire sign is rejected if any shavings are left beneath the legend. Drill 0.128-inch diameter holes in the removable legend and sign panel as shown on the *Mounting Details for Removable Legend* Standard Drawings.

Apply screened legend according to the sheeting manufacturer's recommendations. Apply cut-out legend according to 00940.44.

Attach 1-inch retroreflective removable border sections by placing two rivets 1/2 inch from the end of each border section with additional rivets spaced at a maximum of 6 inches apart, centered in the section. Attach corner border sections with a minimum of five rivets, two rivets 1/2 inch from each end, and the remaining rivet centered in the middle of the section.

Attach 2-inch retroreflective removable border sections by placing two rivets 1/2 inch from the end of each border section with additional rivets spaced at a maximum of 6 inch apart, along the top and bottom edge of the section. Attach corner border sections with a minimum of five rivets, two rivets 1/2 inch from each end, and the remaining rivet centered in the section.

00940.46 Inspection - Replace this subsection, except for the subsection number and title, with the following:

The Engineer will inspect signs at the fabrication shop or at the Project Site or both. Inspection is for conformance to the Plans and Specifications, for conformance to nighttime visibility, and for rejectable defects. Rejectable defects include scratches, scuffs, tears, or any defect that impacts reflectiveness, readability, or performance. Signs not meeting inspection criteria are to be replaced at no additional cost to the Agency. The Contractor's expense for sign inspection is according to 00165.91.

00940.47 Sign Erecting - Replace the paragraph that begins “The closest edge of any…” with the following paragraph:

The closest edge of any column or overhead sign Structures is as shown.

Add the following paragraph to the end of this subsection:

Trim and remove branches, vegetation, or other materials obstructing the visibility of signs by Public Traffic, as directed.

Add the following subsection:

00940.48 Coating - Prepare and powder coat the backs of aluminum substrate signs according to the applicable portions of Section 00593 or prepare and coat according to the applicable portions of Section 00594.

Provide SAE AMS-STD-595 Color Number 30063.

00940.90 Payment - Add the following paragraph(s) to the end of this subsection:

Trimming and removal of branches, vegetation, or other materials will be paid for according to 00320.90.

Replace the paragraph that begins “Payment will be payment in full…” with the following paragraph:

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

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 "All electrical Materials …" with the following paragraph:

Furnish all electrical Materials and perform all Work according to the following standards where applicable:

00960.02 Equipment List and Drawing Submittals - Replace the paragraph that begins "Within 30 Calendar Days …" with the following paragraph:

Within 30 Calendar Days after execution of the Contract, submit the Blue Sheets (see 00160.00 and 00160.07) and the Green Sheets (see 00160.00 and 00160.07) according to 00150.37 for all Materials the Contractor proposes to install. Blue Sheets and Green Sheets contain submittal instructions and are made available to the Contractor by the Engineer.

00960.10 Materials - Replace the paragraph that begins "Anchor rods shall …" with the following paragraph:
Use anchor rods meeting the requirements of 02560.30 and to the types and sizes shown.

00960.30 Licensed Electricians - Replace this subsection, except for the subsection number and title, with the following:

Only individuals that are properly registered or licensed are allowed to perform electrical work, according to Oregon Administrative Rule 918-282-0120(1). Provide a copy of the electrical license or apprentice registration to the Engineer prior to performing any electrical Work. Every person who installs electrical systems on the Project must be licensed as an S or a J under Oregon Administrative Rule 918-282-0140 or 918-282-0170.

00960.41 Horizontal Directional Drilling - Replace the paragraph that begins "Drilling shall …" with the following paragraph:

Do not "hump" or deform the Pavement during horizontal directional drilling. Use guided horizontal directional drilling. 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.

Add the following subsection:

00960.42(c) Metallic Conduit - Paint the following with rust-preventative coating:

- Threads on all metal conduit.
- Areas where the coating has been damaged so underlying metal is exposed.
- Exposed, ungalvanized threads resulting from field cuts.

If corrosive Soil conditions exist, coat metallic conduit with a nonmetallic coating or wrap with corrosion protection tape at least 10 mils thick.

00960.45(b) Grounding/Bonding Wire - Replace this subsection, except for the subsection number and title, with the following:

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. When splicing grounding/bonding wire, use a reversable electrical splice.

00960.46 Service Cabinet and Electrical Energy - Replace the paragraph that begins "Install service cabinet …" with the following paragraph:

Install service cabinet and associated Equipment, then arrange for the Utility providing power to have the service cabinet inspected and make the electrical hook-up prior to field testing. Field test according to 00990.71 for traffic signals, or according to 00970.70 for illumination.

00960.71 As-Built Plans - Replace this subsection, except for the subsection number and title, with the following:

Upon completion of the installation, submit a red-lined copy of the original Plans noting all changes made. In the red-lined Plans, include all modifications made to accurately show the operation and materials installed. Sufficiently detail the red-lined Plans to enable maintenance forces to replace or repair any part of the Project under routine or emergency maintenance by direct reference.

SECTION 01012 - STORMWATER CONTROL, WATER QUALITY BIOFILTRATION SWALE

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

Description

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

Materials

01012.10 Materials - Furnish Material meeting the following requirements:

Compost Erosion Blanket	00280
Check Dam, Type 2	00280.15(a)
Concrete	00440
Drainage Geotextile, Type 1	02320
Facility Field Markers	00842.10
Granular Drain Backfill Material	00430.11
Manholes, Catch Basins, and Inlets	00470.11
Slope and Channel Liner Matting	00280.14(e)
Riprap	00390.11
Riprap Geotextile, Type 1	02320
Storm Sewer Pipe	00445.11
Subsurface Drain Pipe	00430.10

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 R 90. 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.

01012.13 Plastic Board - Furnish plastic board meeting the following requirements:

- Is HDPE or LDPE consisting of recycled plastic.
- Does not contain wood.
- Smooth and free of splinters.
- Includes an ultra-violet inhibitor.

01012.14 Stone Embankment Material - Furnish stone embankment material meeting the requirements of 00330.16 except:

- Furnish a maximum size between 9 inches and 3 inches.
- No large rock fragments are allowed.

01012.15 Slope and Channel Liner Matting - Furnish channel liner matting meeting the requirements of 00280.14(e) for resistance to shear stresses calculated for a 10-year storm event.

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. Perform work in sequence as follows:

(a) Scarify - Scarify the subsoil area a minimum 12 inches deep.

(b) Placement of Water Quality Mixture - Place the water quality mixture in maximum 12-inch Lifts. Compact each Lift with a water filled landscape roller.

(c) Pervious Pavers - Install pervious pavers for full length of swale and full width of channel bottom. Fasten adjoining paver panels together.

(d) Seeding - Seed according to 01030.13.

(e) Slope and Channel Liner Matting - After seeding install slope and channel liner matting as shown or directed.

(f) Check Dams - Install *(*permanent/temporary*)* check dams spaced as shown or directed.

(g) Stone Embankment - Key and embed permanent check dams and rock basin flow Spreaders constructed with stone embankment horizontally into side slopes of swale to a depth not less than 12 inches. Where rock basin flow spreaders embed into side slopes, extend stone embankment 6 inches higher on side slope.

(h) Plastic Boards - Install plastic boards plumb, level and perpendicular to swale flow line. Key and embed plastic boards horizontally into side slopes of swale to a depth not less than 12 inches. Where plastic board embeds into side slope, extend stone embankment 6 inches higher than plastic boards on both sides of boards on side slope.

01012.41 Facility Field Markers - Install field markers as shown and according to Section 00842.

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.

01012.71 Removal - Remove temporary erosion and sediment control features according to 00280.70 only after water quality vegetation has met the establishment requirements of 01030.60.

Measurement

01012.80 Measurement - No measurement of quantities will be made for Work performed under this Section. The estimated quantities of Materials are:

Water Quality Swale D01801 Quantities:

Item	Quantity
Excavation	45 Cu. Yd.
Water Quality Mixture	55 Cu. Yd.
Matting, Type E	290 Sq. Yd.
Compost Erosion Blanket	370 Sq. Yd.
Rock Basin Flow Spreader with Stone Embankment	15 Cu. Yd.
Water Quality Seed Mix	0.1 Acre

Water Quality Swale D01802 Quantities:

Item	Quantity
Excavation	25 Cu. Yd.
Water Quality Mixture	31 Cu. Yd.
Matting, Type E	240 Sq. Yd.
Compost Erosion Blanket	190 Sq. Yd.
Rock Basin Flow Spreader with Stone Embankment	17 Cu. Yd.
Water Quality Seed Mix	0.1 Acre

Water Quality Swale D01803 Quantities:

Item	Quantity
Excavation	36 Cu. Yd.
Water Quality Mixture	47 Cu. Yd.
Matting, Type E	285 Sq. Yd.
Compost Erosion Blanket	215 Sq. Yd.
Rock Basin Flow Spreader with Stone Embankment	14 Cu. Yd.
Water Quality Seed Mix	0.1 Acre

Field facility markers will be measured according to 00842.80.

Payment

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

The drainage facility identification number is inserted in the blank.

Excavation will be paid according to 00330.90.

Field facility markers will be paid for according to 00842.90.

Payment will be payment in full for furnishing and placing all Materials, and for providing 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:

01030.02 Definitions - Replace the paragraph that begins "**Noxious Weed** - All Weed …" with the following paragraph:

Noxious Weed - All Weed designated by the Oregon State Weed Board as injurious to public health, agriculture, recreation, wildlife, or all public or private property. The Oregon Department of Agriculture (ODA) is the authority in determination of Noxious Weed species.

01030.13(d) Inspection - Replace this subsection, except for the subsection number and title, with the following:

Each lot of seed is subject to inspection upon delivery to the Project. Seed that is not labeled or that does not conform to the Specifications is rejected. Replace rejected seed at no additional cost to the Agency.

01030.13(f) Types of Seed Mixes - Replace the paragraph that begins "Seed mixes, quantities …" with the following paragraph:

Seed mixes, quantities, standards, seeding rates, and other information is included in the Special Provisions for each type of seed mix.

Replace the bullet that begins "**Plant Seeding** …" with the following bullet:

- **Plant Seeding** - Seeding that typically includes more than just grass species, such as seeds of woody or herbaceous plants.

Add the following to the end of this subsection:

Provide the following seed mix formulas:

- **Temporary Seeding:**

Achillea millefolium (common yarrow)	0.07
Achnatherum lemmonii (Lemmon's needlegrass)	5.90

Anaphalis margaritacea (pearly everlasting)	0.05
Aster subspicatus (Douglas aster)	0.22
Bromus carinatus (mountain brome)	13.0
Collinsia grandiflora (giant blue-eyed Mary)	0.03
Deschampsia elongata (slender hairgrass)	1.0
Elymus elymoides (bottlebrush hairgrass)	1.0
Eschscholzia californica (California poppy)	1.0
Festuca roemeri (Roemer's fescue)	7.0
Festuca rubra ssp. rubra (red fescue)	1.5
Hordeum brachyantherum (meadow barley)	8.0
Lupinus rivularis (riverbank lupine)	0.8
Poa secunda var. secunda (Sandberg bluegrass)	1.5
Prunella vulgaris (self-heal)	0.5

- **Permanent Seeding:**

Achillea millefolium (common yarrow)	0.07
Achnatherum lemmonii (Lemmon's needlegrass)	5.90
Anaphalis margaritacea (pearly everlasting)	0.05
Aster subspicatus (Douglas aster)	0.22
Bromus carinatus (mountain brome)	13.0
Collinsia grandiflora (giant blue-eyed Mary)	0.03
Deschampsia elongata	

(slender hairgrass)	1.0
Elymus elymoides (bottlebrush hairgrass)	1.0
Eschscholzia californica (California poppy)	1.0
Festuca roemeri (Roemer's fescue)	7.0
Festuca rubra ssp. rubra (red fescue)	1.5
Hordeum brachyantherum (meadow barley)	8.0
Lupinus rivularis (riverbank lupine)	0.8
Poa secunda var. secunda (Sandberg bluegrass)	1.5
Prunella vulgaris (self-heal)	0.5

- **Wetland Seeding:**

Botanical Name (Common Name)	**PLS Specified Rate (lb/acre)**
Agrostis exarata (spike bentgrass)	0.23
Beckmannia syzigachne (American sloughgrass)	0.38
Carex aperta (Columbia sedge)	6.01
Carex obnupta (slough sedge)	5.1
Deschampsia cespitosa (tufted hairgrass)	0.17
Glyceria occidentalis (western mannagrass)	4.3
Juncus effusus (soft rush)	0.048
Scirpus microcarpus (small fruited bulrush)	0.76

01030.13(g) Availability - Replace this subsection, except for the subsection number and title, with the following:

Provide a list of seed sources for all specified seeds within 60 Calendar Days after execution of the Contract. Verify that all specified seed has been located and is available for use on the Project. Submit the seed and seed mixes to be used on the project according to 00150.37.

01030.14(b) Type of Fertilizer - Replace the paragraph that begins "Provide the following …" with the following paragraph:

Furnish the following fertilizer:

01030.14(b)(3) Statewide, Near Water - Replace this subsection, except for the subsection number and title, with the following:

For application within 50 feet of open water, furnish 22-2-11 low-phosphorus fertilizer analyzing 22 percent nitrogen, 2 percent phosphorus, and 11 percent potassium that releases slowly over an eight-to-nine-month period. Furnish fertilizer containing a minimum of 60 percent available water-insoluble, controlled-release nitrogen derived from one of the three sources stated for west of the Cascades above. Furnish phosphorus and potassium that is coated to allow a minimum of 95 percent controlled-release.

01030.15 Mulch - Replace the paragraph that begins "Furnish mulch Materials …" with the following paragraphs:

Compost Erosion Blanket with mycorrhizal inoculum in a concentrated powder for Permanent seeding application per 01040.17(e)
Furnish mulch Materials free of all Weed or plant seeds and containing no substances detrimental to plant life. The kind of mulch materials acceptable for use is shown, listed in the Special Provisions, or as approved. Furnish mulch meeting the following requirements:

Add the following paragraphs and bullets to the end of this subsection:

Furnish mulch for seeding according to the following:

- Compost Erosion Blanket

Furnish straw mulch for all temporary roadside erosion control seeding, except hydromulch may be used under the following conditions:

- Spring planting west of the Cascades between March 1 and May 15.
- Slopes are steeper than 1V to 1.5H and longer than 16 feet.
- Residential or commercial sites with low erosion potential such as sidewalk, Median, or parking lot planter strips.

Projects that have variable slopes may include straw mulch and hydromulch when approved.

01030.15(b) Straw - Replace the paragraph that begins "Straw mulch for …" with the following paragraph:

Straw mulch for non-hydroseeding applications from bentgrass, bluegrass, fescue or ryegrass singly or in combination. Cereal grain straw from barley, oat or wheat may be

allowed upon approval of the Agency. Furnish straw that is not moldy, caked, decayed or of otherwise low quality. Submit certification from the Supplier that the straw is free of Noxious Weed seeds or plant parts. Acceptable documentation is any one of the following:

01030.16(a) Liquid Stabilizer Emulsion - Replace this subsection, except for the subsection number and title, with the following:

Tackifier with a base material of liquid, polyvinyl acetate polymers, using emulsion resins and containing not less than 55 percent total solids by weight. Furnish tackifier containing no polyacrylates or polyvinyl acrylics. Furnish an emulsion that, when diluted with water and upon drying, allow exchange of air and moisture to the seeds and have an effective life of 1 year or more.

01030.16(b) Dry Powder Tackifier - Replace the paragraph that begins "Tackifier base consisting …" with the following paragraph:

Tackifier base consisting of one or more active hydrocolloids from natural plant sources, that hydrates in water and blends with other slurry materials, and upon application and drying tacks the slurry particles to the Soil surface, and exhibits no growth or germination inhibiting factors. Furnish stabilizing emulsion in a dry powder form that may be re-emulsifiable, and consisting of a processed organic adhesive derivative of one of the following:

01030.17 Pesticides - Add the following to the end of this subsection:

Do not apply herbicides that include any herbicide carrier (i.e. solvent) other than water or vegetable oil. Utilize only the following herbicides for Project Work:

- aquatic imazapyr
- aquatic glyphosate
- aquatic triclopyr-TEA
- chlorsulfuron
- clopyralid
- imazapic
- imazapyr
- metsulfuron-methyl
- picloram
- sethoxydim
- sulfometuron-methyl

Apply only the herbicide adjuvants described in Table 01030-1 for Project Work.

Table 01030-1

Adjuvant Type	Trade Name
Surfactant	Agri-Dex
Surfactant	LI 700
Drift Retardant	41-A

Adjuvant Type	Trade Name
Drift Retardant	Vale

01030.40 General - Replace the paragraph that begins "Remove all non-approved …" with the following paragraph:

Remove all non-approved plants resulting from the seed mixes furnished for the Project at no additional cost to the Agency, including erosion protection required during reseeding.

01030.42 Weed Control - Add the following paragraph and bullets after the paragraph that begins "If a pesticide has been approved for…" and before subsection (a):

The Specified Weeds and plant species to be removed include the following:

- Oregon Department of Agriculture A and B listed noxious weeds

01030.42(b) Weed Control Inspections - Replace the paragraph that begins "Inspect the Project for new growth…" with the following paragraph:

Inspect the Project for new growth of specified weeds at least monthly and apply weed control measures as appropriate. This requirement may be waived by the Engineer during the period that weeds are fully dormant. To ensure satisfactory Weed removal, the last WMA inspection will occur at least 30 Days after growing has begun or as directed.

01030.42(c)(2) Sensitive Areas - Replace the bullet that begins "Inside Sensitive Areas …" with the following bullet:

- Inside Sensitive Areas, obtain approval before using wheeled or tracked construction Equipment. Requests are approved only when all vegetation in the area is cleared, such as under new Roadways or slopes.

Replace the bullet that begins "The Engineer…" with the following bullet:

- The Engineer is the authority in the determination of Sensitive Areas.

Add the following subsection:

01030.42(e) Herbicide Application - Obtain written approval from the Engineer prior to application of herbicides in sensitive areas. Apply herbicides at the lowest effective label rates. Mix herbicides a minimum of 150 feet away from natural water bodies. Wash spray tanks a minimum of 300 feet from any natural water body. Utilize a non-hazardous indicator dye during herbicide applications within 100 feet of natural water bodies. Keep spray nozzles as low as possible and utilize the largest droplet size possible in order to minimize drift. Provide documentation of wind speed and direction, air temperature, ground temperature, and date of application to the Engineer within 5 Days of broadcast herbicide applications.

Do not apply herbicides during the following conditions:

- When soil is saturated, except for soil-activated herbicides.

- Within 48 hours prior to and during a forecasted rain event of 0.5 inches or greater in a 24-hour period.
- When wind speeds exceed 10 miles per hour, or are less than 2 miles per hour.
- During temperature inversions.
- When ground temperatures exceed 80 °F.

Adhere to the adjuvant application limitations in Table 01030-2. Regulated work area (RWA) is defined in 00290.34(a).

Table 01030-2

Adjuvant Type	Trade Name	Limitations
Surfactant	Agri-Dex	Do not apply within RWA
Surfactant	LI 700	Do not apply within RWA
Drift Retardant	41-A	Do not apply within RWA
Drift Retardant	Vale	Do not apply within 150 feet of natural water bodies

During herbicide application, adhere to the buffer distance requirements in Table 01030-3 through Table 01030-10.

Table 01030-3: Application Buffer Width for Perennial Streams and Wetlands, and Intermittent Streams and Roadside Ditches with flowing or standing water present, Labeled for Aquatic Use

Herbicide	Broadcast Spraying	Spot Spraying	Hand Selective
aquatic glyphosate	100 feet	Waterline	Waterline
aquatic imazapyr	100 feet	15 feet	Waterline
aquatic triclopyr-TEA	Not Allowed	15 feet	Waterline

Table 01030-4: Application Buffer Width for Dry Intermittent Streams, Dry Intermittent Wetlands, Dry Roadside Ditches, Labeled for Aquatic Use

Herbicide	Broadcast Spraying	Spot Spraying	Hand Selective
aquatic glyphosate	50 feet	No buffer	No buffer
aquatic imazapyr	50 feet	No buffer	No buffer
aquatic triclopyr-TEA	Not Allowed	No buffer	No buffer

Table 01030-5: Application Buffer Width for Perennial Streams and Wetlands, and Intermittent Streams and Roadside Ditches with flowing or standing water present, Low Risk to Aquatic Organism

Herbicide	Broadcast Spraying	Spot Spraying	Hand Selective
Imazapic	100 feet	15 feet	RWA boundary
Clopyralid	100 feet	15 feet	RWA boundary
metsulfuron-methyl	100 feet	15 feet	RWA boundary

Table 01030-6: Application Buffer Width for Dry Intermittent Streams, Dry Intermittent Wetlands, Dry Roadside Ditches, Low Risk to Aquatic Organism

Herbicide	Broadcast Spraying	Spot Spraying	Hand Selective
Imazapic	50 feet	No buffer	No buffer
Clopyralid	50 feet	No buffer	No buffer
metsulfuron-methyl	50 feet	No buffer	No buffer

Table 01030-7: Application Buffer Width for Perennial Streams and Wetlands, and Intermittent Streams and Roadside Ditches with flowing or standing water present, Moderate Risk to Aquatic Organism

Herbicide	Broadcast Spraying	Spot Spraying	Hand Selective
Imazapic	100 feet	50 feet	RWA boundary
sulfometuron-methyl	100 feet	50 feet	5 feet
Chlorsulfuron	100 feet	50 feet	RWA boundary

Table 01030-8: Application Buffer Width for Dry Intermittent Streams, Dry Intermittent Wetlands, Dry Roadside Ditches, Moderate Risk to Aquatic Organism

Herbicide	Broadcast Spraying	Spot Spraying	Hand Selective
Imazapic	50 feet	15 feet	RWA boundary
sulfometuron-methyl	50 feet	15 feet	RWA boundary
Chlorsulfuron	50 feet	15 feet	RWA boundary

Table 01030-9: Application Buffer Width for Perennial Streams and Wetlands, and Intermittent Streams and Roadside Ditches with flowing or standing water present, High Risk to Aquatic Organism

Herbicide	Broadcast Spraying	Spot Spraying	Hand Selective
Picloram	100 feet	50 feet	50 feet
Sethoxydim	100 feet	50 feet	50 feet

Table 01030-10: Application Buffer Width for Dry Intermittent Streams, Dry Intermittent Wetlands, Dry Roadside Ditches, High Risk to Aquatic Organism

Herbicide	Broadcast Spraying	Spot Spraying	Hand Selective
Picloram	100 feet	50 feet	50 feet
Sethoxydim	100 feet	50 feet	50 feet

01030.43(a) Temporary Seeding - Replace this subsection, except for the subsection number and title, with the following:

Temporarily seed disturbed Soils and slopes that are not at finished grade and are exposed for 2 months or longer before being disturbed again. Provide fertilizer, mulch, water, and other amendments necessary to ensure establishment. Ensure that temporary seeding Work achieves the coverage of live plants required by 01030.60 by the end of the next permanent seeding date stated in 01030.43(b). If this coverage is not achieved, or if the Agency

determines that it is not effective in stabilizing the Soil from erosion, stabilize the area with other temporary stabilization methods as described in 00280.42 at no additional cost to the Agency.

01030.48(a)(1)(b)(2) Step 2 - Replace this subsection, except for the subsection number and title, with the following:

Apply mulch and tackifier. Hydromulch, if used as a tracer in Step 1, is included as part of the specified hydromulch rate specified in 01030.48(a)(3).

01030.48(b)(2)a Straw Mulch - Replace the paragraph that begins "Place straw mulch approximately …" with the following paragraph:

Place straw mulch approximately 2 inches deep, in loose condition, that requires approximately 2 1/2 Tons per acre of dry mulch, depending on moisture content. Do not use straw mulch on Slopes of 1V:1.5H or steeper.

01030.61(b) All Other Seeding - Replace the bullet that begins "The seeding Establishment Period…" with the following bullet:

- The seeding Establishment Period will end 45 Days after the beginning of the Establishment Period, if the area was seeded within the seeding dates according to 01030.43, and all establishment responsibilities have been met.

