

**SPECIAL PROVISIONS
FOR HIGHWAY CONSTRUCTION**



**OREGON DEPARTMENT OF TRANSPORTATION
SALEM, OREGON**



STRUCTURE

US101: GOLD BEACH (ROGUE RIVER) BRIDGE PROJECT

OREGON COAST HIGHWAY

CURRY COUNTY

SEPTEMBER 17, 2026

**A mandatory prebid meeting has been scheduled for this Project, see
00120.15 for the meeting time and location**

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

Structure
US101: Gold Beach (Rogue River) Bridge Project
Oregon Coast Highway
Curry 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 17th day of September, 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:

Don Duey P.E., Resident Engineer, 307 Highway 42W, Coguille 97423; or
Email don.duey@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)".

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Non-segregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
- XI. Certification Regarding Use of Contract Funds for Lobbying
- XII. 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. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, United States Code, as required in 23 CFR 633.102(b) (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services). 23 CFR 633.102(e).

The applicable requirements 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 shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider. 23 CFR 633.102(e).

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services) in accordance with 23 CFR 633.102. The 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, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract). 23 CFR 633.102(b).

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. 23 CFR 633.102(d).

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 (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR Part 60, 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; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR Part 60, and 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; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR Part 230, Subpart A, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal Employment Opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (see 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140, shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. 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. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract. 23 CFR 230.409 (g)(4) & (5).

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, sexual orientation, gender identity, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action or are substantially involved in such action, will be made fully cognizant of and will implement the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action

within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs (i.e., apprenticeship and on-the-job training programs for the geographical area of contract performance). In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. 23 CFR 230.409. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide

sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants /

Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established thereunder. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:

The contractor shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors, suppliers, and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurances Required:

a. The requirements of 49 CFR Part 26 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 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 are incorporated by reference. 49 CFR Part 21.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women.

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of more than \$10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, the contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location under the contractor's control where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. 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 V, 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 procurement 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/WHDL/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

the equal employment opportunity requirements of Executive Order 11246, as amended, and [29 CFR part 30](#).

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 IV. 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 FHWA-1273 in any subcontracts, 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](#).

V. 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.

* \$31 as of January 15, 2023 (See 88 FR 88 FR 2210) 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 IV 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 procurement 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.

VI. 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 Section VI 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 Section VI 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).

VII. 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).

VIII. 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."

IX. 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.

X. 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 contractor). "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.

* * * * *

XI. 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.

XII. 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 (23 CFR 633, Subpart B, Appendix B)**

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 23 CFR 633.207(e) 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 may be 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 matter.

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.

PROJECT WAGE RATES

Minimum Wage Requirements - This Project is subject to both federal and State prevailing wage rate requirements. Not less than the higher of the applicable federal or existing State prevailing wage rates shall be paid to workers according to 00170.65(b) and 00170.65(e).

Applicable Wages - Prevailing wage rates published in the following wage determinations and any applicable modifications or amendments apply to this Project and are incorporated by reference:

- (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".

The applicable federal prevailing wage rates and the existing State prevailing wage rates last published prior to the time of Bid Opening, which is stated on the Description of Work page, apply to this Project.

Wage Rates are Internet-Accessible - ODOT provides the applicable Davis-Bacon and BOLI wage rates, referenced by Bid Opening date, on the Project Wages web page at:

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

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.