Replace the bullet that begins "If the original seeding construction…" with the following bullet:

- If the original seeding construction is completed and accepted outside the permanent seeding dates, the Establishment Period will end 45 Calendar Days after all necessary reseeding is completed and accepted during the following seeding dates according to 01030.43.

01030.62(b)(3) Weed Control - Replace this subsection, except for the subsection number and title, with the following:

Kill and remove Specified Weeds as directed, prior to the Weeds going to seed. Keep WMAs and seeded areas, Weed Free throughout the Establishment Period.

01030.90 Payment . Delete Pay Items (l) and (m) from the Pay Item list.

Replace the paragraph that begins "In items (c) through (i), …" with the following paragraph:

In items (c) through (i), the type of seed mix, such as Mix No. 1, if applicable, is inserted in the blank.

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

Replace the paragraph and bullets that begins "No separate or additional …" with the following paragraph and bullets:

No separate or additional payment will be made for:

- Mobilization for application by blowers, mechanical spreaders, or hand spreading
- Inspections or maintenance
- Seeding mobilization if it is not included in the Contract Schedule of Items

Replace the paragraph that begins “Soil testing will be…” with the following paragraph:

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

SECTION 01040 - PLANTING

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

01040.02 Definitions: Add the following definitions to the end of this subsection:

Fall - The period beginning on the equinox in September through solstice in December.

Summer - The period beginning on the solstice in June through the equinox in September.

Replace the paragraph that begins "**Permanent Wilting Point** …" with the following paragraph:

Permanent Wilting Point - The level of Soil wetness at the point a plant wilts and can no longer recover its sustainable turgidity when placed in a saturated atmosphere for 12 hours.

Replace the paragraph that begins "**Root Protection Zone** …" with the following paragraph:

Root Protection Zone - A generally circular area around an existing plant to be protected from disturbance or compaction by the use of temporary fencing or other means. The zone as actually staked may exceed the current root area to allow for future growth of the plant. Root Protection Zones are shown or staked before construction activities begin.

01040.03(b) Pesticide Applicators License and Chemical Registration - Replace this subsection, except for the subsection number and title, with the following:

Provide evidence to the Agency that each applicator is licensed for the specific class of chemical being applied. Also, provide evidence that any chemical is registered for the proposed use by the Oregon Department of Agriculture according to ORS Chapters 452, 561, 570, and 634.

01040.04(a) Planting Work Plan - Replace the bullet that begins "Plant installation and…" with the following bullet:

- Plant installation

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

- Plant establishment plan according to 01040.70

Add the following subsection:

01040.05 Submittals - Submit the following for review and approval:

- Contract Growing Plan according to 01040.19(g).
- Planting work plan according 01040.04(a).
- Plant establishment plan according to 01040.70.
- Weed Control Work Plan according to 01030.42(a).
- Photo log 10 Days after each plant establishment visit and periodic inspection. Provide date stamped photographs in photo log of each plant establishment site visit with photos of multiple individual plants, seeded areas and weed control areas that are sufficiently close to display plant condition and that are representative of the health, vigor and growth of the site plantings.

01040.10 General - Replace this subsection, except for the subsection number and title, with the following:

Submit a list of Project Materials for approval according to 01040.04(a) before arranging for procurement of any Materials. For materials not approved, submit a list of alternate Materials for approval. Materials installed without approval are subject to removal and replacement with acceptable Material at no additional cost to the Agency.
Substitute Materials may be allowed if proof of equivalent quality, suitable product specifications, manufacturer's literature and other detailed information is provided to the Agency according to 00140.70.

01040.13(a) Soil Fertility Test and Soil Amendment Report - Replace the paragraph that begins "Prior to planting …" with the following paragraph:

Prior to planting, provide a Soil fertility analysis of existing Soils performed by a certified testing lab. Prior to planting, adjust Soil amendment and fertilizer applications as recommended by the Soil amendment report and as approved by the Agency.

01040.13(a)(1) Sampling - Replace this subsection, except for the subsection number and title, with the following:

Take five samples per acre of each Soil type. Mix the five samples into one test sample for each Soil type. Provide Soil fertility test results that provide information on available nutrient content and fertility status of the Soil. Conduct sampling procedures according to the Oregon State University Extension Service handout EC 628, *How to Take a Soil Sample… and Why*.

01040.13(a)(3) Soil Amendment Report - Replace this subsection, except for the subsection number and title, with the following:

Provide a report from the testing laboratory summarizing sampling locations and procedures with printed results, and that makes recommendations for fertilizers and Soil amendments to effectively develop productive Soil.

01040.14 Topsoil - Replace the bullet that begins "Provide one 20…" with the following bullet:

- Furnish one 20-pound representative Soil sample of each Topsoil type for testing of particle size range and organic matter by the Agency, unless otherwise specified.

01040.14(a) Selected Topsoil - Replace the paragraph that begins "Furnish native Topsoil …" with the following paragraph:

Furnish native Topsoil from the required excavations meeting the requirements of 00330.10 or from other Agency-Controlled Lands. The general limits of Topsoil Materials are indicated on the Plans. The Agency will make the final determination of the areas where the most suitable materials exist. Furnish Topsoil that is the fertile part of a Soil profile commonly referred to as the "A" horizon, typically ranging in depth from 3 inches to 12 inches. Do not take material for Topsoil from a depth greater than 12 inches below existing ground, unless approved.

01040.14(c) Wetland Topsoil - Replace the paragraph that begins "Furnish a native…" with the following paragraph:

Furnish a native, naturally hydric Wetland Topsoil consisting of Silts, Clays, and organic matter in combination that is free from substances detrimental to plant growth, such as Noxious Weeds, undesirable plant roots, refuse, sticks, or lumps. Furnish Wetland Topsoil that is from a Wetland with an existing, well established, healthy growth of the desired Wetland plants. Obtain approval of the source before excavation of Wetland Topsoil begins.

01040.15 Soil Conditioners - Replace the paragraph that begins "Soil conditioners…" with the following paragraph:

Soil conditioners are for modifying Soil structure and improving Soil aeration characteristics, as distinguished from plant foods, mulch, and Soil organism amendments. Furnish Soil conditioners free of Noxious Weeds, living plants and rhizomes, and substances detrimental to plant life. For mushroom compost and Peat moss only, submit a 15-pound sample for approval by the Agency prior to construction. Furnish Soil conditioners that are free of weed seeds, excessive salts, chemicals detrimental to plant growth, and pest organisms. Soil conditioners proposed for use are subject to testing at any time or place the Agency deems appropriate.

01040.16 Soil Amendments - Replace the paragraph that begins "Soil amendments…" with the following paragraph:

Soil amendments are intended to improve Soil nutrition. Furnish Soil amendments that are free of materials detrimental to plant life. Provide manufacturer or Supplier quality compliance certification according to 00165.35. Ensure that material testing methods meet the requirements of the Oregon Department of Agriculture appropriate to that material. Obtain approval for use before beginning Work. Soil amendments may include the following:

01040.17 Soil Bio-Amendments - Replace the paragraph that begins "Soil bio-amendments…" with the following paragraph:

Soil bio-amendments are intended to increase beneficial Soil organism numbers or Soil organic nutrient content. Furnish bio-amendment products or materials that are free of substances or life forms detrimental to plant life and receive approval prior to use on the Project. Provide manufacturer or Supplier quality compliance certification according to 00165.35. Ensure that material testing methods meet the requirements of the Oregon Department of Agriculture appropriate to that material. The following are typical Soil bio-amendments that may be identified in the Soil bio-amendment report:

01040.17(e) Mycorrhizal Inoculates - Add the following paragraph to the end of this subsection:

Furnish mycorrhizal inoculum in a concentrated powder form for planting and seeding according to manufacture specifications, with an OMRI Listed seal from the Organic Materials Review Institute.

01040.18(b) Plant Bags and Tablets - Replace the paragraph that begins "Furnish plant bags…" with the following paragraph:

Furnish plant bags or tablets that are controlled-release with a minimum one-year release period. Chemical formulation, rates and are approved by the Agency.

01040.19(a) Nomenclature - Replace this subsection, except for the subsection number and title, with the following:

Use the most current edition of *Hortus Third*, by Bailey for botanical identification and nomenclature of plant materials. The Agency may authorize use of other references such as the *Sunset Western Garden Book*, the *Flora of the Pacific Northwest*, by Hitchcock, or the *Manual of California Plants*, by Jepson.

Furnish plants according to the applicable requirements of the current issue of the *American Standard for Nursery Stock*, published by the American Association of Nurserymen. When a conflict exists between this publication and the Specifications, the Specifications will prevail.

01040.19(b) Quality - Replace the paragraph that begins "Provide plants that are healthy…" with the following paragraph:

Furnish plants that are healthy, first-class representatives of their species or variety, free from disease and insect pests, with top growth that is well developed and free of disfiguring knots, sun scalds, bark abrasions, wind or frost injury or any other objectionable features.

Replace the paragraph that begins "Furnish plants that are acclimated…" with the following paragraph:

Furnish plants that are acclimated to the specific Project environmental site conditions prior to planting. Store all container-grown and balled and burlapped plant materials acquired for planting a minimum of 3 months before planting, as specified in 01040.41 or 01040.42, at a location north of the Oregon - California border.

Replace the paragraph that begins "Furnish plants that possess…" with the following paragraph:

Furnish plants that possess top growth and root systems typical to their variety. Furnish trees with central leaders that have a symmetrical, well-branched, straight trunk. Trees with a damaged or missing leader, multiple leaders or Y-crotches, or sheared conifer trees are rejected.

01040.19(c) Certification - Replace the paragraph that begins "Furnish a State…" with the following paragraph:

Provide a State inspection certificate and shipping certificate for each load or lot of plant material that includes the following information:

01040.19(d) Inspection - Replace this subsection, except for the subsection number and title, with the following:

Plants are subject to inspection by the Agency, at any time and place. The Agency will make no plant material inspection at the source, except as it may elect. Notify the Agency of each delivery of plants to the Project site no less than 24 hours ahead of delivery. Do no planting until the plants have been inspected and approved for use. Any planting done without prior approval of the plants is considered in violation of the Specifications.

The presence of Noxious Weeds in the Soil accompanying plants or at the nursery source is cause for rejection of any or all plants from that source.

01040.19(e) Availability - Replace this subsection, except for the subsection number and title, with the following:

Provide a list of nursery sources for all specified plants within 90 Calendar Days after execution of the Contract. Verify, by this list, that all specified plant material has been located and is available for use on the Project. If applicable, see 01040.19(g) for alternate requirements.

01040.19(f) Plant Substitution - Replace this subsection, except for the subsection number and title, with the following:

No substitution of plant materials is allowed unless written evidence is submitted that a specified plant or material cannot be obtained and has been unobtainable since the execution of the Contract. If substitution is allowed, it is by written approval from the Agency for the nearest acceptable variety, size and grade. Make any request for substitution in writing to the Agency with ample time for approval without delaying the Work.

01040.19(h)(2) Deciduous Trees - Replace the paragraph that begins "Trees with leaves that are…" with the following paragraph:

Trees which shed leaves annually.

01040.19(h)(3) Transplanted Specimen Plants - Replace this subsection, except for the subsection number and title, with the following:

Unique or large plants typically used in low numbers on projects. See the Plans for specimen type, size, and location. Deliver trees to the site that are dormant and with buds that have not yet swelled. Furnish plants that have an unbroken root ball sufficient to sustain continued growth. Ensure that the root ball size conforms to the current edition of the American Standard for Nursery Stock. Furnish plants with no broken limbs or bark abrasions, and cleanly cut off any frayed roots or damaged limbs. Deliver trees that are balled and burlapped, boxed or moved by commercial tree spade.

01040.19(h)(4) Balled and Burlapped (B&B) Plants - Replace the paragraph that begins "Furnish plants with …" with the following paragraph:

Furnish plants with root balls securely wrapped in burlap or similar mesh fabrics not harmful to plants, and bound with removable twine or wire. Furnish root balls that are firm, intact and held solidly together by a fibrous root system consisting of only the earth where the plant was growing. "Made" balls are rejected.

01040.19(h)(6) Container Grown Plants - Replace this subsection, except for the subsection number and title, with the following:

Plants that are grown and delivered in containers that possess well-formed top growth and whose root growth is typical to the variety.

Furnish plants that are resident in their delivery containers long enough to have established new fibrous roots, have a root mass that will retain its shape, and hold 90 percent (visual estimate) of the root ball material when removed from their containers. Some root growth should be visible along the outer edges of the container. Root-bound container grown plants and "made" container plants are rejected.

01040.19(h)(7) Seedling Trees - Replace the paragraph that begins "Plants that are grown from seed…" with the following paragraph:

Plants that are grown from seed in a nursery and brought to the site in a bare root condition. Furnish seedlings labeled with age and certification (class number) that shows the length of time grown in a nursery seedbed, followed by the length of time grown in a transplant bed. Furnish seedling trees that are a minimum of 2 years old.

01040.19(h)(9) Plant Cuttings - Replace this subsection, except for the subsection number and title, with the following:

Living, freshly cut branches from certain woody shrub or tree species that readily propagate when embedded in damp Soil. Furnish plant cuttings of regionally native species and dimensions as shown. Obtain written approval of the cutting stock sources before taking any cuttings and provide a brief, written description of the cutting sites and the date and time the cuttings were taken to the Agency. Take cuttings in such a manner so as to leave no long-term damage to the source population. If willow species are called for, select the local native shrub variety.

01040.19(h)(15) Wetland Plants - Replace this subsection, except for the subsection number and title, with the following:

Plants that meet the definition of hydrophyte, that is any macrophyte that grows in water, or on a substrate, that is at least periodically deficient in oxygen as a result of excessive water content.

01040.19(h)(16) Bulbs - Replace this subsection, except for the subsection number and title, with the following:

For the purposes of this section, these will typically include the forms known as bulbs, corms, culms, plantlets, rhizomes, runners, small offsets, stolons and tubers. These plants are collectively referred to as "Bulbs". The appropriate propagule (plant part that can be separated and used to grow another plant) will vary depending on the plant species.

01040.19(h)(17) Sod Lawn - Replace this subsection, except for the subsection number and title, with the following:

Grass sod grown on agricultural land that is commercially cultivated specifically for turf sod. Furnish sod that is free of Weeds, diseases, harmful nematodes and insects. Furnish sod that is mature, not less than 10 months old, and machine cut to a uniform thickness of 5/8 inch or more, excluding top growth and thatch. Broken pieces and torn or uneven ends will not be accepted. Plant sod within 36 hours of harvest.

01040.20 Mulch - Replace this subsection, except for the subsection number and title, with the following:

Furnish plant bed mulch Materials free of Noxious Weed seeds or plants and that contain no substance detrimental to plant life. Mulches are subject to inspection at any time and place at the discretion of the Agency. The following are some types of Materials that fall under the category of "mulch", and may be used on projects:

(a) Bark Mulch - Ground, shredded or broken particles from the bark of fir, pine or hemlock trees that are free of non-bark debris, harmful bacteria, disease spores, pests and substances toxic to plant growth. Furnish mulch that is the standard trade size known as "medium fine mulch".

(b) Cinder Mulch - Crushed lava cinders, screened to an approximate size between 3/16 inch to 5/8 inch. Furnish cinders free of fines and other non-cinder material.

(c) Straw Mulch - Furnish straw mulch according to 01030.15.

(d) Rock Mulch - Round 3/8" - No. 4 pea gravel or round 2" - 3/8" Rock. Furnish Material that is free of fines and other non-gravel material. Rock colors may vary.

(e) Wood Chip Mulch - Mulch that is chipped from cleared site vegetation. Ensure that chipped material is free of any Noxious Weeds or invasive vegetation.

(f) Compost Mulch - Commercially manufactured medium compost material meeting the requirements of Section 03020, unless otherwise approved.

01040.21 Herbicides - Replace the paragraph that begins "The use of herbicide …" with the following paragraph:

The use of herbicide chemicals is allowed only upon approval of the Agency. Select and apply chemical herbicides according to all applicable Federal, State and local laws, as well as the WCWP requirements of the PWP. The following are standard herbicide functional categories:

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

Water all installed planting during the period of May 15th through September 30th during the Plant Establishment Period to maintain plants in a state of good health and showing growth. Provide date-stamped, photo documentation of watering application throughout the Plant Establishment Period.

01040.22(b) Moisture Retention Chemicals - Replace this subsection, except for the subsection number and title, with the following:

Granular chemical that are typically cross-linked potassium based polyacrylate or polyacrylamide copolymers. Furnish commercial quality product from the QPL.

01040.23 Miscellaneous Items - Replace the paragraph that begins "Furnish miscellaneous items …" with the following paragraph:

Furnish miscellaneous items meeting the following requirements or furnish commercial-quality products from the QPL. Obtain approval from the Agency prior to use.

01040.23(g) Tree Stakes and Ties - Replace this subsection, except for the subsection number and title, with the following:

Rough sawn tree stakes of 1 1/2 inches x 1 1/2 inches Douglas fir or pine, construction grade or better. Use stakes 6 feet long for trees less than 8 feet tall, and stakes 8 feet long for trees 8 feet or taller. Stain all tree stakes with an approved, dark green penetrating oil stain. Furnish tree trunk protection of guying material of either a commercially available tree tie or a section of garden hose. Furnish tree guying material of a commercial product manufactured for this use, such as plastic chain, or stainless steel woven-wire with clamp fasteners. Size the guying material appropriate to the size of the tree and the wind factors of the area.

01040.41 Planting Season (West of the Cascades) - Replace the title of this subsection with "**Planting (West of the Cascades)".**

01040.42 Planting Season (East of the Cascades) - Replace the title of this subsection with "**Planting (East of the Cascades)".**

01040.44(c) Hauling and Spreading - Replace this subsection, except for the subsection number and title, with the following:

Transport select Wetland Topsoil to the site by any means that meets all applicable regulations related to hauling potentially wet or moist materials. Spread the Topsoil to a depth of 6 inches minimum to 24 inches maximum, or to meet the finished elevations as specified on the Plans. Make as smooth as practicable without excessive Soil compaction. After spreading, have the area inspected and approved by the Agency prior to planting.

01040.45 Soil Amendments - Replace this subsection, except for the subsection number and title, with the following:

Incorporate Soil amendments into the Topsoil when required by the Soil fertility test and Soil amendment report. The application rate is verified by checking settings on the spreading or application Equipment.

01040.46 Bio-Amendments - Replace the bullet that begins "Mycorrhizal Inoculation (Injection) …" with the following bullet:

- Mycorrhizal Inoculation (Injection) - Furnish pre-measured packets containing live endomycorrhizal and ectomycorrhizal fungi.

Replace the paragraph that begins "The application rate …" with the following paragraph:

The application rate is verified by visual inspection of application rates. A one-time application should be adequate, as long as pesticides, fertilizers or other toxic materials are not used at the same time. If it becomes necessary to apply pesticides that have non-target organism effects, or to apply fertilizer at rates greater than 13 pounds per acre, re-inoculate the organisms about 1 month after the pesticide or fertilizer was applied.

01040.47 Fertilizers - Replace the paragraph that begins "The application rate …" with the following paragraph:

The application rate is verified by visual inspection. Provide manufacturer or Supplier quality compliance certification according to 00165.35. Ensure that material testing methods meet the requirements of the Oregon Department of Agriculture appropriate to that material.

01040.48 Planting Area Preparation - Replace the paragraph that begins "All planting areas …" with the following paragraph:

Provide Weed Free planting areas before planting or seeding operations begin. Identify, kill, and remove Weeds according to 01030.62(b)(3).

01040.48(b) Method "B" (Non-Cultivated Planting Areas) - Replace the paragraph that begins "Finish Wetland mitigation planting …" with the following paragraph:

Finish Wetland mitigation planting areas to specified finish elevations, blending to existing ground smoothly, as required and directed. Except for projects that are less than 1 year in duration and unless otherwise approved, review the hydrology of the area to be planted for the period November 15 to February 28 prior to planting any Wetland plants. Adjust plant types and planting locations as required or directed, based on the review of site hydrology.

01040.48(c) Method "C" (Sod Lawn and Seeded Lawn Areas) - Replace the paragraph that begins "Furnish the Agency …" with the following paragraph:

Provide the Agency with sod mixture information and a quality compliance certificate from the sod grower, certifying sod compliance with mixture requirements, according to 01040.10.

01040.49 General Planting - Replace the bullet that begins "Apply bark or wood chip …" with the following bullet:

- Apply bark or wood chip mulch of the type and depth as shown. Correct contamination of new mulch due to the Contractor's operations at no additional cost to the Agency. Feather mulch into plant material trunks, stems, canes or root collars, and leave 1 inch below the top of junction and valve boxes, curbs and Pavement edges. Any mulch placed to a thickness greater than specified is at no additional cost to the Agency.

01040.50(a)(1) Mechanical Digging - Replace this subsection, except for the subsection number and title, with the following:

Use a tree spade unless otherwise directed. Move only while the tree is dormant. Treat deciduous plants with anti-transpirant prior to excavation. Confirm with the Agency that the size of the spade is appropriate to the size and type of tree prior to beginning Work. Dig the receiving hole prior to digging the tree to be transplanted. Take care not to damage the tree bark. Refill the original hole after transplanting. Do not move Oregon White Oak (Quercus garryana) by this method.

01040.50(c) Seedling Trees - Replace the paragraph that begins "No pre-staking of planting …" with the following paragraph:

No pre-staking of planting locations is required. The Agency will be present as planting begins and will approve the spacing, planting method, and areas to be planted before Work can begin. Vary plant spacing in order to allow seedlings to be planted in suitable Soil. During the planting process, remove one tree at a time from the planting bag or other container to prevent drying of roots.

01040.50(g) Plant Cuttings - Replace this subsection, except for the subsection number and title, with the following:

Collect and plant the cuttings while the plant is dormant, generally between October and March. Notify the Agency if conflicts exist with permit requirements. Store all cut material in ventilated plastic containers that allow free flow of water. Protect root systems from excessive drying at all times. Do not store plants in airtight containers.

Plant stock within 4 hours of harvest. If plants are a willow species, plant in the riparian zone on that portion of the slope where the plant stem ends are in contact with year-round moist Soil as determined by the Agency. Make planting holes by forcing a steel bar or similar tool into the ground about 12 inches deep. Place the cuttings into the holes and tamp Soil firmly around the stems, leaving a minimum of 6 inches showing. Vary these dimensions as required for larger plant cuttings.

01040.53(a) Ornamental Plant Bed Areas - Replace the paragraph that begins "Submit a 15-pound …" with the following paragraph:

Submit a 15-pound sample of bark mulch to the Agency for visual inspection and approval. The approved sample is the standard of acceptability for all mulch used on the Project.

01040.53(b)(3) Compost Blanket - Replace this subsection with the following subsection:

01040.53(b)(3) Compost Mulch - Spread compost on top of the Soil to a nominal depth of 3 inches. Where a compost erosion blanket is in place according to 00280.44(f) apply and spread additional compost to achieve a depth of 3 inches.

01040.54(a) Pressure Moisture Stress Sensor - Replace the paragraph that begins "When a pressure moisture …" with the following paragraph:

When a pressure moisture stress sensor is specified, the Agency will test a 1 to 5 percent representative sample to ensure that the moisture stress level is below 20 bars of pressure and inform the Contractor if any material exceeds this limit. Any plant material found to have greater than 25 bars of pressure is considered to be under extreme moisture stress. Provide sufficient water within 24 hours to bring the plant into normal range. The Agency will retest to determine the new representative pressure. Plant material that have 30 bars or greater is considered to have reached its Permanent Wilting Point. Replace all such material during the next planting period. Testing will occur mid-day at the following times until the end of the Establishment Periods:

Replace the bullet that begins "At 1-month intervals…" with the following bullet:

- At 1-month intervals throughout the Summer, up to the first Fall rain or snow.

01040.70 Plant Establishment - Replace this subsection, except for the subsection number and title, with the following:

The Contractor is responsible for the survival of all plant material until the end of a Plant Establishment Period of 1 calendar year. The Plant Establishment Period begins when all the original planting is complete. The original planting is considered complete when all the plant material has been planted to the satisfaction of the Agency.

At a minimum of 15 Days prior to landscape Work, submit the plant establishment plan as part of the planting work plan according to 01040.05. Should the plan become unworkable at any time during Plant Establishment Period, submit a revised plan prior to proceeding with further Work. Include the following in the plant establishment plan:

- Activity descriptions necessary to ensure continued health and vigor of planted and seeded areas according to 01030.60 and 01040.71.
- Proposed scheduling of joint inspection meetings, weeding, and watering/irrigation schedule.
- Materials including herbicides and fertilizers, and Equipment to be utilized for the plant establishment.
- Proposed adaptive management activities for successful establishment of seeded, sodded, and planted areas, during changing environmental conditions or unanticipated weather.

Establishment Period Work includes removing all plants that have reached their Permanent Wilting Point, are dead, dying, or do not meet Specifications, and replacing them with healthy plants. All plants in place after this replacement are recognized as the original planting and are subject to the establishment Specifications. Repair, restore, and replace all plantings that have been damaged by vehicles, vandalized, and stolen according to 00170.80**.**

01040.71 Plant Care and Success Criteria - Replace the paragraph that begins "The determination of a successful …" with the following paragraph:

The determination of a successful Plant Establishment Period is made at periodic plant establishment inspections. A successful planting establishment for each inspection is defined as follows:

Replace the paragraph that begins "At the discretion of the Agency, …" with the following paragraph:

At the discretion of the Agency, certain types of regularly spaced plantings such as groundcovers may be measured using an area sampling method. To determine the rate of survival, set out (delineate) representative plots measuring 100 square feet at the completion of the original planting at random locations in each general planting area. The representative plots are mutually agreed upon between the Contractor and the Agency. Mark the plot corners with permanent markers such as re-bar, including date and identification. Delineate a minimum of three plots per acre of new planting area.

- All shrubs, water at a frequency of 1 gallon per week from June 1 to September 1.

01040.72 Periodic Inspections - Replace the bullet that begins "Spring…" with the following bullet:

- Early May

Replace the bullet that begins "Summer…" with the following bullet:

- Mid-July

Replace the bullet that begins "Fall…" with the following bullet:

- Late September

Replace the paragraph that begins "Depending on when the Establishment …" with the following paragraph:

Depending on when the Establishment Period begins, one of the above inspections is the final inspection.

01040.73 Corrective Work - Replace the paragraph that begins "The Contractor will be allowed…" with the following paragraph:

The Contractor is allowed to replace plants outside the planting times described in 01040.41 or 01040.42 as applicable to perform corrective work after each periodic inspection.

Replace the paragraph that begins "Furnish plant replacements …" with the following paragraph:

Furnish plant replacements of the same variety, size, and quality as specified for the original plants, unless otherwise approved.

01040.77(b) Trimming and Pruning - Replace the paragraph that begins "Prune during the dormant…" with the following paragraph:

Prune during dormancy unless otherwise specified. Remove and dispose of all dead and critically damaged plant material to maintain the overall appearance of the Project.

01040.77(d) Sod Lawn - Replace the paragraph that begins "Mow, cut and fertilize …" with the following paragraph:

Mow, cut and fertilize sod lawns as required to maintain a healthy and vigorous condition. A schedule of feeding, mowing, and general treatment, including thatching and aeration is listed in the Special Provisions. Final acceptance of sod lawn areas will depend on its health and condition. Keep sod lawns mowed to a height between 1 1/2 inches to 2 inches.

01040.90 Payment - Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

Replace the paragraph and bullets that begin "No separate …" with the following paragraph and bullets:

No separate or additional payment will be made for:

- Soil amendments
- Lime, gypsum, or trace minerals
- Soil bio-amendments
- Fertilizer
- Herbicides
- Anti-transpirants
- Game repellant
- Browsing protectors
- Pesticides
- Trunk wraps
- Tree stakes and ties
- Water
- Pressure moisture stress sensors
- Mulch materials required as part of replacement planting
- Corrective work during the Plant Establishment Period

SECTION 01050 - FENCES

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

01050.41 Lines, Grades, and Preparation Work - Replace the paragraph that begins "Clear, grub and prepare …" with the following paragraph:

Clear, grub and prepare the Fence line area. Remove all shrubs, brush, snags, downed timber, float Rock, and other obstacles, including trees up to 6 inches in diameter that interfere with Fence construction. If directed, preserve trees and geographic features on Fence lines by varying the Fence alignment to miss them.

Replace the paragraph that begins "Fill or excavate ground …" with the following paragraph:

Fill or excavate ground surface irregularities that interfere with maintaining specified clearance above ground surface of the bottom wire of the Fence. Limit the width as necessary to provide a clear way for the Fence.

01050.43(a) General - Replace the paragraph that begins "Set posts to the depths …" with the following paragraph:

Set posts to the depths shown. Reasonable variation in depths are allowed and posts may be appropriately shortened or left slightly high, as approved by the Engineer, to:

01050.43(d)(1) Barbed and Woven Wire Fences - Replace this subsection, except for the subsection number and title, with the following:

At angle of deflection exceeding 5 degrees for Fences with steel line posts or 15 degrees for Fences with wood line posts. Changes in line where the angle of deflection does not exceed the above limitations are considered alignment angles. Make the adjacent line posts at alignment angles fast to the angle post by means of diagonal tension wires.

01050.43(g)(1) Metal Braces - Replace the paragraph that begins "Provide corner posts …" with the following paragraph:

Furnish corner posts and intermediate end posts with two braces, one each direction from the post in the main Fence lines. Furnish end posts and Gate posts with one brace in the line of the Fence as shown.

01050.44(a) Placing Fabric and Wire - Replace the paragraph that begins "Place fabric and wire …" with the following paragraph:

Place fabric and wire on the face of the post that is away from the Highway or as shown. On curved alignment, place the fabric and wire on the face of the post where the normal pull of the fabric and wire is exerted.

Attach Fence fabric and barbed wire to each post according to recognized standard practice for Fence construction and as shown or directed.

01050.44(b) Splicing Fabric and Wire - Replace this subsection, except for the subsection number and title, with the following:

Splices of fabric and splices of separate lines of wire between posts are allowed provided that not more than two fabric or separate wire splices, spaced at least 50 feet apart, occur in

any one Run of Fence. Use wrap or telephone type splices for the longitudinal woven wire and barbed wire with each end wrapped around the other wire for not less than six complete turns.

01050.44(e) Swinging Panels at Waterway Crossings - Replace this subsection, except for the subsection number and title, with the following:

At waterway crossings subject to floating debris, if directed, construct wood framed swinging Panels of Fence fabric, barbed wire or combinations. Attach the Panels to the lower wires of the Fence to provide fenced closure of the waterway so there is no unfenced side or bottom openings exceeding 6 inches when the waterway is at its lightest flow or is dry.

01050.44(f) Additional Panels at Depressions - Replace this subsection, except for the subsection number and title, with the following:

If depressions in the ground surface leave unfenced openings greater than 12 inches in height beneath the bottom line of the Fence, provide additional Panels of Fence fabric, barbed wire, or combinations between line posts, as approved, across the opening so no side or bottom openings exceeds 6 inches. If the bottom line of the Fence leaves an unfenced opening beneath it of 12 inches or less, pull the fabric and wires down between posts and anchor with pins or posts driven at least 18 inches into the ground so there is no bottom opening at any point along the Fence greater than 6 inches in height.

01050.44(g) Stay Wires and Final Adjustments - Replace this subsection, except for the subsection number and title, with the following:

Free the fabric and barbed wire in final position from warp and sag with stay wires placed approximately vertical to the grade of the Fence. Retighten brace guys and leave the lever restrained against the Fence fabric or Fence wires.

01050.45(b)(1) Rails - Replace this subsection, except for the subsection number and title, with the following:

Attach rails to end, Gate and corner posts by clamps and sockets, and thread through loop caps on the end of line posts. Furnish expansion sleeves or couplings at spacings not exceeding 200 feet in longitudinal top and bottom rails.

01050.45(b)(2) Tension Wire - Replace this subsection, except for the subsection number and title, with the following:

Attach tension wire to end, Gate and corner posts by bands and clamps. Either thread the top tension wire through line post loop caps or hold in open slots in a manner to limit vertical movement. Tie or attach the bottom tension wire to the bottom of line posts by ties or clamps in a manner that prevents vertical movement. Furnish tension wires with one turnbuckle or one ratchet take-up in each Run of Fence.

01050.48(a) Metal Gates - Replace this subsection, except for the subsection number and title, with the following:

Install metal Gates and fittings between Gate posts previously set as specified. Firmly attach the fittings to the posts and Gates. Hinge each Single Gate in a manner that prevents removal of the Gate without tools. Set the Gate in an approximately horizontal plane to swing freely inward and outward, and so it can be fastened securely in its latch holder, or in the case of Double Gates, in its latch holder and gate stops. Set Double Gates on their respective hinge pintles to provide a common horizontal plane where each Single Gate swings.

Install Gates to swing open at least of 90 degrees in each direction.

01050.49 Removing and Rebuilding Fence - Replace this subsection, except for the subsection number and title, with the following:

Remove and rebuild existing Fences as shown or directed. Construct Fences to approximately the same condition as the original Fence. Salvage the materials in existing Fences to be removed and rebuilt and incorporate in the rebuilt Fences. Replace Fence materials damaged beyond reuse at no additional cost to the Agency. Firmly reset posts to the staked alignment. Provide the same post spacing and number of wires to be strung and stapled to the posts as the original Fence. Furnish and use new staples or clips to fasten the wires to the posts.

01050.50(b) Line Posts, Braces, End Posts, Corner Posts, and Gate Post - Replace this subsection, except for the subsection number and title, with the following:

Furnish metal post and brace components. Do not use wood posts and braces.

01050.50(e) Jumpouts - Replace this subsection, except for the subsection number and title, with the following:

Construct jumpouts as shown or directed with Borrow Material according to 00330.12 that contains no particles with any dimension greater than 3 inches. Make jumpouts of uniform grade and compact until there is no reaction or yielding under the compactor. Jumpouts are visually accepted by the Engineer.

01050.80(a) Barbed and Woven Wire Fence and Gateways - Replace this subsection, except for the subsection number and title, with the following:

Barbed wire Fence, woven wire Fence, and barbed and woven wire Fence will be measured on the length basis. Measurement will be from center to center of posts, measured along the line and grade of each separate continuous Run of Fence as constructed, exclusive of Gates. Where existing Fences are extended to intersect the new Fence, the length of extension, from point of joining to the center of the new end post, will be measured and included for payment, if similar in design or type to a Pay Item, otherwise this Work will be paid for according to 00195.20.

01050.90(a) Barbed and Woven Wire Fence - Replace the paragraph that begins "In item (a) …" with the following paragraph:

In item (a) the type of Fence is inserted in the blank.

Replace the paragraph that begins "In items (b) and (c) …" with the following paragraph:

In items (b) and (c) the width of the Gate opening is inserted in the blank.

01050.90(b) Chain Link Fence - Replace the paragraph that begins "In item (a) …" with the following paragraph:

In item (a) the type of Fence is inserted in the blank.

Replace the paragraph that begins "In item (b) …" with the following paragraph:

In item (b) the type of Fence is inserted in the first blank and the type of Material or pickets used for screening is inserted in the second blank.

Replace the paragraph that begins "In item (c) …" with the following paragraph:

In items (c) and (d) the width of the Gate opening is inserted in the first blank and the height of Gate is inserted in the second blank.

01050.90(e) Wildlife Fence - Replace the paragraph that begins "In item (c) …" with the following paragraph:

In items (c) and (d) the width of the Gate is inserted in the blank.

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

SECTION 01140 - POTABLE WATER PIPE AND FITTINGS

Comply with Section 01140 of the Standard Specifications modified as follows:

01140.10 Materials - Delete the paragraph that begins "High Density Polyethylene (HDPE) pipe shall…"

Add the following paragraph to the end of this subsection:

Furnish minimum 8 mil thick Polyethylene Encasement.

01140.11 Handling Pipe and Fittings - Replace the paragraph that begins "Handle pipe and fittings …" with the following paragraph:

Handle pipe and fittings to prevent damage to or contamination of the pipe, fitting, lining, or coating. Load and unload pipe and fittings using hoists and slings so as to avoid shock or damage, and under no circumstances allow them to be dropped, skidded, or rolled against other pipe or fittings. If any part of the coating or lining is damaged, repair in a manner satisfactory to the Engineer. Damaged or contaminated pipe and fittings are rejected. Immediately separate all damaged or contaminated pipe and fittings and remove from the Project Site.

01140.41(a) General - Add the following paragraph to the end of this subsection:

Install all pipe with the top of the pipe at least 36 inches below finished grade.

01140.41(b)(1) Curves - Replace this subsection, except for the subsection number and title, with the following:

Lay horizontal and vertical long radius curves with standard pipe by deflecting the joints. Use standard fittings and standard pipe lengths, unless otherwise shown. If shorter pipe lengths are required, the maximum allowable pipe lengths are shown. Do not exceed 80 percent of the manufacturer's recommendations for the amount of deflection at each pipe joint when pipe is laid on a horizontal or vertical curve. Where field conditions require deflection or curves not shown, the Engineer will determine the methods to be used.

01140.41(b)(2) Pipe Laying Procedure - Add the following paragraph to the end of this subsection:

Do not exceed one-half of the manufacturer’s recommendations for joint deflection for the pipe size.

01140.41(d) Polyvinyl Chloride (PVC) Pipe - Replace the paragraph that begins "Lay horizontal and vertical …" with the following paragraph:

Lay horizontal and vertical curves in pipe, as shown, with standard pipe by deflecting the joints. Use standard fittings and standard pipe lengths unless otherwise shown. If shorter lengths of pipe are required, the maximum allowable pipe lengths are shown. Do not exceed 80 percent of the manufacturer’s recommendations for the amount of deflection at each pipe joint when pipe is laid on a horizontal or vertical curve. Where field conditions require

deflection or curves not shown, the Engineer will determine the methods to be used. Do not bend PVC pipe segments.

01140.41(e) Water and Sanitary Sewer Separation - Replace this subsection, except for the subsection number and title, with the following:

Comply with OAR 333-061 0050 governing horizontal and vertical separation between water and sanitary sewer facilities for installation of new water lines and appurtenances. Submit all proposals for variance in writing. Include in the proposal the reason for the variance, type of material and condition of the sewer line, and location of the water and sewer facilities, including horizontal and vertical skin-to-skin clearances. Proposals are reviewed by the Engineer and approved, approved as noted, or returned for correction. Each variance is addressed on a case-by-case basis.

01140.42(b)(1) Joints and Fittings - Replace this subsection, except for the subsection number and title, with the following:

Join pipes and fittings using the thermal butt fusion method according to ASTM D3261. Use HDPE fittings of the same class as the HDPE piping.

01140.44(a) Concrete Thrust Blocks - Add the following paragraphs to the end of this subsection:

For non-standard thrusting conditions or non-standard thrusts not shown, submit stamped plans and calculations according to 00150.35.

01140.44(b) Restrained Joints - Replace the sentence beginning with “Where indicated or…” with the following sentence:

Restrain all pipe joints according to 02475.50.

Add the following subsection:

01140.44(c) Temporary Restraint - Restrain existing hydrants, valves, other fittings, or Structures during installation of new potable water pipe according to the manufacturer’s recommendations, or as directed. Submit a temporary restraint plan according to 00150.37 at least 14 Calendar Days prior to beginning Work under this Section. Do not begin Work without prior written approval from the Engineer.

01140.45(a) Installation - Replace this subsection, except for the subsection number and title, with the following:

Install marking tape and wire over all nonmetallic water lines, including service connections. Place a continuous solid copper wire along the top of all water pipe, including service lines. Use cable ties to secure the copper wire to the top of the pipe at a maximum spacing of 10 feet. Tie all splices and make them electrically continuous and waterproof. Provide access to terminal ends of the wire at all valve boxes, meter boxes, hydrants, and vaults. Ensure a continuous wire circuit electrically isolated from ground. Place the marking tape approximately 1 foot above the top of the pipe for its full length.

01140.45(c) Testing - Replace this subsection, except for the subsection number and title, with the following:

Test for continuity and isolation from ground in the wire after all Work has been completed on the test section. Perform intermediate testing after backfilling operations and prior to surface restoration Work. Test continuity between access locations by use of a temporary wire connecting test points in-line with an ohmmeter. Measure resistance with an approved ohmmeter that has been properly calibrated. The continuity of a test section is accepted if the resistance of the test section does not exceed 5 ohms for each 500 feet of location wire being tested. Measure isolation from ground with an approved 1000-volt Megger, applied for 1 minute. The isolation of a test section is accepted if the isolation resistance of the test section is at least 10 megohms. Locate and repair all breaks or defects in the wire and re-test until specified results are obtained.

01140.47 Connections to Existing Mains - Add the following paragraphs to the end of this subsection:

Flush and disinfect all new waterlines, including all fittings, valves, fire hydrants, and other appurtenances, according to 01140.50 and 01140.52 prior to connecting to the existing system. Coordinate all testing and disinfection with the Engineer. Do not connect new waterlines, including all fittings, valves, fire hydrants, and other appurtenances, to the existing system without prior written approval from the Engineer.

When potable water from the City of Hood River is used, obtain a fire hydrant meter from the City of Hood River Public Works.

Construct the new waterline as close as practicable, as determined by the Engineer, to the existing water system at locations where connections are to be made. Furnish blow-offs at all dead-ends and points of connection to the existing system. Furnish a temporary fill point for filling, flushing, pressure testing, and disinfecting the new water system.

01140.47(b) Permissions - Replace this subsection, except for the subsection number and title, with the following:

The Work to perform the connection may need to be carried out during times other than normal working hours. Coordinate the connection with the Engineer. Do not operate any valves on the existing system.

01140.47(d) Uninterrupted Service - Add the following paragraph to the end of this subsection:

Construct all connections between the new waterlines and the existing system during the same shutoff period.

01140.47(e) Cutting Main Lines - Add the following paragraph to the end of this subsection:

Water leakage from existing facilities may occur during connection to the existing system. Furnish a dewatering system capable of dewatering the trenches, and dewater trenches as necessary. Treat dewatering discharge according to Sections 00280 and 00290.

Add the following subsection:

01140.47(f) Cross-Connection Control - Furnish cross-connection controls for temporary connections. Backflow prevention assemblies may be available from City of Hood River Public Works. Contact the Public Works department regarding availability and furnishing details.

Unless using a backflow prevention assembly furnished by the City of Hood River Public Works, furnish an assembly tested by an Oregon State-Certified backflow assembly tester prior to use. Provide documentation in a manner acceptable to the Engineer demonstrating that the cross-connection control assembly operates as specified.

01140.48 Maintaining Service - Replace this subsection, except for the subsection number and title, with the following:

(a) Service Transfer - Where existing services are to be transferred from old to new mains, plan and coordinate the Work with that of the Utility so that service is resumed with the least possible inconvenience to the public.

(b) Connections by Utility - Allow the Utility to make connections into the new pipe at such locations as the Utility may elect to supply customers with water, after the affected section of pipe has passed hydrostatic and bacteriological tests. Do not construe the installation of any such connections by the Utility as an acceptance by the Agency of any part of the Work required under the Contract.

01140.50(a) Flush and Disinfect - Replace this subsection, except for the subsection number and title, with the following:

Flush sections of pipe to be tested and disinfect to remove any solids or contaminated material that may have become lodged in the pipe. The minimum flushing velocity is 3 feet per second. If no hydrant is installed at the end of the main, provide a tap large enough to develop a velocity of at least 3 feet per second in the main. Perform flushing and disinfection according to AWWA C651-14 and 01140.52.

01140.50(b) Taps - Replace this subsection, except number and title, with the following subsection:

Furnish taps and standard temporary construction blow-off assemblies at each connection of new waterlines to the existing waterline for temporary or permanent release air, flushing, and chlorination.

01140.50(c) Disposal of Treated Water - Replace this subsection, except number and title, with the following subsection:

Dispose of treated flushing and disinfection waste water according to Section 00290 and the following:

- Do not discharge flushing and disinfection waste water directly to any storm sewer system, sanitary sewer system, or surface water drainage without prior written approval from the Engineer. When approved, provide a minimum of 48 hours' notice prior to discharging waste water.

- To protect aquatic life, de-chlorinate the treated waste water according to AWWA C655 before disposing of the waste water. Dispose of disinfecting solution according to AWWA C655, Section 00290, or as otherwise directed.
- Where approved, discharge waste water a minimum of one foot above the receiving Structure in order to provide an air gap. Do not overload the sanitary sewer system during discharge.

01140.51(a) General - Replace the paragraph that begins "Test all water mains and …" with the following paragraph:

Test all water mains and appurtenances in sections of convenient length under a hydrostatic pressure equal to one and one-half times the working pressure, but at least 150 psi, measured at the highest point of the test section. Provide and operate all pumps, gauges, plugs, saddles, corporation stops, miscellaneous hose and piping, and measuring Equipment necessary for performing the test. Provide certifications of accuracy for gauges used in the test from an approved laboratory.

Do not perform hydrostatic testing without the Engineer present.

01140.51(a)(5) Loss Formula - Replace the paragraph that begins "The quantity of water …" with the following paragraph:

Do not exceed the number of gallons per hour determined by the formula for the allowable quantity of water lost from the main:

01140.51(a)(6) Pressure Loss - Replace this subsection, except for the subsection number and title, with the following:

No appreciable or abrupt loss in pressure during the test period is allowable.

01140.51(a)(8) Use of Hydrant Valves - Replace this subsection, except for the subsection number and title, with the following:

Make all tests with the hydrant auxiliary gate valves open and pressure against the hydrant valve. After the pipe test has been completed, test each gate valve in turn by closing it and relieving the pressure beyond. This test of the gate valve is acceptable if there is no immediate loss of pressure on the gauge when the pressure beyond the valve is relieved. Verify that the pressure differential across the valve does not exceed the rated working pressure of the valve.

01140.51(b)(1) Exceptions - Replace this subsection, except for the subsection number and title, with the following:

When an existing water main is extended with new pipe to a new valve, and the distance from the existing pipe to the new valve is 18 feet or less, no hydrostatic test is required if the section of new pipe between the new valve and the end of the existing main is installed with pretested, prechlorinated pipe. When the required hydrostatic tests are conducted in the new main section beyond the installed new valve in the closed position, the normal pressure of the existing main may be present against the other side of the new valve.

01140.51(c) Testing Sections with Hydrants Installed - Replace the paragraph that begins "[1] Test each hydrant …" with the following paragraph:

[1] Test each hydrant to the required test pressure. When testing a hydrant singly, pressure in the supply main beyond the hydrant auxiliary gate valve is 25 psi.

01140.52(a) General - Replace the paragraph that begins "The initial chlorine …" with the following paragraph:

Ensure the initial chlorine content of the water is not less than 25 ppm. Ensure a chlorine residual of not less than 10 ppm remain in the water after standing 24 hours in the pipe.

01140.52(d) Rate of Application - Replace this subsection, except for the subsection number and title, with the following:

Control water from the existing distribution system, or other source of supply, to flow very slowly into the newly laid pipeline during application of the chlorine. Provide a chlorine application rate in such proportion to the rate of water entering the newly laid pipe that the initial chlorine content of the water is at least 25 ppm.

01140.52(f) Retention Period - Replace this subsection, except for the subsection number and title, with the following:

Retain chlorinated water in the pipe at least 24 hours. After this period, ensure the residual chlorine at pipe extremities and at other representative points is at least 10 ppm

01140.52(h) Flushing and Testing - Add the following paragraph to the end of this subsection:

Dispose of flushing and disinfection waste water according to 01140.50(c).

01140.52(h)(3) Service Resumption - Replace this subsection, except for the subsection number and title, with the following:

Do not place the lines into service before a satisfactory report is received from the local or State health department on samples collected from representative points in the new system. Samples are collected and bacteriological tests obtained by the Engineer.

001140.90 Payment - Replace the paragraph that begins "In items (a) and (b) …" with the following paragraph:

In items (a) and (b), the nominal diameter of pipe, fittings and couplings is inserted in the first blank. The class of backfill is inserted in the second blank. The quantities include the pipe plus the allowance for the fittings and couplings.