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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

Structure
US101: Gold Beach (Rogue River) Bridge Project
Oregon Coast Highway
Curry County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature REGISTERED PROFESSIONAL LAND SURVEYOR Digitally Signed 2026.06.15 08:17:15 -07'00' OREGON JULY 15, 2003 ANDREW DAVID AUSLAND 56136 EXPIRES: 12/31/2027	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Survey. Modified Special Provisions were prepared by me or under my supervision. Section 00305
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FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Structure
US101: Gold Beach (Rogue River) Bridge Project
Oregon Coast Highway
Curry County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature  EXPIRES: 01-01-2027	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for HAZMAT. Modified Special Provisions were prepared by me or under my supervision. Section 00296
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FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Structure
US101: Gold Beach (Rogue River) Bridge Project
Oregon Coast Highway
Curry County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature  Digitally Signed 2026.06.09 15:58:57 -07'00' RENEWS: 06-30-2026	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for ITS. Modified Special Provisions were prepared by me or under my supervision. Sections 00440, 00960, 00985, 02510, 02530, 02560
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FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Structure
US101: Gold Beach (Rogue River) Bridge Project
Oregon Coast Highway
Curry County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature  63243PE Date: 2026.06.25 09:23:01 -07'00' OREGON JULY 9, 2001 CHRIS ROSS ZELMER RENEWS: 06-30-2026	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Erosion Control. Modified Special Provisions were prepared by me or under my supervision. Section 00280
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FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Structure
US101: Gold Beach (Rogue River) Bridge Project
Oregon Coast Highway
Curry County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature  RENEWS: 06-30-2027	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. Sections 00220, 00221, 00222, 00223, 00224, 00225, 00226
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FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Structure
US101: Gold Beach (Rogue River) Bridge Project
Oregon Coast Highway
Curry County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature  RENEWS: 12-31-2027	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Structure No. 01172. Modified Special Provisions were prepared by me or under my supervision. Sections 00252, 00253, 00530, 00540, 00960, 01201, 01210, 01215, 01220, 01235, 01240, 01245, 01260, 01262, 01270, 01280, 01285, 02001, 02020, 02050, 02210, 02440, 02510, 02560, 02690
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FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

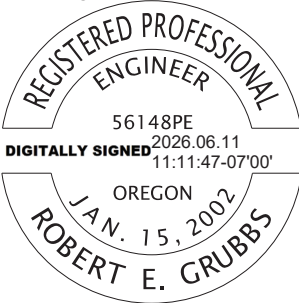
OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Structure
US101: Gold Beach (Rogue River) Bridge Project
Oregon Coast Highway
Curry County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature  RENEWS: 06-30-2027	I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for Structure No. 01172. Modified Special Provisions were prepared by me or under my supervision. Sections 00501, 00510, 00535, 00538, 00554, 00567, 00585, 00593, 01050, 02001, 02050, 02110, 02210, 02440, 02510, 02530, 02560, 02690, 03010
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FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

OREGON DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS

FOR

Structure
US101: Gold Beach (Rogue River) Bridge Project
Oregon Coast Highway
Curry County

PROFESSIONAL OF RECORD CERTIFICATION:

Seal w/signature  RENEWALS: 12-31-2026	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. Sections 00850, 00855, 00865
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FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

US101: Gold Beach (Rogue River) Bridge Project

SPECIAL PROVISIONS

WORK TO BE DONE

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

1. Install temporary traffic control.
2. Perform Bridge rehabilitation.
3. Perform additional and Incidental Work as called for by the Specifications and Plans.

APPLICABLE SPECIFICATIONS

The Specifications that are applicable to the Work on this Project is the 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 TM
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)

US101: Gold Beach (Rogue River) Bridge Project

<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.

US101: Gold Beach (Rogue River) Bridge Project

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.

Add the following subsection:

US101: Gold Beach (Rogue River) Bridge Project

00120.02 Contractor Special Prequalification - In addition to the prequalification of Bidders required in 00120.00, Bidders shall be prequalified according to the Contractor Special Prequalification requirements for this Project. Bids will only be accepted and considered from Bidders who have met the Contractor Special Prequalification requirements and have been notified by the Agency of being Specially Prequalified. Bidders shall submit Bids in the same company name used on the Contractor Special Prequalification application; provided however, if Bidder's legal name has changed since the submittal of its application, it shall submit its Bid under its current legal name with the former name referenced by "formerly known as".