Replace the paragraph that begins "In item (c) …" with the following paragraph:

In item (c), the class of backfill is inserted in the blank.

Replace the paragraph that begins "In item (d) …" with the following paragraph:

In item (d), the nominal diameter of assembly is inserted in the blank.

Replace the paragraph that begins "In item (e)…" with the following paragraph:

In item (e) the nominal diameter of pipe is inserted in the first blank and the nominal diameter of the main line is inserted in the second blank.

Replace the paragraph that begins "In item(s) (f) and (g) …" with the following paragraph:

In item(s) (f) and (g), the nominal diameter of pipe is inserted in the first blank. The class of backfill is inserted in the second blank.

Replace the paragraph that begins "In item(s) (h), (i), (j), (k), (l), …" with the following paragraph:

In item(s) (h), (i), (j), (k), (l), (m), and (n), the nominal diameter of the fittings or couplings is inserted in the blank.

Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

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

Replace the paragraph and bullets that begins "No separate …" with the following paragraph and bullets:

No separate or additional payment will be made for:

- Trench excavation
- Bedding
- Pipe zone material
- Backfill Work
- Polyethylene encasement
- Concrete thrust blocks
- Detectable marking tape and wire
- Flushing, hydrostatic testing and disinfection
- Water for flushing, disinfection, testing, and refilling mains
- Exposing and cleaning existing mains, cutting and removing existing pipe or casings, draining existing mains, disinfecting existing mains, and refilling existing mains
- PVC fittings under 4 inch
- HDPE fittings
- Pipe reconnections
- Removal of existing fittings, thrust blocks, or other appurtenances for connections

SECTION 02001 - CONCRETE

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

02001.15 Concrete Mix Design - Replace the paragraph that begins "Submit current or new mix …" with the following paragraph:

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 according to 02001.15(b). Provide a design that is 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 Project Site requirements.

02001.15(a) Current Mix Design - Replace this subsection, except for the subsection number and title, with the following:

Mix designs that meet the requirements for the specified class of concrete and are currently being used or have been used within the past 24 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. Provide flexural strength testing for paving designs from within the last two years. Provide length change and permeability tests for HPC designs from within the last two years.

02001.15(b) New Mix Designs - Replace this subsection, except for the subsection number and title, with the following:

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 are used in the Project. Simulate haul time, batching sequence and mixing conditions to ensure the trial batch is representative of the mixture that is delivered to the Project. Furnish all Materials, Equipment, testing and Work required for designing the mixes at no additional cost to the Agency.

02001.15(b)(1) Trial Batch Plastic Properties - Replace the test method that begins ”AASHTO T 23…” with the following test method:

AASHTO R 100 or R 39 [3]

02001.15(b)(2)(a) Compressive Strength Tests - Replace this subsection, except for the subsection number and title, with the following:

For each trial batch, cast and cure at least three test cylinders according to AASHTO R 100 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.

02001.15(b)(2)(b) Flexural Strength Tests - Replace this subsection, except for the subsection number and title, with the following:

For each paving concrete trial batch, cast and cure at least three flexural beams according to AASHTO R 100 or AASHTO R 39. Test flexural beams at 28 Days according to AASHTO T 97.

02001.15(b)(2)(c) Length Change Tests - Replace this subsection, except for the subsection number and title, with the following:

For all HPC mix designs, except for precast or prestressed elements, make at least three specimens from the trial batch for length change testing. Provide sample prisms having 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 AASHTO T 160, Section 11.1.2 for 28 Days. Report length change results at total specimen age of 56 Days.

02001.15(b)(2)(d) Permeability Tests - Replace this subsection, except for the subsection number and title, with the following:

For alternate HPC mix designs, select from the following options:

- 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.
- Make at least two specimens from the trial batch for resistivity testing. Prepare, cure and test according to AASHTO T358 using the sealed conditioning method. Report resistivity in kΩ·cm at 56 Days.

02001.15(c) Required Submittals for Mix Designs - Replace the title of this subsection with "**Submittals for Mix Designs"**

02001.20 Concrete properties, Tolerances, and Limits - Replace the paragraph that begins "Provide concrete that is…" with the following paragraph:

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

02001.20(a) Strength - Replace the paragraph that begins "Provide concrete meeting …" with the following paragraph:

Furnish 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.

02001.20(b) Air Entrainment - Replace the paragraph that begins "Provide all concrete…" with the following paragraph:

Furnish all concrete, except PPCM with cast-in-place decks, seal concrete, and drilled shaft concrete with entrained air in the amounts shown in Table 02001-2. Provide field measured entrained air content within ± 1.5 percent of target air entrainment values.

02001.20(c) Slump - Replace the paragraph that begins "Provide concrete…" with the following paragraph:

Furnish 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.

02001.20(d) Temperature - Replace the paragraph that begins "Provide concrete…" with the following paragraph:

Provide concrete, at time of placement, at a temperature between a minimum of 50 °F and a maximum of 90 °F, except the maximum bridge deck concrete temperature is 80 °F.

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

For HPC designs the following additional requirements apply:

Test	Test Method	Acceptance Value
Length Change	AASHTO T 160	-0.045% [1]
Permeability	AASHTO T 277	1,000 Coulombs (max.) at 90 Days [2]

[1] Not required for precast or prestressed elements.
[2] Only required for alternate HPC designs. See 02001.30(b)(2). A minimum resistivity of 37.0 kΩ·cm at 56 Days for 4x8 inch cylinders and 29 kΩ·cm at 56 Days for 6x12 inch cylinders are accepted as equal when tested according to AASHTO T 358 using the sealed conditioning method.

Add the following subsection:

02001.20(f) Internal Curing - For HPC(IC) concrete, internally cure the mixture according to the following:

- Substitute 350 lbs (SSD) LWFA for standard Fine Aggregate.

02001.30(a) Portland Cement - Replace this subsection, except for the subsection number and title, with the following:

For structural or paving concrete applications use cement according to 02010.10 or 02010.20, excluding Type III. Use Type III cement for precast prestressed concrete.

02001.30(b)(1) General Limits - Replace the paragraph that begins "*Fly ash + other…" with the following paragraph:

*Furnish fly ash + other Pozzolans at a rate no more than 25% and silica fume at a rate no more than 5% of the total weight of Cementitious Materials.

02001.30(b)(2) HPC Cementitious Composition - Replace this subsection, except for the subsection number and title, with the following:

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 AASHTO T 277 or a minimum resistivity of 37.0 kΩ·cm at 56 Days for 4x8 inch cylinders and 29 kΩ·cm at 56 Days for 6x12 inch cylinders are accepted as equal when tested according to AASHTO T358 using the sealed conditioning method.

02001.30(f) Synthetic Fiber Reinforcing for Concrete - Replace this subsection, except for the subsection number and title, with the following:

Except for precast or prestressed elements, use synthetic fiber reinforcing from the QPL and according to Section 02045 in all HPC. 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.

02001.40 Concrete Production - Replace the paragraph that begins "[1] When haul time or …" with the following paragraph:

[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 are taken to ensure slump, temperature and uniformity is maintained. Submit this request in advance and may establish a new time limit at the Engineer's discretion.

02001.40(a) Delivery Tickets - Replace the paragraph that begins "Send a concrete delivery …" with the following paragraph:
Send a concrete delivery ticket with each load of concrete supplied to the Project. Include the following information on each delivery ticket:

02001.40(b) Adjusting Concrete Proportions - Replace the bullet that begins "Large admixture dosage changes…" with the following bullet:

- Large admixture dosage changes, excluding adjustments for air entraining agents and Type A or D water reducers (± 25 oz/cubic yard).

02001.50 Quality Control - Replace the bullet that begins "The Contractor shall…" with the following bullet:

- Designate a person responsible for accepting and rejecting concrete on-site.

02001.50(c) Concrete Control Technician (CCT) - Replace the bullet that begins "Make adjustments to loads …" with the following bullet:

- Make adjustments to loads that fail to meet the air content or slump criteria of the Specifications prior to the 90-minute time limit. Make adjustments complying with the provisions of ASTM C94.

02001.60 Acceptance of Concrete - Replace this subsection, except for the subsection number and title, with the following:

Acceptance of concrete is according to Section 00165 and the following:

(a) Aggregate - Acceptance of Aggregate is according to 02690.12.

(b) Plastic Concrete - Acceptance of plastic concrete is 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 R 100 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 is 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 is 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) that 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 modified as follows:

02010.10(b) Specifications - Replace this subsection except for the subsection number and title with the following:

Furnish portland cement according to AASHTO M 85 or ASTM C150 for low alkali cement except as follows:

- Cement having a total alkali content (sodium and potassium oxide calculated as $Na_2O + 0.658\ K_2O$) not exceeding 0.60 percent.
- All cement types contain a maximum of 8 percent tricalcium aluminate (C_3A).
- The time-of-setting tests are by either the Gillmore test or the Vicat test.

- Types I and II maximum fineness (specific surface) as determined by AASHTO T 153 air permeability test is 430 m^2/kg. If $C_3S + 4.75\ C_3A$ is less than or equal to 90, the fineness criteria does not apply.

02010.10(c) Acceptance - Replace this subsection except for the subsection number and title with the following:

Furnish portland cement from the QPL.

02010.20 Blended Hydraulic Cement - Replace this subsection except for the subsection number and title with the following:
Furnish blended hydraulic cement that is either Type IS-portland blast-furnace slag cement, Type IP-portland-pozzolan cement, Type IL-portland-limestone cement, or Type IT-ternary blended cement according to AASHTO M 240.

Furnish blended hydraulic cement from the QPL.

SECTION 02020 - WATER

Comply with Section 02020 of the Standard Specifications modified as follows:

02020.10(a) General - Replace this subsection except for the subsection number and title with the following:

Use water in mixing or curing concrete, mortar, grout, and in mixing cement-treated Base that is reasonably clean, and free of oil, sugar, organic matter, or other substances injurious to the finished product.

02010.20(c) Non-Potable, Unknown Quality, or Suspected Quality - Replace this subsection except for the subsection number and title with the following:

Test non-potable, unknown quality, or suspected quality water at no additional cost to the Agency. Test according to ASTM C114 and ASTM C1603. Water from concrete production operations is considered unknown quality. Provide test results that comply with the limits and ranges of ASTM C1602. Make test results available for review upon request.

SECTION 02030 - SUPPLEMENTARY CEMENTITIOUS MATERIALS

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

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

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

002030.15 Natural Pozzolans - Replace this subsection, except for the subsection number and title, with the following:

Furnish Class N natural pozzolans from the QPL and according to AASHTO M 295 or ASTM C1945.

02030.20 Silica Flume - Replace this subsection, except for the subsection number and title, with the following:

Furnish silica fume from the QPL and according to the following:

(a) Types - Furnish the silica fume as a slurry containing silica fume, water, and a high range water reducer, or as a densified powder. Ensure the silica fume portion conforms to AASHTO M 307. Allowed total alkalis, as equivalent Sodium Oxide (Na_2O), is 1.5 percent maximum.

(b) Acceptance - Silica fume is accepted for immediate use if accompanied by a test results certificate according to 00165.35. If the silica fume is supplied as a slurry, indicate on the certificate the silica fume content of the slurry as a percent by weight. If the silica fume is supplied as a densified powder, do not allow the packaging to enter the concrete mixture.

002030.40 Ground Granulated Blast Furnace Slag (GGBFS) - Replace this subsection, except for the subsection number and title, with the following:

Furnish GGBFS from the QPL and according to AASHTO M 302.

002030.50 High Reactivity Pozzolans - Replace this subsection, except for the subsection number and title, with the following:

Furnish high-reactivity pozzolans from the QPL and according to AASHTO M 321.

Add the following subsection:

02030.55 Ground Glass Pozzolan - Furnish ground glass pozzolans meeting the requirements of ASTM C1866 Type GS.

SECTION 02050 - CURING MATERIALS

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

02050.10 Liquid Compounds - Replace this subsection, except for the subsection number and title, with the following:

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

Furnish Type 1-D, Type 2, Class A or B compounds.

Only Type 2, Class B resins are allowed for the following concrete Pavement applications:

- Plain concrete Pavement.
- Continuously reinforced concrete Pavement.
- Plain concrete Pavement repair.
- Reinforced concrete Pavement repair.

SECTION 02110 - POSTS, BLOCKS, AND BRACES

Comply with Section 02110 of the Standard Specifications modified as follows:

02110.10(a) General - Replace this subsection, except for the subsection number and title, with the following:

Furnish posts for guardrail and median barrier of the size shown, manufactured from Douglas fir, Hem-fir, or Southern Yellow Pine. A minimum extreme fiber bending stress (F_b) of 1,200 psi is required for wood posts. Only treated posts from approved Suppliers that are listed in the *Nonfield-Tested Materials Acceptance Guide* are allowed.

02110.10(b) Grading - Replace the paragraph that begins "Grading of posts shall…" with the following paragraph:

Furnish posts with grading meeting the following:

02110.10(c) Certificates - Replace this subsection, except for the subsection number and title, with the following:

Provide certificates of lumber inspection by a recognized inspection agency.

02110.10(f) Seasoning and Checking - Replace this subsection, except for the subsection number and title, with the following:

Furnish preservative treated post that show evidence of reasonable amount of seasoning or conditioning having occurred prior to treatment, so that further shrinkage of treated posts will not create checking that would expose untreated wood.

At the time of inspection at the plant and at the time of installation each treated post is subject to inspection for evidence of seasoning having occurred. The presence of checking on the surface of the post will not be cause for rejection unless the width of the widest check, shake, or split exceeds 1/2 inch (surface measurement).

If an otherwise acceptable treated post has a through check, shake, or end split in the same slope of grain or plane as the bolt hole and extending from the top of the post to within 3 inches of the bolt hole, the post is rejected unless it is provided with a tight fastening across the separation, centered on the post, and 2 inches below the top. Fasten with a 1/2-inch diameter galvanized bolt and nut with a galvanized washer under the bolt head and under the nut after final curing of post is achieved. Treat holes for fastenings according to 00570.40.

02110.10(g) Inspection, Rejection and Marking at Plant - Replace this subsection, except for the subsection number and title, with the following:

Posts are subject to inspection at the treating plant at any time before, during or after treatment. Normally, inspection of treated posts is made by the Agency's Inspector not later than 10 Calendar Days after treatment, provided the Inspector is notified of the time that treating is to be done.

Inspection of treated posts for compliance with the requirements of 02110.10(e) is according to applicable AWPA standards, except as follows:

- The Inspector will choose the number of treated posts from any one charge of the treating cylinder for determining penetration of treatment.
- Each post selected for testing is representative as a basis of acceptance or rejection of a pro rata number of posts in the charge.
- If 20 percent of the posts randomly selected for testing fail to conform to requirements, all of the posts in the entire charge from where they are selected may be classed as unacceptable.

At the Inspector's discretion, each treated post or a representative random selection of treated posts may be inspected for compliance with the requirements of 02110.10(f) "Seasoning and Checking".

Posts that fail to conform to requirements of this Subsection are subject to rejection at the treating plant singly, by partial lots, or by whole lots. (A "lot" comprises the posts in any charge of the treating cylinder.)

Apply a permanent mark or metal tag to each treated post that identifies the Supplier and year of treatment, placed by the Supplier either:

- On the top of the post, or
- On the back of the post, 8 inches to 10 inches below the bolt hole.

02110.10(h) Field Inspection, Acceptance and Rejection - Replace the paragraph that begins "Posts that show a check …" with the following paragraph:

Posts that show a check, shake, or split exceeding 1/2 inch in width (surface measurement) on any surface are rejected.

Replace the paragraph that begins "Acceptance of Material…" with the following paragraph:

Acceptance of Material is according to 00165.35, 02110.10(g), and the Specifications.

02110.20 Guardrail Blocks - Replace this subsection, except for the subsection number and title, with the following:

(a) General - Furnish wood guardrail blocks of the dimensions shown. Furnish blocks either Douglas fir or Hem-fir meeting the requirements of 02110.10, or pine or Southern Yellow Pine meeting the requirements of 02110.20(b) and 02110.10 except for 02110.10(b). The requirements of marking and branding the treated blocks, according to the last paragraph of 02110.10(g), is waived provided that the Supplier of the treated blocks provides certification with each shipment stating that the blocks conform to Specifications and that the preservative treating was done under the inspection and with the approval of the Engineer.

(b) Grading - Furnish pine guardrail blocks according to the requirements of paragraph 80.11 of the current WWPA Grading Rules. Furnish Southern Yellow Pine guardrail blocks

according to the requirements for No. 1 timber as specified in section 402 of the current SPIB Grading Rules.

(c) Recycled Plastic - Recycled plastic guardrail blocks from the QPL may be used.

(d) Acceptance - Acceptance of Material is according to 00165.35 and this Section.

02110.30 Fence Posts and Braces - Replace this subsection, except for the subsection number and title, with the following:

Furnish fence posts and brace rails of the sizes and dimensions shown and of sound Douglas fir, western hemlock, or western pine free from decay, end splits, and multiple crooks. Seasoning checks of not more than 5/16-inch width (surface measurement) is allowed. Allowable crooks may be in one plane only. Do not allow a line drawn between the centers of the butt and tip of each post and brace rail to fall outside of the actual longitudinal centerline of the post or rail by more than 1.67 percent of its length, with an allowable maximum of 2 inches.

Posts and brace rails may be square, rough, or dressed lumber, or may be peeled round posts, as the Contractor elects. Furnish round members free from bark, protruding knots and irregularities detrimental to a pleasing appearance.

Fabricate posts and brace rails before pressure treatment. Where field boring or field cutting of a treated member is required, field-treat the exposed untreated surface of the member according to 00570.40. Do not allow the size of holes after treatment to exceed the size of the dowels or bolts to be inserted by more than 1/16 inch.

Posts intended to be driven may be machine-pointed on either the small end or the large end, before pressure treatment.

Pressure treat the posts and brace rails according to Section 02190.

Acceptance of Material is according to 00165.35 and the Specifications.

02110.40(a) Grading - Replace the paragraph that begins "Grading requirements…" with the following paragraph:

Furnish wood signposts with grading according to the applicable paragraphs of either the current WCLIB Grading Rules or the current WWPA Grading Rules, as follows:

02110.40(b)(1) Length - Replace the paragraph that begins "The length of the posts…" with the following paragraph:

Furnish posts of the length as shown or, where not shown, a sufficient length to provide proper sign mounting, a proper mounting height and the required foundation depth.

02110.40(b)(4) Cuts and Abrasions - Replace this subsection, except for the subsection number and title, with the following:

Treat cuts, abrasions and bolt-holes, prior to shipping, with the same preservative as originally used to treat the post, except that if the post was originally treated with

pentachlorophenol - volatile petroleum solvent (LPG) solution, treat cuts, abrasions and bolt-holes with pentachlorophenol - mineral spirits solvent solution according to AWPA Standard M4.

02110.40(c) Cuts and Abrasions - Replace this subsection, except for the subsection number and title, with the following:

Acceptance of Material is according to 00165.35 and this Section.

SECTION 02190 - PRESERVATIVE TREATMENT OF TIMBER

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

02190.10 General - Replace the paragraph that begins "All preservative treatment…" with the following paragraph:

Provide all preservative treatment according to AASHTO M 133 and its referenced AWPA Standards, except use the following according to the AWPA Standard:

02190.20 Drying After Treatment - Replace the paragraph that begins " The maximum moisture…" with the following paragraph:

The maximum moisture content is 19 percent prior to installation.

SECTION 02210 - COATING MATERIALS FOR TIMBER AND CONCRETE

Comply with Section 02210 of the Standard Specifications modified as follows:

02210.10(a) Manufacturing - Replace the bullet that begins "All coats in…" with the following bullet:

- Use the same manufacturer for all coats in the coating system.

Replace the bullet that begins "Multi-component coating Materials…" with the following bullet:

- Furnish manufacturer proportioned multi-component coating Materials with each component in its correct proportion and furnished in separate containers ready for field mixing.

02210.30 Coating Materials for Concrete - Add the following:

Furnish pigmented sealer as shown that conforms to the following colors or approved equal:

Flat Exposed Concrete Surfaces (Bridge Rail, Bents, MSE Facing and Wingwalls):

Dark Brown, Miller Paint Dapper #0192.

Architectural Treatment: Furnish 3 shades to match the medium shades of basaltic rock in the surrounding area.

Predominate and base layer color:

Dark Brown, according to Sherwin-Williams Black Fox #7020.

Highlight Colors:

Dark Brown, according to Sherwin-Williams Otter #6041.
Dark Brown, according to Miller Paint Dapper #0192.

Submit samples to the Engineer for review and approval.

Prior to applying the concrete coating, prepare a test panel according to 00543.40.

SECTION 02320 - GEOSYNTHETICS

Comply with Section 02320 of the Standard Specifications modified as follows:

02320.10(a)(1) Geotextiles - Replace the bullet that begins "Fibers used in manufacture of…" with the following bullet:

- Use fibers and threads consisting of long-chain synthetic polymers, composed of at least 95 percent by weight of polyolefins or polyesters in the manufacture and joining of geotextiles. Form geotextiles into a stable network such that the filaments or yarns retain their dimensional stability to each other, including selvages.

02320.10(b) Identification - Replace the paragraph that begins "Allow the Engineer to…" with the following paragraph:

Allow the Engineer to visually verify geosynthetic products before installation. Open packaged geosynthetics before use in the presence of the Engineer to confirm the correct product. Geotextile rolls without the product name printed on the geotextile or the product label affixed to the geotextile or roll core by the Manufacturer are rejected. Any other geosynthetics that are unwrapped, missing original packaging or previously opened may not be used unless approved by the Engineer.

02320.10(c) Manufacturer's Test Certification - Replace the paragraph that begins "Furnish test result…" with the following paragraph:

Provide test result certificates according to 00165.35 from the geosynthetic manufacturer, and the following:

02320.10(c)(1) Geotextiles - Replace the bullet that begins "Product name printed…" with the following bullet:

- Product name printed directly on the geotextile by the Manufacturer. For geotextiles that are not marked with a product name, furnish geotextile with product label attached to the geotextile or original packaging by the Manufacturer.

02320.10(d) Manufacturer's Sampling/Testing - Replace this subsection, except for the subsection number and title, with the following:

Provide manufacturer's reported property values based on the following sampling and testing requirements:

(1) Sampling - Sample all geosynthetics according to ASTM D4354. Use a roll or sheet for the production unit used for sampling.

(2) Geotextile Testing - Perform the specified tests to determine geotextile properties for the intended applications. Test the tensile strength requirements in both machine and cross-machine directions.

(3) Geogrid Testing - For mechanically stabilized earth retaining wall geogrid, provide laboratory test results that demonstrate the average roll value for each geogrid product is greater than or equal to the geogrid ultimate wide width tensile strength reported for the initial geogrid product evaluation and approval on the QPL. Determine the ultimate wide width tensile strength (T_{ult}) according to ASTM D6637. If the average roll value for each geogrid reinforcement product is less than the geogrid ultimate wide width tensile strength identified on the QPL, the entire production run is rejected.

02320.20 Geotextile Property Values - Replace Table 02320-3 with the following table:

Table 02320-3 Geotextile Property Values for Sediment Fence [1]

Geotextile Property	ASTM Test Method	Unit	Geotextile Property Requirements Woven and Nonwoven
Grab Tensile Strength (minimum) Machine and Cross Machine Directions	D 4632	lb	120 100
Apparent Opening Size (AOS) (maximum) U.S. Standard Sieve	D 4751	—	30
Permittivity (minimum)	D 4491	sec^{-1}	0.05
Ultraviolet Stability Retained Strength (minimum)	D 4355 (at 500 hours)	%	70

[1] All geotextile properties are Minimum Average Roll Values (MARV). The test results for any sampled roll in a lot shall meet or exceed the values shown in the table.