After Bid opening but prior to execution of the Contract the Agency will require confirmation from the successful Bidder that the special prequalified Subcontractors and individuals identified in the Bidder's Contractor Special Prequalification submittal remain available to the Bidder for this Project. If one or more of those Subcontractors or individuals are no longer available, and there was not an alternate submitted and approved as qualified, the Bidder's Bid will be rejected.

After execution of the Contract, no Subcontractors or individuals identified in the Bidder's application for Contractor Special Prequalification may be replaced or substituted without the prior written approval of the Agency. Proposed replacements must meet all of the requirements as provided in the Request for Contractor Special Prequalification document for this Project.

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:

"Structure
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Oregon Coast Highway
Curry County
September 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:

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Subsection	Title
00296.30	Personnel Qualifications
00535.30	Personnel Qualifications
00538.30	Personnel Qualifications
00558.30	Personnel Qualifications
00585.30	Personnel Qualifications

Add the following to the end of this subsection:

The Agency will hold a prebid meeting for all holders of Solicitation Documents at the Gold Beach City Hall, located at 29592 Ellensburg Avenue in Gold Beach, Oregon at 1:00 p.m. on August 18, 2026.

All prospective Bidders must attend this meeting. Those not attending will have their Bids declared non-responsive.

ODOT will also attend an optional site visit to the Gold Beach Bridge the same day following the mandatory prebid meeting. The time and location of the optional site visit to the Gold Beach Bridge will be announced during the mandatory prebid meeting.

Prospective Bidders will be given the opportunity to ask questions relating to any details involved in the performance of the Work under the Contract.

Information distributed, statements made or responses given to questions, by the Agency's representatives at the prebid meeting or at the optional site visit will not in any way alter or affect any of the provisions contained in the Solicitation Documents or Contract requirements and will not be binding upon the Agency unless confirmed by Addenda.

00120.40(b) Bidding Considerations – Add the following to the end of the list:

00160.20(d)	Build America Buy America Act Requirements
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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:

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- 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 bullets to the end of the bullet list:

- The Bid is found to be Mathematically Unbalanced and Materially Unbalanced.
- The Bid is submitted by a Bidder who is not prequalified under the Contractor Special Prequalification requirements of 00120.02.

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.

00130.10 Award of Contract - In the paragraph that begins "After the Bids are opened and a determination..." add the following bullets to the end of the bullet list:

- Been prequalified according to the Contractor Special Prequalification requirements for this Project.

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.

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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.

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.

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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)
Charter Communication	Quincy Tanner 1286 N. Crest Dr. Crescent City, CA 95531 Quincy.tanner@charter.net (541) 373-0420
City of Gold Beach	Ryan Baxter 29592 Ellensburg Ave. Gold Beach, OR 97444 rbaxter@goldbeachoregon.gov (541) 247-7029
Coos Curry Electric Cooperative	Zane Adams 29439 Ellensburg Ave. Gold Beach, OR 97444 Zane.adams@cooscurryelectric.com (541) 373-3306
Wederburn Sanitary	Leeland Bellet P.O. Box 6 Wedderburn, OR 97491 wedderburnsanitary@hotmail.com (541) 290-4106
Zipty Fiber	Marc Kate 276 LaClair St. Coos Bay, OR 87420 Marc.cate@zipty.com (541) 404-6284

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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.

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

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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

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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:

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<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.

The Agency-furnished Materials contain unknown-origin or foreign-origin manufactured products with a cost of \$10,000.

So that the total value of the non-compliant products of unknown-origin or foreign-origin manufactured products does not exceed what is allowed by the Build America Buy America Act public interest waiver, the cost of unknown-origin or foreign-origin manufactured products available to the Contractor, as allowed by Build America Buy America Act public interest waiver (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*) according to 00160.20(d), is reduced by the cost of Agency-furnished Materials that contain unknown-origin or foreign-origin manufactured products.

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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>.

00160.30 Agency-Furnished Material - Add the following to the end of this subsection:

The Agency will furnish the listed items at the following locations:

Location:

28294 Hunter Creek Rd. Gold Beach, OR 97444. Contact Scott Mickelson at (541) 290-0171 to schedule pick-up at least one week in advance. ODOT ITS personnel must be present during pick-up.

Items:

- Fixed camera, lens, enclosure, mounting bracket, and PoE power supply - 2 Each
- Line conditioner - 1 Each

The Agency-furnished Material contains unknown-origin or foreign-origin manufactured products). (See 00160.20)

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

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- 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, AWP, 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	\$0

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	miles of Portland International Airport (PDX)	
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:

00170.06 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

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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.

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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.

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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;

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- 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.

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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

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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.

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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(b)(1) Minimum Wage Rates – Replace the paragraph that begins "The Bureau of Labor and Industries (BOLI) ..." with the following paragraph:

The Bureau of Labor and Industries (BOLI) determines and publishes the existing State prevailing wage rates in the publication *Prevailing Wage Rates for Public Works Contracts*. The Contractor shall pay workers not less than the specified minimum hourly wage rate according to ORS 279C.838 and ORS 279C.840, and shall include this requirement in all subcontracts.

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:

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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	\$2,000,000	\$5,000,000
Commercial Automobile Liability	\$1,000,000	(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:

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- 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.

00180.21(a) General – Replace the bullet that begins "If the Subcontractor is providing any..." with the following bullet:

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- 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.)

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
Contract Time	00180.50(h)
Closed Lanes	00220.40(e)(1)
Regulated Work Areas	00290.34(a)

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 B schedule as detailed in the Standard Specifications is required on this Contract.

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 not later than May 30, 2031.

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, \$500 per 15 minutes, or for a portion of 15 minutes, per lane, for any lane closure beyond the limits listed in 00220.40(e).

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:

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00180.85(e) Traffic Delays Beyond 20 Minutes - Stopping or holding vehicles 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 is stopped or held longer than the 20-minute limit listed in 00220.02. Therefore, the Contractor shall pay to the Agency, not as a penalty, but as liquidated damages, \$500 per 20 minutes, or for a portion of 20 minutes, for stopping or holding traffic longer than 20 minutes.

Assessment of liquidated damages will stop when the Engineer determines that traffic is no longer stopped or held beyond the 20-minute limit. Any liquidated damages assessed under these provisions will be in addition to those listed in 00180.85(b).

SECTION 00190 - MEASUREMENT OF PAY QUANTITIES

Comply with Section 00190 of the Standard Specifications.

SECTION 00195 - PAYMENT

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

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.

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(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 $\pm 10\%$ of the Base, there will be no adjustment.
- If the MFP is more than 110% of the Base, then:

$$\text{Adjustment Factor} = (\text{MFP}) - (1.10 \times \text{Base})$$

- If the MFP is less than 90% of the Base, then:
$$\text{Adjustment Factor} = (\text{MFP}) - (0.90 \times \text{Base})$$

(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:

The following Pay Items associated with the following Bridges and Structures:

Bridge No. 01172

19 Gal/\$1,000

Item

Temporary Work Bridges
Temporary Work Access and Containment
Bridge Removal Work
Structure Excavation
Granular Structure Backfill
Reinforcement, Grade 60
Inject and Seal Cracks
General Structural Concrete, Class 3300
Construct SPCO Sidewalk Overlay
Titanium System, 0.625 Inch Diameter
Asphaltic Plug Joint Seals
Poured Joint Seal
Quality Control Plan
Locate Near Surface Metal
Remove Non-Essential Near Surface Metal
Repair Damaged Reinforcing Bars
Locate Damaged Concrete
Repair Damaged Concrete
Mortar Buildup on Shallow Rebar
Resin Buildup on Shallow Rebar
Reference Cells
Basic Continuity Check
Additional Continuity Check
Excavate For Continuity Welds
Establish Continuity
Rebar Terminals
Install Anode Terminal Plates

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- Prepare Anode Surfaces
- Install Zinc Anodes
- Install Cathodic Protection System Wiring
- Install Power and Communications
- Provide Cp Cabinets, Risers and Weather Equipment
- Prepare And Coat Concrete Structures, Silane
- Prepare And Coat Concrete Structures, Silpro

The Contractor is cautioned to consider that its operations may require more or less fuel.