SECTION 02340 – ROCK GABION BASKETS

Replace this Section except for the Section number and title with the following:

Description

02340.00 Scope - This Section includes the requirements for Rock gabion baskets of twisted or welded wire mesh.

Materials

02340.10 General - Furnish wire mesh free of breaks in the wire, free of breaks at weld points or other deficiencies. Furnish wires of either twisted or welded wire mesh meeting the following minimum requirements:

Galvanizing ..... 0.80 oz. per sq. ft. minimum
Tensile strength * ..... 60,000 psi minimum
Wire diameter tolerance limit ..... ± 0.004"

* Tensile area includes galvanizing

Furnish welded wire according to AASHTO M 55 (ASTM A185) except with minimum weld shears of 600 pounds for 11-gauge, and 800 pounds for 9-gauge wires. All wire sizes are after galvanizing.

Furnish tie wires and internal connecting wires that are galvanized and no smaller than 13-1/2 gauge. Spiral binders may be used as an alternate to tie wire for basket assembly and basket-to-basket connections. Furnish spiral binders that are 9-gauge, galvanized, and have a 3-inch pitch. High tensile fasteners of the locking spring steel clip or clamp-on ring type may be used as alternates to tie wire for basket assembly only. Fabricate high tensile fasteners from 11-gauge steel wire with a minimum tensile strength of 240,000 psi. Furnish a Class 3 zinc coating according to ASTM A764. Furnish high tensile fasteners with a closed position tensile strength of 600 pounds.

Furnish galvanized wire according to ASTM A641.

02340.12 Twisted Wire Mesh Gabion Baskets - Furnish gabion panels of the twisted mesh style manufactured from 11-gauge with 9-gauge selvage wires and a uniform hexagonal pattern and formed with a non-raveling twist. Furnish hexagonal openings such that the major axis (maximum line dimensions) does not exceed 4.75 inches and the area of the hexagonal opening, approximately 3.2 inches by 4.5 inches, does not exceed 9.5 square inches.

02340.20 Welded Wire Mesh Gabion Baskets - Furnish gabion panels of the welded mesh style manufactured from 11-gauge or 9-gauge wire, a nominal 3-inch by 3-inch grid pattern and according to AASHTO M 55 (ASTM A185). Furnish panels with maximum line dimensions of any opening that does not exceed 4.75 inches. Furnish 12-inch and 18-inch high mattresses made from 11-gauge panels. Gabions of square Cross Section (cubical-celled units) may be made with either 9-gauge or 11-gauge panels, except that within the same unit, panels of dissimilar wire sizes may not be mixed.

Galvanized 9-gauge stiffeners, placed diagonally in the baskets at the vertical one-third points, as shown or as recommended by the manufacturer, may be used instead of perpendicular cross ties.

02340.30 PVC Coated Wire Mesh Gabion Baskets - Furnish either twisted wire mesh or welded wire mesh wire type used for PVC coated wire mesh gabions according to 02340.00 and 02340.12 or 02340.20.

Furnish PVC coating for twisted wire mesh gabions extruded onto the wire core before weaving the coated wire into a double twisted hexagonal mesh. The use and minimum diameter of the various wires is as follows:

- Gabion Panel wire core manufactured from galvanized 12-gauge wire core with an overall minimum diameter of the galvanized wire core plus PVC coating of 0.136 inch.
- Selvage and reinforcing wire of heavily galvanized 10-gauge wire core coated with PVC and having an overall minimum diameter (galvanized wire core plus PVC coating) of 0.165 inch.
- Lacing and connecting wire of heavily galvanized 13 1/2-gauge wire core coated with PVC and having an overall minimum diameter (galvanized wire core plus PVC coating) of 0.120 inch.

02340.40 Fabrication - Fabricate gabions so that the sides, ends, lid and diaphragms can be assembled at the construction site into rectangular baskets of the specified sizes. Dimensions for heights, lengths and widths of gabion baskets are as shown with a tolerance of plus or minus 3 percent. Furnish gabions of single unit construction. Either connect the

base, lid, ends and sides into a single unit or connect one edge of these members to the base section of the gabion in such a manner that strength and flexibility at the point of connection are at least equal to those of the mesh.

If the length of the gabion exceeds its horizontal width, equally divide the gabion by diaphragms into cells whose length does not exceed the horizontal width. Furnish the diaphragm Material of the same mesh and size as the body of the gabions. Furnish the gabion with the necessary diaphragms secured in proper position on the base in such manner that no additional tying at this juncture is necessary.

Assemble the wire mesh panels (base, ends, sides, diaphragms and lid) so strength and flexibility at connections are at least equal to those of a single panel.

02340.50 Acceptance - Provide a quality compliance certificate for gabion baskets according to 00165.35.

SECTION 02410 - CONCRETE PIPE

Comply with Section 02410 of the Standard Specifications modified as follows:

02410.10(e) Concrete Pipe Plant Air Test - Replace this subsection, except for the subsection number and title, with the following:

The Engineer may require that each length of concrete pipe 12 inches in diameter and smaller be given an individual air test at the point of manufacture. Use test Equipment approved by the Engineer and a test pressure of at least of 10 psi. Ensure each length shows no appreciable loss of air after 5 seconds.

When individual air testing is performed, no field or shop permeability tests are required.

02410.10(f) Nonreinforced Concrete Pipe - Replace this subsection, except for the subsection number and title, with the following:

Furnish nonreinforced or plain circular concrete pipe and special sections according to the requirements of AASHTO M 86 (ASTM C14) or ASTM C985 and this Section.

02410.10(g) Reinforced Concrete Pipe - Replace this subsection, except for the subsection number and title, with the following:

Furnish reinforced concrete pipe and special sections according to the requirements of AASHTO M 170 (ASTM C76) and this Section, except as follows.

(1) Special Sections - Furnish special sections such as elbows, wyes, tees, crosses, bends and reducers as shown, specified or directed. In the absence of any design or Specifications, furnish special sections of the design recommended by the manufacturer for the intended use and according to the requirements specified for the pipe where it is used.

Fabricate special sections with components from tested and approved lots. Maintain production dates of components.

(2) Load Strength - Reinforced concrete pipe having the same D-load strengths as those specified to be furnished under AASHTO M 170 (ASTM C76) may be furnished according to AASHTO M 242 (ASTM C655).

(3) Acceptance - The basis of acceptance for reinforced concrete pipe manufactured according to AASHTO M 170 (ASTM C76), and AASHTO M 242 (ASTM C655) is Paragraph 5.1.1 of AASHTO M 170.

02410.10(h) Concrete Drain Pipe - Replace this subsection, except for the subsection number and title, with the following:

Use circular, nonreinforced perforated concrete pipe and special sections for subsurface drainage according to the requirements of AASHTO M 175 (ASTM C444), Type 1, all applicable requirements of AASHTO M 86 (ASTM C14), except indent the markings required by AASHTO M 86 (ASTM C14) in the outside surface of each section of pipe.

02410.10(i) Concrete Drain Tile - Replace this subsection, except for the subsection number and title, with the following:

Furnish concrete drain tile according to the requirements of AASHTO M 178 (ASTM C412).

02410.80 Acceptance - Replace this subsection, except for the subsection number and title, with the following:

Except as provided in 02410.10(g)(3), acceptance of nonreinforced concrete pipe, reinforced concrete pipe, concrete drain pipe, concrete drain tile, and hardware is according to 00165.35 and this Section.

SECTION 02415 - PLASTIC PIPE

Comply with Section 02415 of the Standard Specifications modified as follows:

02415.20 Solid-Wall Polyethylene Pipe - Replace the bullet that begins "Production code from which …" with the following bullet:

- Production code where the date and place of manufacture can be determined

02415.30 Steel Reinforced Polyethylene Pipe - Replace the paragraph that begins "For Steel Reinforced Polyethylene…" with the following paragraph:

For Steel Reinforced Polyethylene Pipe, furnish either factory installed gaskets on the couplings or manufacturer installed gaskets on the pipes. Furnish at least silt tight joints for culvert pipe and water tight joints for storm sewer pipe. Furnish watertight joints from the QPL and meeting the requirements of ASTM D3212.

02415.40 Polypropylene Pipe - Replace this subsection, except for the subsection number and title, with the following:

Furnish polypropylene pipe and fittings as follows:

(a) Non-Pressure Storm Sewers and Culverts - Furnish polypropylene pipe and fittings for non-pressure storm sewers and culverts from the QPL and meeting the following requirements:

Dual Wall Pipe	ASTM F2764, ASTM F2881, or AASHTO M 330 Type S
Triple Wall Pipe.....	ASTM F2764 or AASHTO M 330 Type D
Watertight Joints	ASTM D3212

(b) Non-Pressure Sanitary Sewers - Furnish polypropylene pipe and fittings for non-pressure sanitary sewers from the QPL and meeting the following requirements:

Dual Wall Pipe	ASTM F2764
Triple Wall Pipe	ASTM F2764
Watertight Joints	ASTM D3212

02415.50 Polyvinyl Chloride Pipe - Replace the paragraph that begins "Furnish PVC sanitary, storm…" with the following paragraph:

Furnish PVC sanitary, storm, culvert, siphon, and irrigation pipe and fittings with 2 feet or more cover that have a minimum pipe stiffness of 46 psi or a minimum SDR of 35 and meet the requirements of sewer pipe ASTM D3034 or ASTM F794.

02415.80 Acceptance - Replace this subsection, except for the subsection number and title, with the following:

Acceptance of Polyethylene Pipe, polypropylene pipe, polyvinyl chloride pipe and hardware is according to 00165.35 and this Section.

SECTION 02420 - METAL PIPE

Comply with Section 02420 of the Standard Specifications modified as follows:

02420.10(a) Shapes - Replace the paragraph that begins "Provide either full-circle…" with the following paragraph:

Furnish either full-circle or elliptical pipe, as the Contractor may elect, unless otherwise shown or specified. The shapes of pipe fabricated and furnished may include any of the following:

Replace the bullet that begins "**Nestable Pipe** - Fabricate …" with the following bullet:

- **Nestable Pipe** - Fabricate in two separate half sections designed to fit and fasten together to form a full-circle Cross Section of specified diameter. Fasten the two half sections together by approved means, providing at least 90 percent of the strength of a standard riveted longitudinal seam.

02420.10(b) Connecting Bands - Replace this subsection, except for the subsection number and title, with the following:

Use connecting bands according to the details as shown to make field joints for pipes and pipe arches not requiring watertight joints.

02420.10(c) Special Sections - Replace the paragraph that begins "Generally, special sections shall…" with the following paragraph:

Generally, furnish special sections according to the requirements specified for the pipe where they are used. Connect special sections to the pipe or to each other with connecting bands specified for use with the pipe where they are connected.

02420.10(d) Repair of Damaged Coating - Replace the paragraph that begins "In addition to the methods …" with the following paragraph:

In addition to the methods given in AASHTO M 36 (ASTM A760) the Contractor may repair damaged zinc or aluminum coating by removing all loose or cracked coating, removing all welding flux, wire brushing the damaged area, and applying two coats (minimum 2 mils total thickness) of a high zinc dust content paint according to the general requirements of ASTM A780.

02420.10(e) Irrigation Pipe - Replace the paragraph that begins "In irrigation pipe installations…" with the following paragraph:

In irrigation pipe installations, where Type D coating (AASHTO M 190) is not specified, the Contractor is allowed to furnish pipe with Type D coating.

02420.10(e)(2) Field Joints - Replace this subsection, except for the subsection number and title, with the following:

Use connecting bands according to the details shown and make the field joints watertight.

02420.10(f) Siphon Pipe - Replace the paragraph that begins "Field joints shall provide…" with the following paragraph:

Furnish circumferential and longitudinal strength field joints to preserve the pipe alignment, prevent separation of pipe sections and provide a watertight joint. Attach the connecting bands so they lap a nearly equal portion of each pipe section to be connected.

02420.11 Ductile Iron - Replace this subsection, except for the subsection number and title, with the following:

Furnish ductile iron pipe according to the requirements of AWWA C151. Use Pressure Class 150 - 350 or Special Thickness Class 50 - 56, as directed.

02420.20(a) Bituminous Protective Coatings - Replace this subsection, except for the subsection number and title, with the following:

Furnish corrugated metal pipe and connecting bands with bituminous coatings according to the requirements of AASHTO M 190 and the following:

- Before immersion, ensure the metal is free of grease, dirt, dust, moisture or other contaminants.
- Apply the initial bituminous coating by one of the processes under 02420.20(a)(1) or 02420.20(a)(2).
- If a second dip is required to meet the coating thickness requirements of AASHTO M 190, the time and temperature requirements of 02420.20(a)(1) or 02420.20(a)(2) need not be followed for the second dip.

- Fill the corrugations for at least 40 percent of the circumference of the pipe to form the paved invert for both Type B and Type C coatings on either circular or arch type pipe.

02420.20(a)(1) Pipe Not Preheated - Replace the paragraph that begins "The temperature of the asphalt…" with the following paragraph:

Furnish asphalt at the time of pipe immersion at a temperature of 400 °F ± 5 °F. Provide an immersion duration meeting the following schedule:

02420.20(2) Pipe Preheated - Replace this subsection, except for the subsection number and title, with the following:

Furnish asphalt at the time of pipe immersion at a temperature of 380 °F ± 5 °F and the pipe preheated to a temperature 300 °F to 350 °F.

02420.20(b) Type D, Fully-Bituminous Coated, Fully-Lined - Replace this subsection, except for the subsection number and title, with the following:

Furnish a fully-bituminous coated, fully-lined interior lining that is smooth, uniform and free from sags and runs. Slight residual corrugations due to cooling and shrinkage of the lining will not be cause for rejection. At the three-sheet lap an interior nonuniformity equal to the thickness of the sheet is allowed. Maintain the thickness of the lining to the ends of the pipe.

02420.20(c) Optional Paved Invert - Replace this subsection, except for the subsection number and title, with the following:

If an asphalt coated pipe with a paved invert (Type C coating) is shown or specified, a centrifugally-applied interior lining according to Type D coating may be furnished as an alternate, providing the minimum thickness of bituminous coating over the crests of the corrugations is not less than 1/4 inch.

02420.30 Corrugated Steel Pipe for Underdrains - Replace this subsection, except for the subsection number and title, with the following:

Furnish corrugated steel pipe for underdrains according to the requirements of AASHTO M 36 (ASTM A760) Type III - Underdrain Pipes, except as modified in 02420.10(c) and 02420.10(d), and as follows:

(a) Class IV - Semicircular pipe may be used only as an alternate with the 6-inch size of perforated full-circle drain pipe.

(b) Connecting Bands - Furnish connecting bands for underdrain pipe field joints meeting the designs shown.

02420.40 Corrugated Aluminum Alloy Pipe - Replace this subsection, except for the subsection number and title, with the following:

Furnish corrugated aluminum alloy pipe, helical rib pipe, pipe arches and special sections according to the requirements of AASHTO M 196 (ASTM B745), Types I, II and III, except as follows:

(a) Shapes - The shapes of the pipes to be furnished may include any of the shapes described in 02420.10(a).

(b) Connecting Bands - Use connecting bands according to the requirements of AASHTO M 196 (ASTM B745) and the details shown to make field joints for pipes and pipe arches not requiring watertight joints.

(c) Special Sections - Furnish special sections such as elbows, wyes, tees, crosses, bends, reducers and flared inlets as shown or as directed.

Generally, furnish special sections according to the requirements specified for the pipe where they are used. Connect special sections to the pipe or to each other with connecting bands specified for use with the pipe where they are connected.

For elbows of 30 degrees or greater total angle, use a three-piece section of approximately equal length and equal-angle segments or pieces.

(d) Irrigation Pipe - In irrigation pipe installations where Type D coating is not shown or specified, the Contractor is allowed to furnish pipe with Type D coating.

If pipes are not furnished with Type D coating, ensure all riveted seams meet the applicable provisions of 02420.10(e)(1).

Use connecting bands according to AASHTO M 196 (ASTM B745) and the details shown, and make the field joints watertight for pipe installations used in irrigation.

(e) Siphon Pipe - Fabricate corrugated aluminum alloy pipe used in siphons with watertight seams.

Provide field joints with circumferential and longitudinal strength to preserve the pipe alignment, prevent separation of pipe sections and provide a watertight joint. Fabricate the connecting bands from aluminum alloy according to AASHTO M 196 (ASTM B745). Attach the connecting bands so they lap a nearly equal portion of each pipe section to be connected.

(f) Sloped or Skewed Ends - If the ends of pipe culverts require sloped ends, skewed ends or both, fabricate the ends in a manner that provides good workmanship and a smooth finish. Repair bituminous protective coatings and linings when specified.

02420.50 Corrugated Aluminum Alloy Pipe for Underdrains - Replace this subsection, except for the subsection number and title, with the following:

Furnish corrugated aluminum alloy pipe for underdrains according to the requirements of AASHTO M 196 (ASTM B745) Type III, except as follows:

(a) Special Sections - The provisions of 02420.40(c) apply.

(b) Connecting Bands - Furnish connecting bands for field joints meeting the requirements of AASHTO M 196 (ASTM B745) and the details shown.

02420.60 Acceptance - Replace this subsection, except for the subsection number and title, with the following:

Acceptance of pipes, underdrains, and protective coatings is according to 00165.35 and this Section.

SECTION 02440 - JOINT MATERIALS

Comply with Section 02440 of the Standard Specifications modified as follows:

02440.10 Preformed Joint Fillers for Concrete - Replace this subsection, except for the subsection number and title, with the following:

Furnish preformed joint fillers for concrete from the QPL according to the requirements of AASHTO M 153 or AASHTO M 213.

02440.15 Lubricant/Adhesive - Replace this subsection, except for the subsection number and title, with the following:

Furnish a lubricant/adhesive according to ASTM D4070 and according to the recommendations of the seal manufacturer.

02440.20 Strip Seals - Replace this subsection, except for the subsection number and title, with the following:

Furnish strip seals from the QPL and according to ASTM D5973.

02440.22 Preformed Compression Joint Seal - Replace this subsection, except for the subsection number and title, with the following:

Furnish preformed compression joint seals from the QPL and according to the requirements of AASHTO M 297.

02440.40(a) Preformed Flexible Joint Sealant - Replace this subsection, except for the subsection number and title, with the following:

Furnish Materials for tongue and groove or key lock manhole joints according to the requirements of ASTM C990.

02440.40(b) Rubber Gaskets - Replace this subsection, except for the subsection number and title, with the following:

Furnish Materials for O-ring manhole and concrete pipe joints according to ASTM C443.

02440.50 Joint Materials for Concrete Precast Manhole Section Joints - Replace this subsection, except for the subsection number and title, with the following:

(a) Mortar - Furnish mortar according to the requirements of ASTM C387, or proportioned one part Type II portland cement to two parts clean, well-graded Sand passing a No. 6 screen. Admixtures may be used not exceeding the following percentages by weight of cement:

Hydrated lime 10%
Diatomaceous earth or other inert materials 5%

Furnish mortar with the consistency such that it will readily adhere to the precast concrete if using the standard tongue-and-groove type joint.

(b) Non-Epoxy (Non-Shrink) Grout - Furnish a non-epoxy (non-shrink) grout according to 02080.20. Place or pack non-epoxy (non-shrink) grouts only with the use of a non-epoxy bonding agent according to 02070.20, applied to all cured concrete surfaces being grouted. Use a bonding agent compatible with the grout used.

02440.60 Plastic Compound for Precast Manhole Section Joints - Replace the bullet that begins "Is pliable at temperatures …" with the following bullet:

- Is pliable at temperatures between 32 °F and 135 °F. Ensure a specimen at 77 °F and 1/2-inch square in Cross Section stretches at least 1 1/2 inches before rupture when tested with the apparatus described in ASTM D113.

02440.70(a) Plastic - Replace the paragraph that begins "Polyvinyl chloride water stop …" with the following paragraph:

Manufacture polyvinyl chloride water stop from virgin polyvinyl chloride (PVC) compound. Reclaimed PVC is not allowed. Furnish the water stop having the following properties:

02440.70(b) Rubber - Replace this subsection, except for the subsection number and title, with the following:

Furnish rubber water stops to the dimension shown and according to the requirements of ASTM C923, ASTM C1478, or ASTM F2510 as appropriate for the specific Structure and pipe types.

02440.80 Acceptance - Replace this subsection, except for the subsection number and title, with the following:

Acceptance of joint Materials is according to 00165.35 and this Section.

SECTION 02450 - MANHOLE AND INLET MATERIALS

Replace Section 02450 of the Standard Specifications except for the Section number and title with the following:

Descriptions

02450.00 Scope - This Section includes the requirements for precast manhole sump sections, metal frames, covers, grates, and manhole steps.

Materials

02450.10 Precast Concrete Manhole Sections - Furnish precast risers, cones, and cover slabs for precast concrete manholes according to the requirements of AASHTO M 199 (ASTM C478).

02450.15 Precast Concrete Catch Basins and Inlets - Furnish precast concrete catch basins and inlet according to the requirements of ASTM C913.

02450.20 Precast Concrete Sump Sections - Furnish precast rings and lids for precast concrete sumps of portland cement concrete according to AASHTO M 199 (ASTM C478).

02450.30 Metal Frames, Covers, Grates, and Steps - Comply with the following:

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Item	AASHTO (ASTM) Designation	Grade
Manhole frames and covers	M 306	Class 35 B
Inlet frames and grates	M 306	Class 35 B
	M 227 (A663)	65
	M 270 (A709) (A36)	36
	M 103 (A27)	65 - 35

All Other Projects

Item	AASHTO (ASTM) Designation	Grade
Manhole frames and covers	M 105	Class 30 B
Inlet frames and grates	M 227 (A663)	65
	M 270 (A709) (A36)	36
	M 103 (A27)	65 - 35

Furnish steps for manholes that are steel-reinforced plastic according to AASHTO M 199 (ASTM C478) and AASHTO T 280 (ASTM C497). Use deformed reinforcing bar according to AASHTO M 31 (ASTM A615) Grade 60, No. 4 minimum. Use plastic material that is injection molded, with a textured, non-slip surface and a minimum thickness over the steel of 1/16 inch. Voids in the plastic are cause for rejection of the step.

Provide welding according to AWS D1.1. Furnish frames, covers and grates for use one with another with even and uniform bearings. Furnish miscellaneous metal items and hardware according to the appropriate requirements of Section 00560.

Galvanize inlet frames and grates that are fabricated out of steel according to the appropriate requirements of Section 02530.

02450.40 Damaged Zinc or Aluminum Coating - Repair damaged zinc or aluminum coating according to 02420.10(d).

02450.50 Acceptance - Acceptance of manholes and inlets is according to 00165.35 and this Section.

SECTION 02470 - POTABLE WATER PIPE MATERIALS

Replace Section 02470 of the Standard Specifications except for the Section number and title with the following:

Description

02470.00 Scope - This Section includes the requirements for ductile iron, steel, and polyvinyl chloride (PVC) pipe 16 inches in diameter and smaller, for potable water systems.

Materials

02470.10 General - Clearly mark all pipe with the type, class, thickness, and manufacturer's name, as applicable. Use lettering that is legible and permanent under normal conditions of handling and storage. Ensure all Materials in contact with potable water conform to ANSI/NSF Standard 61, Drinking Water System Components - Health Effects, or equivalent, and ANSI/NSF Standard 372, Drinking Water System Components - Lead Content.

02470.20 Ductile Iron Pipe:

(a) General - Use centrifugally cast ductile iron pipe meeting the requirements of AWWA C151. Furnish ductile iron pipe having a cement-mortar lining and seal coating meeting the requirements of AWWA C104. Furnish Special Thickness Class 53 ductile iron pipe where joined using bolted flanged joints. Furnish Special Thickness Class 50 for all other ductile iron pipe, unless otherwise shown or specified.

(b) Nonrestrained Joints - Furnish nonrestrained joints that are rubber gasket, push-on type, or mechanical type meeting the requirements of AWWA C111.

(c) Restrained Joints - Furnish restrained joints according to 02475.50.

02470.31 High Density Polyethylene (HDPE) Pipe - Use HDPE pipe meeting the requirements of NSF/ANSI 61 and ANSI/AWWA C906, Standard Code Designation of PE4701, minimum cell classification PE 345464 C, D or E, and oxidative resistance classification CC3 according to ASTM D3350. Furnish all pipe with a minimum dimension ratio (DR) of 9 unless otherwise shown or specified. Furnish pipe that is iron pipe size (IPS) outside diameter or ductile iron pipe size (DIPS) outside diameter. Furnish pipe with color coding according to the APWA Uniform Color Code. Join pipe using thermal butt fusion method that meets the requirements of ASTM D3261.

02470.40 Polyvinyl Chloride (PVC) Pipe 4 Inches and Larger:

(a) PVC Pipe Smaller than 14-inch Diameter - Furnish PVC pipe 4 inches in diameter up to but not including 14 inches in diameter meeting the requirements of AWWA C900, have the same outside dimensions as ductile iron pipe, and having a minimum dimension ratio (DR) of 18 or as specified or indicated.

(b) Large Diameter PVC Pipe - Furnish PVC pipe 14 inches in diameter to 16 inches in diameter meeting the requirements of AWWA C905, having the same outside dimensions as ductile iron pipe, and having a minimum dimension ratio (DR) of 18 or as specified or indicated.

(c) Joints - Furnish joints meeting the requirements of ASTM D3139 using a restrained rubber gasket according to ASTM F477. Solvent-welded pipe joints are not allowed.

02470.45 Polyvinyl Chloride (PVC) Pipe Under 4 Inches - Furnish polyvinyl chloride (PVC) under 4 inches in diameter meeting the requirements of ASTM D2241. Furnish pipe Material that is PVC 1120, PVC 1220, or PVC 2120, and having a minimum wall thickness equal to or greater than a standard dimension ratio (SDR) of 21, or as specified or indicated. Furnish joints meeting the requirements of ASTM D3139 using a restrained rubber gasket meeting the requirements of ASTM F477. Solvent welded pipe joints will only be allowed when specified or indicated.

02470.50 Polyethylene Encasement - Ensure polyethylene encasement conforms to AWWA C105.

02470.60 Marking Tape and Wire:

(a) Marking Tape - Furnish marking tape consisting of inert polyethylene plastic impervious to all known alkalis, acids, chemical reagents and solvents likely to be encountered in the Soil. Furnish tape width as recommended by the manufacturer for the depth of installation. Furnish blue tape that is imprinted continuously over its entire length in permanent black ink with the words "Caution - Water".

(b) Detectable Marking Wire - Furnish detectable marking wire with blue colored insulation and according to 00445.11. Furnish splice kits according to 00445.48.

02470.70 Acceptance - Ductile iron, HDPE, and PVC pipe is accepted according to 00165.35 and this Section.

SECTION 02475 - POTABLE WATER FITTING MATERIALS

Replace Section 02475 of the Standard Specifications except for the Section number and title with the following:

Description

02475.00 Scope - This Section includes the requirements for fittings, restrained joints, and couplings for ductile iron pipe, high density polyethylene (HDPE) pipe, and polyvinyl chloride (PVC) pipe for potable water systems.

Materials

02475.10 General - Furnish bolts, nuts and washers used for securing fittings that are of similar Materials. For steel bolts meet the requirements of ASTM A307 for carbon steel, or ASTM F593 for stainless steel. For nuts meet the requirements of ASTM A563 for carbon steel and ASTM F594 for stainless steel. For iron bolts and nuts meet the requirements of ASTM A536, grade 65-45-12. Galvanize carbon steel bolts, nuts and washers according to 02560.40.

For all Materials in contact with potable water, meet the requirements of ANSI/NSF Standard 61, Drinking Water System Components - Health Effects or equivalent, and ANSI/NSF Standard 372, Drinking Water System Components - Lead Content.

02475.20 Ductile Iron Pipe Fittings - Furnish ductile iron pipe fittings meeting the requirements of AWWA C110 or AWWA C153, and having a minimum working pressure rating of 350 psi. Meet the requirements of AWWA C111 for joints. Furnish cement mortar lined and seal coated fittings, meeting the requirements of AWWA C104. Furnish gaskets for ductile iron flanged joints that are composed of neoprene, full faced, 1/8-inch thick, with a durometer reading of 60 (+/-5), and conform to ANSI/AWWA C111/A21.11. Ring gaskets are permitted only where specified or shown. Furnish bolts and nuts with an identification mark indicating the manufacturer, type and material. Where two mechanical joint fittings are joined together, furnish Foster adapters or approved equal.

02475.31 High Density Polyethylene (HDPE) Pipe Fittings - Use HDPE pipe fittings meeting the requirements of ANSI/AWWA C906, Standard Code Designation of PE3408. Furnish all pipe fittings with a minimum dimension ratio (DR) of 17. Join pipe and fittings using a thermal butt fusion method that meets the requirements of ASTM D3261. Furnish fittings that are of the same class as the HDPE pipe.

02475.40 Fittings for Polyvinyl Chloride Pipe 4 Inches and Larger - Furnish fittings for PVC pipe 4 inches in diameter and larger that are the same as specified for ductile iron pipe.

02475.45 Fittings for Polyvinyl Chloride Pipe Under 4 Inches - Meet the requirements of ASTM D2466 for PVC pipe fittings under 4 inches in diameter.

02475.50 Restrained Joints - Restrain pipe, fittings, and valves by using an approved bolted or boltless system. Furnish mechanical joint fittings fitted with EBAA Iron series 2000pv mega lug mechanical joint thrust restraint or approved equal. Furnish EBAA Iron series 1500, 1600, or 2800 bell restraint harness or approved equal. Design the restraint system to operate at a working pressure that is greater than the hydrostatic test pressure identified in 01140.51(a), unless otherwise shown. No device utilizing round point set screws is allowed. Furnish restraint systems for pipe bells certified for use by the pipe manufacturer.

02475.60 Bolted, Sleeve-Type Couplings for Plain-End Pipe - Meet the requirements of AWWA C219 for bolted, sleeve type couplings, reducing or transition couplings, and flanged coupling adapters used to join plain end pipe. Furnish ductile iron buried couplings for connecting ductile iron, gray cast iron, or PVC pipe.

02475.70 Acceptance - Acceptance of fittings, restrained joints and couplings are according to 00165.35 and this Section.

SECTION 02510 - REINFORCEMENT

Replace Section 02510 of the Standard Specifications except for the Section number and title with the following:

Description

02510.00 Scope - This Section includes the requirements for bars, dowels, and strand reinforcement and tendon ducts.

Materials

02510.10 Deformed Bar Reinforcement - Furnish deformed bar reinforcement from the QPL and according to the requirements of ASTM A706, AASHTO M 31 (ASTM A615), AASHTO M 334, or ASTM A1035. Unless otherwise specified or shown, furnish Grade 60 reinforcing bars.

02510.11 Epoxy Coated Reinforcement:

(a) Plant Certification - Apply epoxy coating in a coating plant certified by the Concrete Reinforcing Steel Institute (CRSI).

(b) Handling - Provide systems for handling coated bars having padded contact areas for the bars wherever feasible. Pad all bundling bands. Lift all bundles with strong-backs, multiple supports, or platform bridges so as to prevent bar-to-bar abrasion from sags in the bar bundle.

02510.20 Mechanical Splices - Furnish mechanical splices from the QPL. Where bars of different sizes or strengths are connected, the strength of the smaller or weaker bar governs. Measure the total slip displacement after loading in tension to 30.0 ksi and relaxing to 3.0 ksi. The maximum allowed displacement for bars up to No. 14 is 0.01 inches. and is 0.03 inches for No. 18 bar.

- **Type 1 Mechanical Splices** - Furnish Type 1 Mechanical Splices that develop at least 125 percent of the specified minimum yield strength of the reinforcing bars. Type 1 Mechanical Splices are not allowed for column bars.
- **Type 2 Mechanical Splices** - Furnish Type 2 Mechanical Splices that develop at least 125 percent of the specified minimum yield strength of the reinforcing bars and 100 percent of the specified tensile strength of the reinforcing bars.

02510.25 Headed Bar Reinforcement - Furnish Class HA headed steel bar from the QPL for concrete reinforcement. Ensure the headed steel bar develops the specified minimum tensile strength of the reinforcing bars, according to ASTM A970. Ferrous-filler coupling sleeves and welded headed steel bars are not allowed for concrete reinforcement.

02510.30 Galvanized Reinforcement:

(a) General - Furnish galvanized reinforcement meeting the requirements of ASTM A767, Class II, including Supplementary Requirement S3, and ASTM A143.

(b) Fabrication - The bars may be fabricated before or after galvanizing. If the bars are fabricated after galvanizing, Supplementary Requirements S1 and S2 of ASTM A767 apply.

(c) Handling - Handle galvanized bars according to 02510.11(c).

02510.40 Welded Wire Reinforcement - Furnish welded wire reinforcement and deformed welded wire reinforcement meeting the requirements of ASTM A1064.

02510.50 Dowels - Furnish dowels meeting to the requirements of AASHTO M 31 (ASTM A615), for Grades 40 and 60, or AASHTO M 227 (ASTM A663) for Grades 70, 75, and 80.

02510.60 Ties and Supports - Furnish tie wire and supports according to CRSI Manual of Standard Practice.

(a) Coated Reinforcement Ties and Supports - Furnish nonmetallic coated ties and supports for coated reinforcement, including ties for coated-to-uncoated reinforcement connections.

(b) Uncoated Reinforcement Ties and Supports - Tie all mats of galvanized steel bars with galvanized ties. Furnish precast concrete blocks with galvanized ties that support galvanized reinforcement.

02510.70 Acceptance - Acceptance of reinforcement is according to 00165.35 and this Section.

SECTION 02530 – STRUCTURAL STEEL

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

02530.10 Structural Steel for Bridges - Replace the paragraph that begins “Structural steel for Bridges…” with the following:

Furnish structural steel for Bridges meeting the following, as shown or specified:

02530.20 Structural Steel for Non-Bridge Structures - Replace the paragraph that begins “Structural steel for metal…” with the following:

Structural steel for metal sign Structures and other non-Bridge Structures meeting the following, or as shown or specified:

Replace the paragraph that begins “Notch toughness…” with the following:

Ensure notch toughness of all structural steel members and plates greater than 1/2 inch thick in load carrying members of sign Bridges and cantilever sign supports meets Zone 2 requirements of AASHTO M 270.

02530.50 Universal Mill Plate - Replace the paragraph that begins “Universal mill plate…” with the following:

Universal mill plate is not allowed.

02530.70 Galvanizing - Replace this subsection, except for the subsection number and title, with the following:

Hot-dip galvanize according to the following, as applicable:

- AASHTO M 111 (ASTM A123)
- AASHTO M 232 (ASTM A153)

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

02530.80 Acceptance - Replace this subsection, except for the subsection number and title, with the following:

Acceptance of structural steel is according to 00165.35 and this Section.

SECTION 02560 - FASTENERS

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

02560.05 Geometry - Replace this subsection, except for the subsection number and title, with the following:

Use a bolt or rod length 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(a) Bolts - Replace this subsection, except for the subsection number and title, with the following:

Furnish carbon steel bolts meeting the requirements of ASTM A307, Grade A or B.

02560.10(b) Nuts - Replace the paragraph that begins “Nuts for carbon steel bolts…” with the following:

Furnish nuts for carbon steel bolts meeting the requirements of the following, or equivalent:

02560.20(a) Bolts - Replace the paragraph that begins “High-strength bolts used in…” with the following:

Use Type 3 high-strength bolts in noncoated weathering steel connections. Furnish high-strength bolts meeting the requirements of the following:

02560.20(b) Nuts - Replace the paragraph that begins “Nuts for high-strength bolts…” with the following:

Furnish nuts for high-strength bolts meeting the following requirements, or equivalent:

02560.20(c) Washers - Replace this subsection, except for the subsection number and title, with the following:

Furnish washers for high-strength bolts meeting the requirements of ASTM F436. Use Type 3 washers with Type 3 bolts.

02560.20(d) Direct Tension Indicators - Replace this subsection, except for the subsection number and title, with the following:

Furnish direct tension indicators that are the compressible-washer type, mechanically galvanized, according to ASTM F959. Adjust bolt lengths to accommodate both direct tension indicators and hardened washers.

02560.20(e) Markings - Replace this subsection, except for the subsection number and title, with the following:

Mark all bolts, nuts, washers and direct tension indicators according to the appropriate AASHTO/ASTM specifications and with a symbol identifying the manufacturer.

02560.30(a) Steel Tie Rods, Anchor Bolts, and Anchor Rods - Replace this subsection, except for the subsection number and title, with the following:

Furnish steel tie rods, anchor bolts, and anchor rods meeting the requirements of AASHTO M 314, Grade 36 or 55; ASTM F1554, Grade 36 or 55.

02560.30(b) High-Strength Tie Rods, Anchor Bolts, and Anchor Rods - Replace this subsection, except for the subsection number and title, with the following:

Furnish high-strength tie rods, anchor bolts, and anchor rods meeting the requirements of AASHTO M 314, Grade 105; ASTM F1554, Grade 105; or ASTM A449, Type 1.

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

02560.30(c) Nuts - Replace the paragraph that begins “Nuts for tie rods…” with the following:

Furnish nuts for tie rods, anchor bolts, and anchor rods meeting the following requirements, or equivalent:

02560.30(d) Washers - Replace this subsection, except for the subsection number and title, with the following:

Furnish washers for anchor bolts meeting the requirements of ASTM F436, Type 1.

02560.60(a) Rotational Capacity Test - Replace the paragraph that begins “Test each combination of bolt…” with the following:

Test each combination of bolt production lot, nut lot and washer lot as an assembly. Assign a rotational capacity lot number to each combination of lots tested. The minimum frequency of testing is two assemblies per rotational capacity lot. Test according to one of the following requirements:

02560.60(a)(1) Method 1 - Replace the paragraph that begins “the above measured torque…” with the following:

Do not allow the above measured torque to exceed the torque value calculated by the following equation:

Replace the paragraph that begins “Continue to tighten the nut until…” with the following:

Continue to tighten the nut until the nut has turned twice the rotation shown in Table 00560-3 of Section 00560 from its snug-tight position mark for bolt lengths up to 8D (for greater than 8D up to 12D bolt lengths tighten to 1 1/6 turn from snug-tight).

02560.60(a)(2) Method 2 - Replace this subsection, except for the subsection number and title, with the following:

Test bolts that are too short to be tested in a direct bolt tension indicating device in a steel joint.

Place the lubricated fastener including a washer in one or more flat structural steel plates. The total thickness including the washer is such that three to five full threads of the bolt are located between the bearing surfaces of the bolt head and the nut. Provide the hole in the joint at the same nominal diameter as the hole in the washer. Using a calibrated torque wrench, tighten the nut to a snug-tight condition to produce an initial torque in the bolt equal to approximately 10 percent of the torque calculated using the equation given in Method 1 above where P is the minimum tension in the bolt according to Table 00560-1 of Section 00560. Mark the nut's position relative to the fixed bolt for this snug tight position.

Using the calibrated torque wrench, further tighten the nut until the nut has turned the rotation shown in Table 00560-3 of Section 00560 from its snug-tight position mark. Prevent the bolt head from turning during the tightening process. Record the measured torque with the nut in motion. The measured torque is not to exceed 1.15 times the torque value calculated in the preceding step of Method 2. Reject assemblies with torque values exceeding the calculated value.

Tighten the nut further until the nut has turned twice the rotation shown in Table 00560-3 from its snug-tight position mark. Reject assemblies that fail this rotation either by stripping or fracture.

Loosen and remove the nut. Examine the threads on the nut and bolt. Reject assemblies showing evidence of thread shear failure, stripping or torsional failure of the bolt.

02560.60(b) Other Test Requirements - Replace the paragraph that begins “Provide three high-strength bolt …” with the following:

Furnish three high-strength bolt assemblies per size per lot for check testing.

Replace the paragraph that begins “Provide one high-strength tie rod…” with the following:

Furnish one high-strength tie rod, one high-strength anchor bolt, and one high-strength anchor rod assembly per size per lot for check testing.

02560.70 Lubricating Fasteners - Replace the paragraph that begins “Furnish all galvanized and coated…” with the 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. Furnish black fasteners that are "oily" to the touch when installed.

02560.80 Acceptance - Replace this subsection, except for the subsection number and title, with the following:

Acceptance of fasteners are according to 00165.35 and this Section.

SECTION 02571 - ELASTOMERIC BEARING PADS

Comply with Section 02571 of the Standard Specifications modified as follows:

02571.10 Elastomeric Compound - Replace the paragraph that begins "The elastomer portion of the elastomeric…" with the following paragraph:

Ensure the elastomer portion of the elastomeric compound is 100 percent virgin polychloroprene (Neoprene) or natural rubber (polyisoprene) meeting the requirements of section 18 of the AASHTO *LRFD Bridge Construction Specifications* including the properties from the following table:

02571.15 Metal Reinforcement - Replace this subsection, except for the subsection number and title, with the following:

Furnish metal reinforcement that is rolled, mild steel sheets 14 gauge thick and according to ASTM A1011, Grade 36 Type 1, or ASTM A1008, Grade 40.
02571.20(a) Pads - Replace this subsection, except for the subsection number and title, with the following:

Furnish pads 1/2 inch thick that are all elastomer. Furnish pads over 1/2-inch-thick consisting of alternate laminations of elastomer and metal.

In metal reinforced pads, the top and bottom layers are elastomer 1/4 inch thick, and interior elastomer layers are 1/2 inch thick**.** The nominal thickness of the bearing shown reflects the thickness of the elastomer only. It does not include the steel laminates.

02571.20(b) Laminations - Replace this subsection, except for the subsection number and title, with the following:

Furnish laminations of elastomer in uniform thickness and in no case allow the thickness of an individual lamination to exceed 5/8 inch. Do not allow variations in thickness of an individual elastomer lamination to exceed 1/8 inch and the variation in thickness of all elastomer laminations within a pad such that each metal lamination does not vary by more than 1/8 inch from a plane parallel to the top or bottom surface of the pad.

02571.20(c) Laminated Pads - Replace the paragraph that begins "Laminated pads shall be…" with the following paragraph:

Furnish laminated pads that are molded individually to the sizes required. No shearing to size or drilling of holes is allowed. Cover all edges of metal laminations with a minimum of 1/8 inch, and a maximum of 1/4 inch, of elastomer except at laminate restraining devices and around holes that are entirely closed when the pad is in place on the Structure.

Replace the paragraph that begins "Pads 1/2 inch in thickness may …" with the following paragraph:

Pads 1/2 inch in thickness may be sheared. Ensure the shearing does not heat the material and produces a smooth finish to 250 microinches with no tears or jagged areas.

02571.30(a) General - Replace the paragraph that begins "Independently test all completed bearings…" with the following paragraph:

Independently test all completed bearings by compressive visual inspection according to 02571.30(b). Failure of individual bearings to pass the compressive visual inspection is cause for rejection of those individual bearings.

Replace the paragraph that begins "Independently test five standard test…" with the following paragraph:

Independently test five standard test specimens of laminated pads according to 02571.30(c). Failure of any individual specimen to meet the peel strength test requirements is cause for rejection of the entire bearing production lot. A lot is defined as 50 or less bearings that are manufactured in a reasonably continuous manner from the same batch of elastomer, cured under the same conditions, and are all the same size and type.

02571.30(b) Short-Duration Compression Test - Replace this subsection, except for the subsection number and title, with the following:

Bring all bearings to a temperature of 73 °F ± 10 °F and proof load for a compressive loaded to 1.5 times the maximum design load. Hold the load for 5 minutes, remove, then reapply for a second period of 5 minutes. Maintain the load constant while the bearing is inspected for visual faults. The following is cause for rejection:

- A bulging pattern or patterns implying lack of bond between the elastomer and the laminate or bulging patterns that imply improper laminate placement.

- Three separate surface cracks that are greater than 5/64 inch wide and 5/64 inch deep, or a single crack 3/16 inch deep or wider than 1/4 inch.

02571.30(c) Peel Strength Test - Replace this subsection, except for the subsection number and title, with the following:

Perform a peel strength test according to ASTM D429 Method B, with the exception that the specimens are taken randomly and cut from a production bearing submitted for the Project. Ensure the bond between the elastomer and steel laminate in each specimen is not less than 40 pounds per inch.

SECTION 02610 - SPECIAL FILTER MATERIAL

Comply with Section 02610 of the Standard Specifications modified as follows:

02610.10(a) Grading - Replace the paragraph that begins "Sieve analysis shall be determined …" with the following paragraph:

Perform sieve analysis according to AASHTO T 27. Furnish special filter material meeting the following gradation requirements:

02610.10(b) Fracture of Rounded Rock - Replace the paragraph that begins "Special filter material…" with the following paragraph:

Test special filter material according to AASHTO T 176 and ensure a Sand equivalent of not less than 25.

SECTION 02630 - BASE AGGREGATE

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

02630.10(a) Grading - Replace the paragraph that begins "Dense-graded base Aggregate…" with the following paragraph:

Furnish dense-graded base Aggregate consisting of crushed Rock, including Sand. Uniformly grade the Aggregates from coarse to fine. Perform sieve analysis according to AASHTO T 27. Furnish Aggregates according to one of the grading requirements of Table 02630-1 as identified in the Special Provisions or indicated by the Pay Items in the Contract Schedule of Items.

Replace the paragraph that begins "[2] Of the fraction passing the…" with the following paragraph:

[2] Of the fraction passing the 1/4-inch sieve, 40 percent to 60 percent is required to pass the No. 10 sieve

02630.10(b) Fracture of Rounded Rock - Replace the paragraph that begins "Fracture of rounded Rock…" with the following paragraph:

Determine fracture of rounded Rock according to AASHTO T 335. Provide at least one fractured face based on the following percentage of particles retained on the 1/4-inch sieve for the designated size:

02630.10(c) Durability - Replace the paragraph that begins "Dense-graded Aggregate …" with the following paragraph:

Furnish dense-graded Aggregate meeting the following durability requirements:

02630.10(d) Sand Equivalent - Replace the paragraph that begins "Dense-graded Aggregate …" with the following paragraph:

Test dense-graded Aggregate according to AASHTO T 176 and ensure a Sand equivalent of not less than 30.

02630.11(a) Grading - Replace this subsection, except for the subsection number and title, with the following:

Furnish open-graded Aggregate meeting the following grading requirements:

Table 02630-2
Aggregate Gradation for Open-Graded Aggregate

Sieve Size	Percent Passing (by Weight)
1"	100
3/4"	80 - 98
1/2"	60 - 85
3/8"	30 - 45
No. 100	0 - 6 (Dry Sieve)

02630.11(b) Fracture of Rounded Rock - Replace this subsection, except for the subsection number and title, with the following:

Determine fracture of rounded Rock according to AASHTO T 335. Provide Open-graded Aggregate meeting the following fracture requirements:

Percentage of Fracture (by Weight)

Material Retained on 3/4", 1/2", and 1/4" Sieves (two fractured faces) 90

SECTION 02690 - PCC AGGREGATES

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

02690.10 Materials - Replace this subsection, except for the subsection number and title, with the following:

Furnish PCC Aggregates consisting 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 - Replace this subsection, except for the subsection number and title, with the following:

The Contractor may request approval to produce Coarse and Fine Aggregates in sizes other than those stated in 02690.20 and 02690.30. Submit the request in writing and 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 - Replace this subsection, except for the subsection number and title, with the following:

Acceptance of Aggregate is 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 in Table 00165-2 for a PF of 1.00. Each required sample represents a sublot. When the quality level 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 is 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 is at no additional cost to the Agency. Acceptance of reprocessed material is based on passing test results or accepted visually by the Engineer.

02690.20 Coarse Aggregate - Replace this subsection, except for the subsection number and title, with the following:

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

	Test Method		Percent
Test	**ODOT**	**AASHTO**	**(by Weight)**
Lightweight Pieces	-	T 113	1.0
Material passing No. 200 sieve	-	T 27 / T 11	1.0
Wood Particles	TM 225	-	0.05

(b) Soundness - Test Coarse Aggregates for concrete for soundness using sodium sulfate salt, according to AASHTO T 104. Do not exceed the weighted percentage loss of 12 percent by weight.

(c) Durability - Furnish Coarse Aggregates meeting the following durability requirements:

	Test Method		
Test	**ODOT**	**AASHTO**	**Requirements**
Abrasion	-	T 96	30.0% Max.
Oregon Air Aggregate Degradation:			

Passing No. 20 sieve	TM 208	-	30.0% Max.
Sediment Height	TM 208	-	3.0" Max.