A price adjustment ($\pm$) 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 paragraph to the end of this subsection:

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

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

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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).

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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:

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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 bullet to the end of the bullet list:

- During stage construction, provide continuous 24-hour flagger operation, with a minimum of three flaggers. Occupy the advance flagger stations, as directed.

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.

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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 Oregon Coast Highway **US101** when allowed, shown, or directed during the following periods of time except as specified in 00220.40(e)(2):

Single Lane Closures - One Traffic Lane on the Oregon Coast Highway US101 may be closed during the following times:

October 1 through May 31:

- At all times

June 1 through September 30:

- Nightly, Sunday night through Friday morning, between 5:00 p.m. and 10:00 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.

Add the following subsection:

00220.45 Load Restrictions on Bridges - For Structure(s) No.(s) 01172, 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.

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(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 Surfacing 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:

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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.

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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)*.

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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.

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:

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Use portable sign supports from the QPL and according to the following:

0022.12(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.

0022.13 Sign Flags - Replace the paragraph that begins "Sign flags shall be ..." with the following paragraph:

Provide sign flags that are:

0022.40(e) Temporary Sign Placement - Add the following to the end of the bullet list:

- Place a "WAIT FOR FLAGGER" (CR4-23) sign approximately 50 feet in advance of each flagger station, facing incoming pedestrian traffic when a flagger is required to coordinate pedestrian movements. Install the sign on a conical marker or other temporary sign support, as shown or as directed. Do not allow the sign installation height or location to block the visibility of the flagger for incoming Public Traffic.
- At least ten Calendar Days before closing the sidewalk at the project site, continuously lasting longer than 24 hours, place a "SIDEWALK CLOSED, Full Time" (CW11-4) sign in advance of each future closure point. Locate the sign so it is legible from the nearest alternate pedestrian pathway facing incoming pedestrian traffic. The sign may be mounted between the panels of a Type II barricade or on a single-post TSS. Do not place the sign or sign support such that it narrows the pedestrian pathway to a width of less than 4 feet.
- Before opening the TPAR, place TPAR signing and other TCM as shown, or as directed. Maintain the "SIDEWALK CLOSED, Full Time" (CW11-4) signs while the TPAR is open to pedestrian traffic.
- Install a "PROJECT IDENTIFICATION" (CG20-8) sign with an "ODOT" logo rider on the Oregon Coast 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 Oregon Coast 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 $(A \div 2)$ according to the "TCD Spacing Table" shown on the Standard Drawings or as modified by the Plans.

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- Install a "24 HR FLAGGING AHEAD" (CW20-9) sign in each direction approximately 250 feet prior to the "BE PREPARED TO STOP" sign. Remove the temporary signs when 24-hour flagging is no longer required, or as directed.
- Install a "Bicycle ON ROADWAY" (CW11-1) symbol sign and a 24 by 18-inch "NEXT XX MILES" (W7-3aP) plaque according to "Sign Spacing A", from the "TRAFFIC CONTROL DEVICES SPACING TABLE" shown on the Standard Drawings, after the "ROAD WORK AHEAD" sign. Install a "Bicycle ON ROADWAY" symbol sign on 1 mile spacing through the affected area. Keep the signs in place until completion of the Shoulder or bikeway final surface.

00221.41(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.

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.

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:

Payment will be made for not more than one set of Work Area signs. All additional sets of Work Area signs will be at no additional cost to the Agency.

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:

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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:

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.

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:

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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.

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:

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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.

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.

00223.43 Automated Flagger Assistance Device -

Replace the bullet that begins "Provide illumination when using ..." with the following bullet:

- Provide illumination when using an AFAD during nighttime hours. Provide AFAD illumination meeting the following requirements:

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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.

00223.90 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 providing, 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, repair, or for AFAD illumination. 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).

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:

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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:

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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.

00225.90 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:

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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.

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.

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**”.

- Each lane closure, when installing temporary barrier on the Oregon Coast Highway is occurring in the Traffic Lane, where the preconstruction posted speed is 40 mph or less.

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.

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.

00226.80(b)(2) Temporary Barrier - Add the following to the end this subsection:

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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)	
Stage 1	As shown	240	
Stage 2	As shown	240	
Stage 3	As shown	240	
Stage 4	As shown	240	
Total Quantity		960	

00226.90 Payment - 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.

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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 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 rehabilitate the existing 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.

All spans of the Temporary Work Bridge must be designed to withstand no less than the 25 year design flood scour and associated lateral loads. Span 1 through 5 Temporary Work Bridge bottom of superstructure must be above El. 25.60. Span 6 and 7 Temporary Work Bridge bottom of superstructure must be above El. 18.70.

Design work bridges or trestles according to *AASHTO Guide Design Specifications for Bridge Temporary Works*. Comply with all requirements of applicable permitting agencies according to Section 00290.

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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. Requirements for marine traffic restrictions and navigation lighting specified in 00253 are required for Temporary Work Bridges.

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.

Provide continuous leak-proof decking system with 6" tall curbs, full perimeter of Temporary Work Bridge.

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:

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00253.00 Scope - Add the following paragraph to the end of this subsection:

On Structure No. 01172, provide temporary work access, containment, barges, heating, and ventilating systems on all spans; approach spans N1-N9, arch spans 1-7 and approach spans S1-S9.

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 – Delete this subsection.

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 Temporary Work Access and Containment according to *AASHTO Guide Design Specifications for Bridge Temporary Works*. Provide materials for Temporary Work Access and Containment meeting the requirements of the applicable Sections of Part 00500. Comply with all requirements of applicable permitting agencies according to Section 00290.

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.

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(a) Containment Structures fully supported by Structure No. 01172 - Design calculations for the bridge structural members are not required if all of the following conditions are satisfied:

- Containment structures are positioned symmetrically on a single span or symmetrically with respect to a single pier.
- Arch span work platforms and containment Structures loading requirements shown on sheet J09.
- Approach span work platform and containment Structures, including all loads from personnel, Equipment, Materials and collected debris or water, are supported in bearing on the ground, as shown on sheet J08.
- For winds transverse to Roadway, total combined projected area of containments installed on the arch spans does not exceed 11,000 square feet if wind speeds are at or below 45 mph. All construction debris must be removed from containment and work platforms if the wind speed is predicted to exceed 30 mph. Containment walls must be removed if wind speeds are predicted to exceed 45 mph.

(c) High Wind Events - If removal of containment walls is used to comply with projected area limits at high wind speed, removal is required when actual wind speed or predicted wind speed exceeds allowable limits. 24-hour weather watch is required during non-work times. Predicted wind speeds are obtained from:

forecast.weather.gov/MapClick.php?lat=42.4274&lon=-124.413&unit=0&lg=english&FcstType=graphical

Actual wind speeds are measured using a handheld wind speed measuring instrument with certified accuracy 3% of reading.

Add the following subsection:

00253.44 Marine Traffic Restrictions - Bridge No. 01172 may not be closed to marine traffic.

U.S. Coast Guard coordination has been conducted for partial closure of Bridge No. 01172 to marine traffic. One span (span 1 or 2) must remain unobstructed to marine traffic.