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

(1) Fracture - Furnish 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 - Furnish 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 - Sample according to AASHTO R 90. Perform sieve analysis according to AASHTO T 27 and AASHTO T 11. Furnish Aggregates meeting the gradation requirements of Table 02690-1 for structural concrete. Provide a CAgT to perform sampling and testing when required.

SECTION 02810 - BRIDGE RAIL

Replace Section 02810 of the Standard Specifications except for the Section number and title with the following:

Description

02810.00 Scope - This Section includes the requirements for the steel in railings for Bridges.

Materials

02810.10 Shapes, Plates, and Bars - Furnish shapes, plates and bars meeting the following, or as shown or specified:

- ASTM A36
- ASTM A572 Grade 50
- ASTM F1554 Grade 105

Provide the silicon content of all exposed shapes, plates and bars that are called out on drawings as "Galvanize - Control Silicon", according to 02530.70.

02810.15 Anchor Adhesive - Use one of the following epoxy adhesives from the QPL:

- Hilti HIT-HY200-A
- Hilti HIT-RE 500v3, Red Head C6+
- Ultrabond HS-1CC

02810.20 Structural Steel Tubing - Furnish structural steel rail members complying with ASTM A500, Grade B, or ASTM A501. Steel meeting the requirements of ASTM A513 or ASTM A618 may be substituted for AST A500 tubing subject to the following limitations:

- Provide chemical and tensile properties test results.
- Provide silicon content according to 02530.70.
- Strength and elongation requirements of ASTM A513 tubing meets the requirements of ASTM A500 tubing.

02810.30 Steel Pipe - Furnish metal parapet rail members that are standard steel pipe complying with ASTM A53, Grade B or ASTM A500, Grade B.

02810.40 Cast Steel Posts - Furnish cast steel posts that are carbon steel castings complying with AASHTO M 103 (ASTM A27), Grade 65-35.

02810.50 Metal Thrie Beam Rail - Galvanize steel thrie beam rail according to AASHTO M 180, Class A rail, Type II coating after fabrication and subject to the single spot test. Backup plates are accepted with ungalvanized edges and bolt holes, provided these

areas are field-coated with an approved galvanizing substitute according to 02530.71. Provide metal posts and hardware meeting the requirements of 02820.20 and 02820.30.

02810.60 Incidentals - Furnish plates, caps and miscellaneous pieces necessary to complete the rail as shown or specified.

02810.70 Acceptance - Bridge rail Materials are accepted according to 00165.35 and this Section.

SECTION 02820 - METAL GUARDRAIL

Replace this Section except for the Section number and title with the following:

Description

02820.00 Scope - This Section includes the requirements for forming galvanized steel sheets into metal beam rail, and the manufacture of guardrail hardware.

Materials

02820.10 Metal Beam Rail - Form metal beam rail from galvanized steel. Furnish galvanized steel beam rail meeting the requirements of AASHTO M 180, Class A. Furnish zinc coating meeting the requirements of AASHTO M 180, Type II, applied after fabrication and subject to the single spot test. Backup plates are accepted with ungalvanized edges and bolt holes, provided these areas are field coated with an approved galvanizing substitute.

02820.20 Metal Guardrail and Median Barrier Posts - Furnish metal posts that are structural steel meeting the requirements of ASTM A36 and galvanized according to AASHTO M 111 (ASTM A123).

02820.30 Guardrail Hardware - Furnish all bolts, nuts, washers and other fittings for beam type guardrail that are galvanized steel meeting the requirements of AASHTO M 180.

Furnish all bolts, nuts, and washers as detailed, with nuts tapped oversize not to exceed 1/32 inch.

02820.40 Guardrail Anchor Hardware - Furnish cable and fittings for guardrail anchors according to the requirements of AASHTO M 30, Class A, for Type II cable. Galvanize all fittings according to AASHTO M 111 (ASTM A123).

For steel anchors, furnish steel tubing meeting the requirements of ASTM A500, Grade B, ASTM A501 or ASTM A618. Furnish a Soil plate meeting the requirements of ASTM A36. After fabrication galvanize tubing and plate according to AASHTO M 111 (ASTM A123).

02820.50 Acceptance of Materials - Acceptance of metal guardrail Materials is according to Section 00165.35.

SECTION 02910 - SIGN MATERIALS

Comply with Section 02910 of the Standard Specifications modified as follows:

02910.10 Aluminum - Replace the paragraph that begins "The aluminum Materials shall…" with the following paragraph:

Furnish new aluminum Materials meeting the following requirements:

Replace the paragraph that begins "Aluminum to be color coated shall…" with the following paragraph:

Furnish aluminum to be color coated consisting of an alloy that is compatible with the coating and the application process. Furnish color-coated aluminum having a temper that, after coating and aging, provides an ultimate strength of 30,000 psi and a yield strength of 25,000 psi.

Replace the paragraph that begins "Fabricate sheet aluminum signs …" with the following paragraph:

Fabricate sheet aluminum signs from aluminum alloy 6061-T6, 5052-H38, 5154-H38, or approved equal. Give a chromate treatment according to ASTM B449, Class 2 or a titanium-based coating according to ASTM B921. Provide certified test reports for all heats of aluminum products furnished to the Agency. Furnish signs with a thickness shown in Table 02910-1 unless otherwise indicated.

02910.11 Plywood - Replace this subsection, except for the subsection number and title, with the following:

(a) General - Construct all plywood signs for permanent signing from 3/4-inch high-density overlay plywood. Construct plywood signs for temporary signs from either 3/4-inch high-density overlay plywood or 3/4-inch medium-density overlay plywood. Furnish Douglas fir plywood, Grade B-B exterior or better, according to *Product Standard PS-1 for Douglas Fir Plywood* published by the U. S. Department of Commerce.

(b) Overlay - Furnish black or buff high-density and medium-density overlay unless otherwise shown or specified. Furnish high-density and medium-density overlays that meet the *Product Standard PS-1 for Douglas Fir Plywood*.

(c) Plywood Sealer - Fill all voids in top or sides of panel with caulking compound after cutting plywood to size. Apply an approved plywood edge sealer tinted to match the color of the panel overlay material. Use a medium oil alkyd primer sealer.

02910.20 Retroreflective Sheeting - Replace this subsection, except for the subsection number and title, with the following:

(a) General - Use retroreflective sheeting from the QPL and the following:

(1) Perforation - If required for application, the sheeting may be pre-perforated with holes not greater than 0.02 inch in diameter. Perforate the holes approximately 0.4 inch apart in rows approximately 1.5 inches apart.

(2) Surface - Furnish sheeting and adhesive compatible with non-reflective permanent cut-out legend.

(b) Acceptance - Provide a quality compliance certification according to 00165.35, certifying that the reflective sheeting furnished meets the above requirements.

02910.21 Nonreflective Sheeting for Sign Background: Replace this subsection, except for the subsection number and title, with the following:

(a) General - Furnish nonreflective sheeting that is durable, weather resistant, gloss plastic film, and has a protected, precoated adhesive backing.

(b) Color - Use color for the nonreflective sheeting according to 00940.10. Submit for testing a 4-inch by 4-inch sample of the background color for each color of nonreflective sheeting shown.

(c) Adhesive - Adhere the nonreflective sheeting by a mildew and vandal resistant precoated adhesive that has no staining effect on the sheeting.

(d) Film:

(1) General - Furnish nonreflective sheeting that is flexible and easily cut to shape. The minimum tensile strength of the sheeting is 5 pounds per inch width.

(2) Surface - Clean according to the manufacturer's recommendations. Furnish a smooth and flat sheeting surface that:

- Facilitates cleaning and wet performance.
- Is readily processed.
- Is compatible with recommended transparent and opaque process inks.
- Permits cutting and color processing at minimum temperatures of 60 °F.
- Is heat resistant and permits force curing of applied sheeting at temperatures up to 150 °F.
- Is solvent resistant.

(e) Durability - For non-reflective sheeting for a sign background, process and apply according to the manufacturer's recommendations. Furnish weather resistant Material that shows no discoloration, cracking, crazing, blistering or dimensional change following cleaning.

Furnish a sheeting surface capable of being readily refurbished when cleaned and clear over-coated according to the manufacturer's recommendations.

(f) Acceptance - Provide a quality compliance certificate according to 00165.35, certifying that the nonreflective sheeting furnished meets all the above requirements.

Add the following subsection:

02910.23 Digital Printing -

(a) Digitally Printed Ink Systems - Provide digitally printed ink systems from the QPL that meet the following requirements:

- Produce traffic signs using components, and processes that comply with the retroreflective sheeting manufacturer's recommendations.
- Meet and comply with daytime and nighttime chromaticity (color standards) as recognized in ASTM D4956 *Standard Specification for Retroreflective Sheeting for Traffic Control*.
- Meet 70% for type XI standards of the initial retroreflectivity specifications of each respective reflective film color as found in ASTM D4956.

(b) Retroreflective Sheeting - Furnish retroreflective sheeting that:

- Consists of white or colored sheeting having a smooth outer surface and that has the property of a retroreflector over its entire surface.
- Conform to all requirements of the current version of ASTM D4956. Designate the retroreflective sheeting as type XI ASTM D4956 classification.
- Has a Class 1 pressure-sensitive adhesive, as defined by ASTM D4956, protected by an easily removable liner. Fabricate finished traffic signs and traffic sign faces using retroreflective sheeting of Type XI ASTM D4956 classification.

(c) Protective Overlay Film - Fabricate permanent traffic signs printed with digital ink systems with a full sign protective overlay film designed to provide a smooth surface needed for retroreflectivity, and to protect the sign from fading and UV degradation. Comply with the retroreflective sheeting manufacturer's recommendations for the overlaminate to ensure proper adhesion and transparency. Meet the reflective film durability as identified in the warranty requirements.

02910.32 Retroreflective Removable Legend - Replace this subsection, except for the subsection number and title, with the following:

(a) General - Furnish letters and numerals for all removable legend according to the design of the FHWA *Standard Rounded Capital Letter Alphabets*. Furnish letters and numerals for removable legend for all freeway and expressway signs according to the design of Series "E" modified from the FHWA *Standard Rounded Capital Letter Alphabets*.

Provide mounting holes within the frames to permit the use of the mounting hardware specified in the Specifications. Provide a sufficient number of mounting holes to ensure a firm attachment of the frames to the sign and meet the requirements of 00940.45(b). This requires a minimum of four mounting holes at each joint in the border.

(b) Retroreflective Sheeting Legend - Fabricate removable legend with sheeting according to 02910.20 that is permanently adhered to a flat aluminum frame.

Furnish letters, numerals, symbols and borders a minimum of 0.032-inch-thick aluminum according to ASTM B209, alloy 3003-H14. Degrease and etch the aluminum, or treat with a light, tight amorphous chromate type coating.

Apply the reflective sheeting to the prepared aluminum according to the sheeting manufacturer's recommendations.

Furnish letters, numerals, symbols and borders that are clean-cut and sharp, and have a nearly plane surface.

(c) Acceptance - Acceptance of retroreflective removable legend is based on a mill test certificate from the aluminum manufacturer attesting to the correct alloy, temper, and material thickness of the metal supplied. The Engineer may reject damaged or non-specification materials regardless of the test certification provided.

02910.33 Permanent Legends - Replace this subsection, except for the subsection number and title, with the following:

(a) General - Permanent legends consist of white retroreflective screened, red retroreflective screened, black screened or cut-out white retroreflective sheeting. Meet the design of the FHWA Standard Rounded Capital Letter Alphabets for the letters and numerals of all permanent legends.

(b) Retroreflective White Screened Legend - Use transparent paste materials for the reverse screening of retroreflective white legends and for the screening of retroreflective red legends according to the recommendations of the manufacturer of the reflective sheeting.

(c) Retroreflective Cut-out Legend - Use Material for retroreflective cut-out legend according to the requirements of 02910.20.

(d) Nonreflective Black Screened Legend - Furnish Material for nonreflective black screened legends that is compatible with the sign sheeting, as recommended by the sign sheeting manufacturer.

(e) Nonreflective Black Cut-out Legend - Use Material for nonreflective cut-out legend according to 02910.21.

(f) Digitally Printed Sign - Use processes and Materials for digitally printed signs according to the requirements of 02910.23.

02910.40 Hardware - Replace this subsection, except for the subsection number and title, with the following:

Furnish aluminum alloy, stainless steel, or hot-dip galvanized steel bolts, nuts, and washers to fabricate and erect signs. Furnish aluminum for bolts and nuts according to ASTM B211, alloys 2024-T4 or 6061-T6 as the Contractor elects. Furnish aluminum washers according to ASTM B209, alloy Alclad 2024-T4. Furnish stainless steel for bolts, nuts, and washers that are Type 304 or Type 316. Furnish galvanized steel bolts, nuts, and washers that are medium carbon steel. Galvanize steel hardware according to AASHTO M 232 (ASTM A153).

Use nylon washers supplied by the sheeting manufacturer as shown or directed.

Furnish mounting hardware of the design and type shown, or if not shown of such sizes and kinds as approved by the Engineer.

Furnish 1/8-inch diameter, 1/4-inch head diameter, domed head, aluminum alloy according to ASTM B316. Aluminum alloys 5052 and 5056 are acceptable alloys. Furnish anodized blind rivets that are the same color as the sign background that are used to attach sign panels to closure strips or wind beams.

02910.60(a) General - Replace this subsection, except for the subsection number and title, with the following:

Furnish electronically cuttable films consisting of durable, transparent, colored films coated with a transparent pressure sensitive adhesive protected by a removable liner. Furnish films designed to be cut on knife-over-roll (sprocket fed or friction fed) and flat bed electronic cutting machines. Furnish films available in standard traffic colors, be dimensionally stable, and be designed to optimally cut, weed, lift and transfer. Use electronically cuttable films from the QPL.

02910.75 Manufacturer Warranty - Replace the paragraph that begins "Furnish a manufacturer warranty …" with the following paragraph:

Provide a manufacturer warranty that unconditionally warrants to the Agency the retroreflective sheeting products, sheeting with applied electronic cuttable film products, and installation under this Section against failure, according to this Subsection and 00170.85(c)(1). Use Agency-supplied warranty forms, available from the Engineer.

SECTION 03010 - FENCING MATERIALS

Replace Section 03010 of the Standard Specifications except for the Section number and title with the following:

Description

03010.00 Scope - This Section includes the requirements for barbed wire, woven wire fabric, chain link fabric, wildlife wire fabric, metal posts, braces, hardware, and gates.

Materials

03010.10 Barbed Wire - Furnish two-strand and either 12 1/2 gauge or 15 1/2 gauge barbed wire with four-point barbs spaced at 5-inch intervals according to the requirements of AASHTOM 280 (ASTM A121) with Class 3 galvanizing.

Install new or like new barbed wire on the Project and use the same diameter unless otherwise approved.

03010.20 Woven Wire Fabric - Furnish 12 1/2-gauge galvanized steel woven wire fabric according to the requirements of AASHTO M 279 (ASTM A116), Class 3 coating or 11 gauge or 12 1/2-gauge aluminum coated steel wire according to the applicable requirements of ASTM A116. Furnish 12 1/2-gauge aluminum coated steel wire having the same coating thickness required for 11-gauge steel wire in Table 2 of ASTM A116.

03010.21 Wildlife Wire Fabric - Furnish 12 1/2-gauge galvanized steel wire for wildlife wire fabric according to the requirements of ASTM A116, Design Number 2096-6-12 1/2.

03010.30 Chain Link Fabric, Ties, and Tension Wire - Furnish chain link fabric, ties, and tension wire according to the requirements of AASHTO M 181 supplemented and modified as follows:

- Fabric may be zinc-coated steel meeting Type I, Class D coating requirement, aluminum-coated steel, or aluminum alloy. Use only one type on the Project.
- Wire fabric ties, wire ties, and hog rings may be zinc-coated steel wire, aluminum-coated steel, or aluminum alloy as elected, regardless of the type of wire fabric used.
- Use ductile, zinc-coated steel meeting the coating requirements of ASTM A641, Class 1 for wire fabric ties, wire ties, and hog rings. Coat aluminum-coated steel wire fabric ties, wire ties and hog rings with at least 0.30 ounce per square foot.
- Furnish tension wire with a Class 2 coating.
- Furnish 9-gauge wire woven in 3 1/2-inch by 5 1/2-inch diamond mesh for the fence to be installed with pickets. Knuckled finish top and bottom selvage.

03010.31 Pickets - Furnish pickets that are either standard Grade A redwood or cedar pickets, 3/8-inch x 2 1/2-inch x 6 feet, or industry standard metal, or plastic pickets as shown or approved.

03010.40 Vinyl Clad Fabric - Furnish vinyl clad chain link fabric according to AASHTO M 181, Type IV. The color of the PVC coating is either medium or dark green.

03010.50 Metal Fence Posts, Braces, and Appurtenances - Furnish metal fence posts, braces and appurtenances according to the requirements indicated on the Plans and the following:

(a) Painted Metal Posts - Furnish the same kind and color of all painted metal posts.

(b) Posts, Braces, and Appurtenances for Chain Link Fence - Furnish posts, braces, and appurtenances for chain link fence according to the requirements of AASHTO M 181.

Furnish posts, braces, and appurtenances for bridge protective fence according to the requirements of AASHTO M 181, Grade 1, ASTM F1083 and ASTM F1043, Group IA-2.

(c) Posts, Braces, and Appurtenances for Barbed Wire and Woven Wire Fence:

(1) Tubular Steel Posts - Furnish tubular steel posts, braces and appurtenances according to the requirements of AASHTO M 181. Fit tubular posts with a snug-fitting, galvanized metal cap.

(2) Other Shapes - Furnish metal posts and braces, other than tubular shape, for barbed wire and woven wire fences, according to AASHTO M 281 (ASTM A702), except that galvanizing may conform to the requirements of AASHTO M 111 (ASTM A123). The posts and braces may be either galvanized or painted, as elected. Furnish wire fasteners meeting the coating requirements of ASTM A641, Class 1.

(3) Fence Stays, Brace Guys, and Wire Loops - Furnish metal fence stays, brace guy wires, wire loops for gateways and other miscellaneous wire used in barbed and woven wire fences with Class 1 coating as required by ASTM A641. Either 9 1/2-gauge or 10-gauge wire is acceptable for fence stays.

(d) Concrete In Footings - Furnish concrete for footings according to Section 00440.

(e) Grounding Rod - 5/8 inch by 8 feet, nonrusting, copper covered steel rod with a bronze grounding wire clamp.

(f) Grounding Wire - AWG 4/0 Solid Copper or No. 6 bare aluminum wire with clamps.

(g) Posts, Braces, and Appurtenances for Wildlife Fence - Furnish posts, braces, and appurtenances for wildlife fence according to the requirements of AASHTO M 181.

03010.60 Fence Gates:

(a) General - Furnish tubular steel gate frames according to AASHTO M 181. For fabric in gates used with chain link fence, use chain link of the same gauge and according to applicable requirements of 03010.30. For fabric in gates used with woven wire fence, furnish woven wire fabric according to 03010.20 or chain link fabric according to the applicable requirements of 03010.30, except that the zinc coating may be either Class C or Class D. Use wildlife fence fabric according to 03010.21 for fabric in gates used with wildlife fence.

(b) Hardware - Furnish all fence and gate hardware according to the requirements of AASHTO M 181, except that the thickness of galvanizing is according to AASHTO M 232 (ASTM A153).

03010.75 Protective Fence Materials, On and Off Structures - Provide certification according to 00165.35 that the anchor system selected conforms to requirements as shown.

- **Resin Bonded Anchor System** - Furnish the resin bonded anchor system used to install the fence post anchor rods in the concrete bridge rail from the QPL and install according to the manufacturer's recommendations.
- **Posts** - Modify posts to attach to the Structure as shown.
- **Steel Plates, Angles, and Bolts** - Furnish steel plates, angles, and bolts meeting the applicable requirements of Section 02530 and galvanized according to 02530.70.
- **Chain Link Fabric, Ties, and Tension Wire** - Furnish chain link fabric, ties, and tension wire according to the requirements of 03010.30.
- **Pickets** - Furnish pickets meeting the requirements of 03010.31.

03010.80 Acceptance - Acceptance of fencing Materials is according to 00165.35 and this Section.

SECTION 03020 - EROSION MATERIALS

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

03020.90 Acceptance - Replace the paragraph that begins "Acceptance of commercially manufactured…" with the following paragraph:

Acceptance of commercially manufactured compost Material is the following:

BID SCHEDULE

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OREGON DEPARTMENT OF TRANSPORTATION
BID SCHEDULE

CONTRACT NO.: 15707 **PROJECT:** I-84 (WESTBOUND): UNION PACIFIC RAILROAD BRIDGE (HOOD RIVER)

PROJECT KEY: 21683 **ADDENDUM NO.:** 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE (IN FIGURES)	BID AMOUNT (IN FIGURES)
SECTION: 0001 TEMPORARY FEATURES AND APPURTENANCES				
0010	0210-0100000A MOBILIZATION	ALL LUMP SUM		
0020	0221-0100000A TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC	ALL LUMP SUM		
0030	0222-0102000J TEMPORARY SIGNS	1,505.00 SQFT		
0040	0222-0162000E SEQUENTIAL ARROW SIGNS	2.00 EACH		
0050	0222-0164000E PORTABLE CHANGEABLE MESSAGE SIGNS	2.00 EACH		
0060	0222-0167300E PORTABLE CHANGEABLE MESSAGE SIGNS, ROLLER MOUNTED	2.00 EACH		
0070	0222-0167500E RADAR SPEED TRAILER	1.00 EACH		
0080	0223-0168000T FLAGGERS	150.00 HOUR		
0090	0223-0168100T FLAGGER STATION LIGHTING	150.00 HOUR		
0100	0223-0169000E TRAFFIC CONTROL SUPERVISOR	75.00 EACH		
0110	0223-0172000T PILOT CARS	40.00 HOUR		
0120	0223-0175000T TOW TRUCK	330.00 HOUR		
0130	0224-0105000E TEMPORARY BARRICADES, TYPE III	16.00 EACH		

CONTRACT NO.: 15707 **PROJECT:** I-84 (WESTBOUND): UNION PACIFIC RAILROAD BRIDGE (HOOD RIVER)

PROJECT KEY: 21683 **ADDENDUM NO.:** 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE (IN FIGURES)	BID AMOUNT (IN FIGURES)
0140	0224-0145000E TEMPORARY PLASTIC DRUMS	396.00 EACH		
0150	0225-0153000F TEMPORARY STRIPING	12,798.00 FOOT		
0160	0225-0154000F STRIPE REMOVAL	4,904.00 FOOT		
0170	0226-0119000E TEMPORARY BRIDGE CONNECTIONS	2.00 EACH		
0180	0226-0126100F TEMPORARY BARRIER	6,850.00 FOOT		
0190	0226-0134000E TEMPORARY IMPACT ATTENUATOR, NARROW SITE SYSTEM	2.00 EACH		
0200	0226-0137000E MOVING TEMPORARY IMPACT ATTENUATORS, NARROW SITE SYSTEM	3.00 EACH		
0210	0226-0138000E TEMPORARY IMPACT ATTENUATOR, TRUCK MOUNTED	2.00 EACH		
0220	0226-0141100E REFLECTIVE BARRIER PANELS	1,261.00 EACH		
0230	0226-0141300E REPAIR TEMPORARY IMPACT ATTENUATOR, NARROW SITE SYSTEM	1.00 EACH		
0240	0226-0141400E REPAIR TEMPORARY IMPACT ATTENUATOR, TRUCK MOUNTED	1.00 EACH		
0250	0226-0148000U MOBILE BARRIER	15.00 DAY		
0260	0231-0100000A CONSTRUCT AND REMOVE TEMPORARY ACCESS ROAD	ALL LUMP SUM		

CONTRACT NO.: 15707 **PROJECT:** I-84 (WESTBOUND): UNION PACIFIC RAILROAD BRIDGE (HOOD RIVER)