00253.45 Navigation Lighting - Replace the paragraph that begins "Mark each work platform ..." with the following paragraph:

Place flashing lights under the containment system on both the upstream and downstream side of the containment, according to Federal regulations, marking the reduced navigational clearance. Maintain all navigation lights in operational condition at all times during the Project and temporarily relocate them, if necessary, in order for them to remain visible to marine traffic. Mark each work platform with flashing yellow lights (FL Y 4) along the outside edge at 100 foot intervals. Mark each work platform from the outer end near the navigation channel to the banks. Flashing yellow lights shall be visible to boat traffic from either side of the platform. If Span 1 is provided for navigation, place flashing red lights (FL R 4) at the northern most portion of containment on Pier 2. If Span 2 is provided for navigation, place flashing

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green lights (FL G 4) at the southernmost portion of containment on Pier 2 and flashing red lights (FL R 4) on the northernmost portion of containment on Pier 3.

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) in addition to the loading identified in 00253.09:

When a Traffic Lane or Shoulder closures are allowed on Structure No.01172:

- 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:

- 35 pounds in any single square foot of surface area of the Structure;
- Bending moment and maximum shear produced by one lane of SU5 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 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

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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 0 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 not applicable to this Project. Comply with all applicable conditions of this Section.

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.

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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.

00280.06 Erosion and Sediment Control Manager - Delete this subsection.

00280.14(a) Plastic Sheeting - Replace the bullet that begins "Plastic Sheeting - Minimum 6-mil thick..." with the following bullet:

- **Plastic Sheeting** - Minimum 6-mil thick polyethylene plastic sheeting or plastic sheeting that meets or exceeds the performance properties outlined in ASTM D4397.

Replace the bullet that begins "Rock – Class 50..." with the following bullet:

- Class 50 riprap according to Section 00390.

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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(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).

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.

00280.41(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.

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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(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.

00280.61 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:

00280.64(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..."

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Delete the bullet that begins “Provide all corrective action documentation and photographs...”

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 – 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.

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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).

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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.

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- 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) 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 according to the following:

- Every four hours, make observations at an upcurrent location outside the influence of the Project, and at a downcurrent location representative of turbidity caused by the Project.
- Document all turbidity monitoring observations including date, time, and location on form 734-2755, "Turbidity Monitoring Report" or another form approved by the Engineer. Submit reports to the Engineer weekly while working in waters of the State or U.S. and keep copies of the reports at the Project Site.
- A visible downcurrent turbidity plume emanating from the work area requires a presumption that project-caused turbidity is more than 10% above the upcurrent background level and is therefore in violation of DEQ's turbidity water quality standard (OAR 340-041-0036), unless turbidity meter analyses of samples taken from an upcurrent location and from a location within the visible plume show that the actual turbidity increase is no more than 10% above the upcurrent background level.
- If observations indicate that the Project has increased turbidity to more than 10% above the upcurrent background level, modify work procedures and repair or upgrade BMPs. If turbidity is still more than 10% above the upcurrent background level at the next four-hour observation, stop turbidity-causing Work and repair or upgrade BMPs. Resume such Work when downcurrent turbidity returns to no more than 10% above the upcurrent background level.

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.

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:

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The regulated work area is the area at or below the mean high water mark (MHWM) 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 October 1 to May 31. Pile driving (for temporary work structures) is allowed only between November 1 and February 28.

Do not exceed 185 cubic yards (of steel pile) total volume of material filled or discharged into 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.

00290.34(b) Prohibited Operations - Add the following to the end of this subsection:

- Install steel piles greater than 24 inches in diameter or H-pile larger than designation HP 24 within the regulated work area.

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.

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- 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) 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.

(3) 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,

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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.

(4) 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*.

(5) 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:

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- 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.

(6) 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.