PROJECT KEY: 21683 **ADDENDUM NO.:** 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE (IN FIGURES)	BID AMOUNT (IN FIGURES)
0270	0245-0100000A TEMPORARY WATER MANAGEMENT FACILITY AT STATION LWB2 1154+37	ALL LUMP SUM		
0280	0245-0100000A TEMPORARY WATER MANAGEMENT FACILITY AT STATION LWB2 1164+00	ALL LUMP SUM		
0290	0245-0101000U BYPASS PUMP MONITORING	2.00 DAY		
0300	0280-0100000A EROSION CONTROL	ALL LUMP SUM		
0310	0280-0101000J PLASTIC SHEETING	2,000.00 SQYD		
0320	0280-0105010J MATTING, TYPE A	49,000.00 SQYD		
0330	0280-0105050J MATTING, TYPE E	7,900.00 SQYD		
0340	0280-0105100J COMPOST EROSION BLANKET	28,000.00 SQYD		
0350	0280-0106010E CHECK DAM, TYPE 1	7.00 EACH		
0360	0280-0106030E CHECK DAM, TYPE 3	10.00 EACH		
0370	0280-0106040E CHECK DAM, TYPE 4	20.00 EACH		
0380	0280-0110000A EROSION AND SEDIMENT CONTROL MANAGER	ALL LUMP SUM		
0390	0280-0110010E CONSTRUCTION ENTRANCE, TYPE 1	7.00 EACH		
0400	0280-0111010E TIRE WASH FACILITY, TYPE 1	1.00 EACH		

CONTRACT NO.: 15707 **PROJECT:** I-84 (WESTBOUND): UNION PACIFIC RAILROAD BRIDGE (HOOD RIVER)

PROJECT KEY: 21683 **ADDENDUM NO.:** 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE (IN FIGURES)	BID AMOUNT (IN FIGURES)
0410	0280-0112500E CONCRETE WASHOUT FACILITY	3.00 EACH		
0420	0280-0113000F SEDIMENT FENCE	900.00 FOOT		
0430	0280-0114030E INLET PROTECTION, TYPE 3	5.00 EACH		
0440	0280-0114040E INLET PROTECTION, TYPE 4	7.00 EACH		
0450	0280-0115030F SEDIMENT BARRIER, TYPE 3	5,100.00 FOOT		
0460	0280-0115040E SEDIMENT BARRIER, TYPE 4	20.00 EACH		
0470	0280-0119000E STRAW BALE	10.00 EACH		
0480	0290-0100000A POLLUTION CONTROL PLAN	ALL LUMP SUM		
0490	0290-0102000A WORK CONTAINMENT PLAN	ALL LUMP SUM		
0500	0290-0200000A TURBIDITY MONITORING	ALL LUMP SUM		
0510	0294-0100000A HEALTH AND SAFETY PLAN	ALL LUMP SUM		
0520	0294-0200010M CONTAMINATED SOIL DISPOSAL	1,068.00 TON		
0530	0294-0500000A LEAD COMPLIANCE PLAN	ALL LUMP SUM		
0540	0294-0600000A SEGREGATE AND STOCKPILE CONTAMINATED SOIL	ALL LUMP SUM		
0550	0295-0300000J REMOVE ASBESTOS MATERIAL, FRIABLE	3,000.00 SQFT		

CONTRACT NO.: 15707 **PROJECT:** I-84 (WESTBOUND): UNION PACIFIC RAILROAD BRIDGE (HOOD RIVER)

PROJECT KEY: 21683 **ADDENDUM NO.:** 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE (IN FIGURES)	BID AMOUNT (IN FIGURES)
0560	0295-0500000A BULK ASBESTOS SAMPLING, ANALYTICAL TESTING, AND REPORTING	ALL LUMP SUM		
0570	0298-0100000A PH MONITORING WELLS	ALL LUMP SUM		
0580	0298-0200000A ABANDON EXISTING WELLS	ALL LUMP SUM		
0590	1999-9Z90000A ACTIVE TREATMENT SYSTEM	ALL LUMP SUM		

SECTION: 0002 ROADWORK

0600	0305-0100000A CONSTRUCTION SURVEY WORK	ALL LUMP SUM		
0610	0310-0100000F REMOVAL OF PIPES	318.00 FOOT		
0620	0310-0103000J REMOVAL OF SURFACINGS	4,700.00 SQYD		
0630	0310-0104000E REMOVAL OF INLETS	7.00 EACH		
0640	0310-0106000A REMOVAL OF STRUCTURES AND OBSTRUCTIONS	ALL LUMP SUM		
0650	0310-0107000A REMOVAL OF ASPHALT CONCRETE WEARING SURFACE	ALL LUMP SUM		
0660	0310-0113000A REMOVAL OF GUARDRAIL	ALL LUMP SUM		
0670	0310-0119120F ASPHALT PAVEMENT SAWCUTTING, 6 TO 14 INCHES DEEP	4,300.00 FOOT		

CONTRACT NO.: 15707 **PROJECT:** I-84 (WESTBOUND): UNION PACIFIC RAILROAD BRIDGE (HOOD RIVER)

PROJECT KEY: 21683 **ADDENDUM NO.:** 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE (IN FIGURES)	BID AMOUNT (IN FIGURES)
0680	0320-0100000R CLEARING AND GRUBBING	5.50 ACRE		
0690	0330-0101000K DITCH EXCAVATION	47.00 CUYD		
0700	0330-0105000K GENERAL EXCAVATION	27,500.00 CUYD		
0710	0330-0126000K STONE EMBANKMENT	3,335.00 CUYD		
0720	0350-0104000J RIPRAP GEOTEXTILE, TYPE 2	70.00 SQYD		
0730	0350-0105000J SUBGRADE GEOTEXTILE	9,800.00 SQYD		
0740	0390-0105000K LOOSE RIPRAP, CLASS 50	73.00 CUYD		
0750	0390-0111000K LOOSE RIPRAP, CLASS 200	24.00 CUYD		
0760	1999-9Z90000A DESIGN DRAWINGS	ALL LUMP SUM		
0770	1999-9Z90000A ISM WORK PLATFORM	ALL LUMP SUM		
0780	1999-9Z90000A PRECONSTRUCTION MIX DESIGN TEST PROGRAM AND DEMONSTRATION PROGRAM	ALL LUMP SUM		
0790	1999-9Z90000A PROVIDE JET GROUTING EQUIPMENT	ALL LUMP SUM		
0800	1999-9Z90000A SOIL-CEMENT COLUMNS	ALL LUMP SUM		

SECTION: 0003 DRAINAGE AND SEWERS

CONTRACT NO.: 15707 **PROJECT:** I-84 (WESTBOUND): UNION PACIFIC RAILROAD BRIDGE (HOOD RIVER)

PROJECT KEY: 21683 **ADDENDUM NO.:** 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE (IN FIGURES)	BID AMOUNT (IN FIGURES)
0810	0405-0100000K ROCK EXCAVATION	20.00 CUYD		
0820	0405-0104000K BOULDER EXCAVATION	10.00 CUYD		
0830	0405-0106000K TRENCH FOUNDATION	10.00 CUYD		
0840	0406-0200000F CASING, STEEL	70.00 FOOT		
0850	0415-0100000F MAINLINE VIDEO INSPECTION	930.00 FOOT		
0860	0415-0401000F MAINLINE VIDEO WITH LASER PROFILE INSPECTION	573.00 FOOT		
0870	0445-010018BF 18 INCH CULVERT PIPE, 10 FT DEPTH	161.00 FOOT		
0880	0445-030024BF 24 INCH SANITARY SEWER PIPE, 10 FT DEPTH	429.00 FOOT		
0890	0445-030024CF 24 INCH SANITARY SEWER PIPE, 20 FT DEPTH	144.00 FOOT		
0900	0445-035012AF 12 INCH STORM SEWER PIPE, 5 FT DEPTH	214.00 FOOT		
0910	0445-035012BF 12 INCH STORM SEWER PIPE, 10 FT DEPTH	142.00 FOOT		
0920	0445-035018AF 18 INCH STORM SEWER PIPE, 5 FT DEPTH	171.00 FOOT		
0930	0445-060012AF 12 INCH DUCTILE IRON PIPE, 5 FT DEPTH	29.00 FOOT		
0940	0445-060018AF 18 INCH DUCTILE IRON PIPE, 5 FT DEPTH	82.00 FOOT		

CONTRACT NO.: 15707 **PROJECT:** I-84 (WESTBOUND): UNION PACIFIC RAILROAD BRIDGE (HOOD RIVER)

PROJECT KEY: 21683 **ADDENDUM NO.:** 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE (IN FIGURES)	BID AMOUNT (IN FIGURES)
0950	0445-0700120E SLOPED END SECTIONS, 12 INCH	2.00 EACH		
0960	0445-0700180E SLOPED END SECTIONS, 18 INCH	4.00 EACH		
0970	0445-0740000E 3 PIECE ELBOW FOR SLOPE PIPE, 18 INCH X 12 INCH	4.00 EACH		
0980	0445-0750000A INSTALLING 24 INCH PIPE UNDER RAILROAD	ALL LUMP SUM		
0990	0445-0750000A INSTALLING 36 INCH PIPE UNDER RAILROAD	ALL LUMP SUM		
1000	0460-0100000J PAVED CULVERT END SLOPES	180.00 SQFT		
1010	0470-0100000E CONCRETE SANITARY SEWER MANHOLES	7.00 EACH		
1020	0470-0101000E CONCRETE STORM SEWER MANHOLES	2.00 EACH		
1030	0470-0106000E CONCRETE MANHOLES, LARGE PRECAST	3.00 EACH		
1040	0470-0311000E CONCRETE INLETS, TYPE D	4.00 EACH		
1050	0470-0312000E CONCRETE INLETS, TYPE D (MODIFIED)	7.00 EACH		
1060	0470-0315000E CONCRETE INLETS, TYPE G-2	3.00 EACH		
1070	0480-0100000F DRAINAGE CURBS	350.00 FOOT		
1080	0490-0104000E CONNECTION TO EXISTING STRUCTURES	2.00 EACH		

CONTRACT NO.: 15707 **PROJECT:** I-84 (WESTBOUND): UNION PACIFIC RAILROAD BRIDGE (HOOD RIVER)

PROJECT KEY: 21683 **ADDENDUM NO.:** 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE (IN FIGURES)	BID AMOUNT (IN FIGURES)
1090	0490-0123000E EXTRA FOR MANHOLES OVER EXISTING SEWERS	4.00 EACH		
1100	0495-0100000J TRENCH RESURFACING	39.00 SQYD		
1110	1999-9Z90000E EXPLORATORY EXCAVATIONS	10.00 EACH		
	SECTION: 0004 BRIDGES			
1120	0512-0100001A PROVIDE DRILLING EQUIPMENT	1.00 LS		
	SECTION: 0005 STRUCTURE NO 24318			
1130	0223-0170000E RAILROAD FLAGGER SERVICES	420.00 EACH		
1140	0252-0104000A TEMPORARY WORK BRIDGES	ALL LUMP SUM		
1150	0253-0106000A TEMPORARY WORK ACCESS AND CONTAINMENT	ALL LUMP SUM		
1160	0256-0109100A TEMPORARY RETAINING WALL A	ALL LUMP SUM		
1170	0256-0109100A TEMPORARY RETAINING WALL B	ALL LUMP SUM		
1180	0350-0100000J DRAINAGE GEOTEXTILE, TYPE 1	80.00 SQYD		
1190	0430-0100080F 8 INCH DRAIN PIPE	120.00 FOOT		
1200	0510-0100000A SHORING, CRIBBING, AND COFFERDAMS	ALL LUMP SUM		

CONTRACT NO.: 15707 **PROJECT:** I-84 (WESTBOUND): UNION PACIFIC RAILROAD BRIDGE (HOOD RIVER)

PROJECT KEY: 21683 **ADDENDUM NO.:** 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE (IN FIGURES)	BID AMOUNT (IN FIGURES)
1210	0510-0101000A STRUCTURE EXCAVATION	ALL LUMP SUM		
1220	0510-0108000A GRANULAR STRUCTURE BACKFILL	ALL LUMP SUM		
1230	0512-0101000A DRILLED SHAFT CONCRETE	ALL LUMP SUM		
1240	0512-0104000A DRILLED SHAFT REINFORCEMENT, GRADE 60	ALL LUMP SUM		
1250	0512-0104000A DRILLED SHAFT REINFORCEMENT, GRADE 80	ALL LUMP SUM		
1260	0512-0105000F CSL TEST ACCESS TUBES	5,200.00 FOOT		
1270	0512-0106000E CSL TESTS	12.00 EACH		
1280	0512-0110000F DRILLED SHAFT EXCAVATION, 48 INCH DIAMETER	300.00 FOOT		
1290	0512-0114000F DRILLED SHAFT EXCAVATION, 96 INCH DIAMETER	498.00 FOOT		
1300	0530-0104000O REINFORCEMENT, GRADE 60	172,390.00 LB		
1310	0530-0104000O REINFORCEMENT, GRADE 80	152,710.00 LB		
1320	0530-0104100O COATED REINFORCEMENT, GRADE 80	303,000.00 LB		
1330	0540-0210000A DECK CONCRETE, CLASS HPC(IC)4500	ALL LUMP SUM		
1340	0540-0302000A GENERAL STRUCTURAL CONCRETE, CLASS 4000	ALL LUMP SUM		

CONTRACT NO.: 15707 **PROJECT:** I-84 (WESTBOUND): UNION PACIFIC RAILROAD BRIDGE (HOOD RIVER)

PROJECT KEY: 21683 **ADDENDUM NO.:** 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE (IN FIGURES)	BID AMOUNT (IN FIGURES)
1350	0540-0401000J SURFACE TEXTURING	3,322.00 SQYD		
1360	0543-0100000J ARCHITECTURAL TREATMENT	100.00 SQYD		
1370	0543-0200000A TEST PANELS	ALL LUMP SUM		
1380	0545-0100100J REINFORCED CONCRETE BRIDGE APPROACH SLABS	204.00 SQYD		
1390	0545-0100200F BRIDGE APPROACH SLEEPER SLABS	96.00 FOOT		
1400	0560-0102000A STEEL PLATE GIRDER	ALL LUMP SUM		
1410	0560-0103000A STEEL PLATE GIRDER WITH HAUNCH	ALL LUMP SUM		
1420	0582-0020000E BEARING DEVICES, 15 INCH WIDE, 15 INCH LONG, 3 INCH THICK	5.00 EACH		
1430	0582-0020000E BEARING DEVICES, 18 INCH WIDE, 18 INCH LONG, 3 1/2 INCH THICK	15.00 EACH		
1440	0582-0020000E BEARING DEVICES, 23 INCH WIDE, 23 INCH LONG, 5 1/2 INCH THICK	10.00 EACH		
1450	0582-0020000E BEARING DEVICES, 28 INCH WIDE, 28 INCH LONG, 3 1/2 INCH THICK	5.00 EACH		
1460	0583-0201000F PVC CONDUIT SYSTEM, 3 INCH DIAMETER	1,609.00 FOOT		
1470	0585-0214000A STRIP SEALS	ALL LUMP SUM		
1480	0587-0126100A TYPE "F" CONCRETE RAIL, 42 INCH	ALL LUMP SUM		

CONTRACT NO.: 15707 **PROJECT:** I-84 (WESTBOUND): UNION PACIFIC RAILROAD BRIDGE (HOOD RIVER)

PROJECT KEY: 21683 **ADDENDUM NO.:** 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE (IN FIGURES)	BID AMOUNT (IN FIGURES)
1490	0587-0136000A ORNAMENTAL PROTECTIVE SCREENING	ALL LUMP SUM		
1500	0842-0401000E BRIDGE IDENTIFICATION MARKERS	2.00 EACH		

SECTION: 0006 STRUCTURE NO 02443

1510	0223-0170000E RAILROAD FLAGGER SERVICES	210.00 EACH		
1520	0253-0106000A TEMPORARY WORK ACCESS AND CONTAINMENT	ALL LUMP SUM		
1530	0501-0100000A BRIDGE REMOVAL WORK	ALL LUMP SUM		

SECTION: 0007 STRUCTURE NO 24391

1540	0543-0100000J ARCHITECTURAL TREATMENT	1,002.00 SQYD		
1550	0543-0200000A TEST PANELS	ALL LUMP SUM		
1560	0596-A002000A RETAINING WALL, MSE	ALL LUMP SUM		

SECTION: 0008 RETAINING WALL

1570	0596-B002000A RETAINING WALL, PREFABRICATED MODULAR GRAVITY	ALL LUMP SUM		

SECTION: 0009 BASES

CONTRACT NO.: 15707 **PROJECT:** I-84 (WESTBOUND): UNION PACIFIC RAILROAD BRIDGE (HOOD RIVER)

PROJECT KEY: 21683 **ADDENDUM NO.:** 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE (IN FIGURES)	BID AMOUNT (IN FIGURES)
1580	0620-0104000J COLD PLANE PAVEMENT REMOVAL, 0 - 2 INCHES DEEP	350.00 SQYD		
1590	0620-0120000J COLD PLANE PAVEMENT REMOVAL, 2 INCHES DEEP	890.00 SQYD		
1600	0620-0125000J COLD PLANE PAVEMENT REMOVAL, 6 INCHES DEEP	286.00 SQYD		
1610	0641-0102000M AGGREGATE BASE	6,600.00 TON		
1620	0641-0130000M AGGREGATE SHOULDERS	2,710.00 TON		

SECTION: 0010 WEARING SURFACES

1630	0745-0422000M LEVEL 4, 1/2 INCH LIME TREATED ACP	7,004.00 TON		
1640	0745-0434000M LEVEL 4, 1/2 INCH LIME TREATED ACP IN LEVELING	130.00 TON		
1650	0745-0451000M LEVEL 4, 1/2 INCH LIME TREATED ACP IN TEMPORARY	360.00 TON		
1660	0745-0640100M PG 70-22ER ASPHALT IN LEVEL 4, 1/2 INCH ACP	443.00 TON		
1670	0756-0101000J PLAIN CONCRETE PAVEMENT, UNDOWELED, 6 INCHES THICK	112.00 SQYD		

SECTION: 0011 PERMANENT TRAFFIC SAFETY AND GUIDANCE DEVICES

1680	0810-0119000E GUARDRAIL ANCHORS, TYPE 1	2.00 EACH		

CONTRACT NO.: 15707 **PROJECT:** I-84 (WESTBOUND): UNION PACIFIC RAILROAD BRIDGE (HOOD RIVER)

PROJECT KEY: 21683 **ADDENDUM NO.:** 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE (IN FIGURES)	BID AMOUNT (IN FIGURES)
1690	0810-0123000E GUARDRAIL END PIECES, TYPE C	2.00 EACH		
1700	0810-0126000E GUARDRAIL TRANSITION	2.00 EACH		
1710	0810-0128000E GUARDRAIL CONNECTIONS	2.00 EACH		
1720	0810-0129000E GUARDRAIL TERMINALS, NON-FLARED	1.00 EACH		
1730	0810-0132200E GUARDRAIL TERMINALS, DOWNSTREAM ANCHOR TERMINAL	3.00 EACH		
1740	0810-0146100F MIDWEST GUARDRAIL SYSTEM, TYPE 2A WEATHERIZED	2,314.00 FOOT		
1750	0810-0146100F MIDWEST GUARDRAIL SYSTEM, TYPE 3 WEATHERIZED	50.00 FOOT		
1760	0840-0100000E DELINEATORS, TYPE 1	22.00 EACH		
1770	0840-0105000E DELINEATORS, TYPE 5	8.00 EACH		
1780	0840-0106000E MILEPOST MARKER POSTS	1.00 EACH		
1790	0842-0101001E FACILITY FIELD MARKERS, TYPE S1 GREEN	3.00 EACH		
1800	0842-0102001E FACILITY FIELD MARKERS, TYPE S1 RED	3.00 EACH		
1810	0842-0103001E FACILITY FIELD MARKERS, TYPE S2	6.00 EACH		
1820	0842-0202000E CULVERT DRAINAGE MARKERS, TYPE 2	10.00 EACH		

CONTRACT NO.: 15707 **PROJECT:** I-84 (WESTBOUND): UNION PACIFIC RAILROAD BRIDGE (HOOD RIVER)

PROJECT KEY: 21683 **ADDENDUM NO.:** 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE (IN FIGURES)	BID AMOUNT (IN FIGURES)
1830	0855-0106100E MONO-DIRECTIONAL WHITE TYPE IAR MARKERS, RECESSED	60.00 EACH		
1840	0857-0101000L CONTINUOUS RUMBLE STRIPS	0.44 MILE		
1850	0857-0101500L GAP PATTERN RUMBLE STRIPS	0.38 MILE		
1860	0865-0203000F METHYL METHACRYLATE, WET WEATHER, GROOVED, NON-PROFILED	7,000.00 FOOT		

SECTION: 0012 PERMANENT TRAFFIC CONTROL AND ILLUMINATION SYSTEMS

1870	0905-0100000A REMOVE EXISTING SIGNS	ALL LUMP SUM		
1880	0905-0101000A REMOVE AND REINSTALL EXISTING SIGNS	ALL LUMP SUM		
1890	0910-0100000K WOOD SIGN POSTS	92.00 FBM		
1900	0920-0100000A SIGN SUPPORT FOOTINGS	ALL LUMP SUM		
1910	0930-0106000A EXIT NUMBER SIGN MOUNTS	ALL LUMP SUM		
1920	0930-0111000A MULTI-POST BREAKAWAY SIGN SUPPORTS	ALL LUMP SUM		
1930	0930-0112000A TRIANGULAR BASE BREAKAWAY SIGN SUPPORTS	ALL LUMP SUM		
1940	0940-0201000J SIGNS, STANDARD SHEETING, EXTRUDED ALUMINUM	220.00 SQFT		

CONTRACT NO.: 15707 **PROJECT:** I-84 (WESTBOUND): UNION PACIFIC RAILROAD BRIDGE (HOOD RIVER)

PROJECT KEY: 21683 **ADDENDUM NO.:** 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE (IN FIGURES)	BID AMOUNT (IN FIGURES)
1950	0940-0202000J SIGNS, STANDARD SHEETING, SHEET ALUMINUM	12.00 SQFT		

SECTION: 0013 RIGHT-OF-WAY DEVELOPMENT AND CONTROL

1960	1012-0100000A WATER QUALITY SWALE, D01801	ALL LUMP SUM		
1970	1012-0100000A WATER QUALITY SWALE, D01802	ALL LUMP SUM		
1980	1012-0100000A WATER QUALITY SWALE, D01803	ALL LUMP SUM		
1990	1030-0101000R WEED CONTROL	5.20 ACRE		
2000	1030-0103000R TEMPORARY SEEDING	2.00 ACRE		
2010	1030-0108000R PERMANENT SEEDING	5.50 ACRE		
2020	1030-0113000R WETLAND SEEDING	0.50 ACRE		
2030	1040-0153000E SHRUBS, #1 CONTAINER	1,100.00 EACH		
2040	1040-0180000E PLANT CUTTINGS, GREATER THAN 1 INCH	650.00 EACH		
2050	1040-0183000E WETLAND PLANTS, PLUGS	2,500.00 EACH		
2060	1040-0202000E WOODY COARSE DEBRIS	5.00 EACH		
2070	1040-0203000E BOULDERS	10.00 EACH		

CONTRACT NO.: 15707 **PROJECT:** I-84 (WESTBOUND): UNION PACIFIC RAILROAD BRIDGE (HOOD RIVER)

PROJECT KEY: 21683 **ADDENDUM NO.:** 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE (IN FIGURES)	BID AMOUNT (IN FIGURES)
2080	1050-0100000F TYPE 1 FENCE	317.00 FOOT		
2090	1050-0135000F CL-4 MODIFIED CHAIN LINK FENCE	840.00 FOOT		

SECTION: 0014 WATER SUPPLY SYSTEMS

2100	1140-0145000F 12 INCH POTABLE WATER PIPE, FITTINGS & COUPLINGS WITH RESTRAINED JOINTS AND CLASS B BACKFILL	109.00 FOOT		
2110	1140-0190000K EXTRA TRENCH EXCAVATION WITH CLASS B BACKFILL	100.00 CUYD		
2120	1140-0300000E 12 INCH CONNECTION TO 12 INCH EXISTING MAIN	2.00 EACH		

TOTAL BID: _____