(7) Floating Structures - The following types of over-water or in-water structures are not allowed:

- boat house
- boat ramp made of asphalt
- buoy or float in an active anchorage or fleeting area
- covered moorage
- floating storage unit
- houseboat
- marine
- pier
- non-water related facilities (including staging areas) inside riparian management areas
- any other over-water structure more than 6-feet wide unless otherwise approved in writing by appropriate regulatory agencies through the Engineer

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The following conditions apply to over-water or in-water structures:

- Concrete boat ramps that consist of pre-cast concrete slabs below the ordinary high water elevation, and higher elevation portions that are completed in the dry so that no wet concrete that has cured less than 24 hours is allowed to contact any wetland or waters of the State or waters of the U.S.
- Rock may be used to construct a boat ramp footing, or other protection necessary to prevent scouring, down-cutting, or failure of the boat ramp, provided that the rock does not extend further than 4 feet from the edge of the ramp in any direction.
- Furnish translucent materials or skylights for any replacement roof, wall, or garage door for covered moorages and boat houses. In addition, each side, except the door, of the boat house is required to have windows at least 4 feet wide installed the length of the boat house, subject to breaks only for structural support.
- An existing marina may be modified within the existing footprint of the moorage, or in the water more than 50 feet from the shoreline and more than 20 feet deep, except do not place structures in areas that support aquatic vegetation or areas where boat operations may damage aquatic vegetation.
- Fit all pilings, mooring buoys, and navigational aids with devices to prevent perching by piscivorous birds.
- Permanently encapsulate all synthetic flotation material to prevent breakup into small pieces and dispersal in water.
- Install small temporary floats less than 7 Calendar Days before a scheduled event, remove them 5 Days after a scheduled event is concluded, and do not leave them in place longer than 21 Calendar Days.
- Install mooring buoys and temporary floats (for example: shellfish traps) more than 300 feet from native submerged aquatic vegetation, more than 50 feet from the shoreline, and in water deeper than 20 feet deep at all times, or as necessary to ensure that gear does not ground out unnecessarily, and boats do not prop wash the bottom.

When using a barge:

- Before moving the barge to the Project Site, unless the barge is transported solely by water and entirely within the State, inspect the barge and ballast for invasive species to ensure that invasive species are not brought to the Project Site. Notify the Oregon State Marine Board if invasive species are found.
- Before moving the barge to the Project Site, clean and pressure wash the barge deck.
- Do not use impact hammers for spud placement.
- Install and maintain containment measures to prevent barge surface runoff from flushing oil, fuel, or other contaminants into the water.
- Secure all Equipment, portable toilet facilities, and containers with fuel, hazardous materials, or waste to the barge deck.
- If the barge is equipped with a toilet facility, pump it out into an approved waste removal system when work requiring a barge is complete, or as often as is necessary. Move temporary toilet facilities to shore before pumping them out.

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- If a fuel container is used on the barge, provide a double-walled fuel container and place an absorbent containment boom around the container when it is on the barge.
- Remove hand carried fuel containers from the barge at the end of each work shift unless containers are secured to the barge and stored within a secondary containment vessel of sufficient capacity to hold the entire volume of liquid available.
- Refill hand carried fuel containers within a secondary containment vessel of sufficient capacity to hold the entire volume of liquid available.
- Provide individual containment for each piece of Equipment on the barge, including containment pans or absorbent booms to locally contain minor spills.
- Remove waste material from the barge at least every 3 working days and:
 - Before any pause in work that is longer than 1 Day; or
 - Before reaching the calculated safe load weight of the barge according to Section 00253.

Add the following subsection:

00290.35 Protection of Marine Mammals -

- The Engineer will monitor for Marine Mammals during all pile driving and pile removal activities in a ~~a~~ "clear zone" radius of 100 feet from the Work. Stop Pile driving and pile removal work if any seals or sea lions are observed within this clear zone and do not resume Work until all seals or sea lions have vacated the clear zone.
- If injury to any seals or sea lions (which are protected under the Marine Mammal Protection Act (MMPA)) is observed as a result of the Work, cease pile driving and pile removal activities, and notify the Engineer.

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.

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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) and the Department of State Lands (DSL). Keep a copy of Corps 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)
Rogue River		185		Temporary	

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 all activities.

Develop and submit a WCP for approval at least 28 Calendar Days prior to mobilization for all activities. 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.

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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 as related to construction, operation, and demolition activities specified in Section 00253.

Design, construct, maintain, and remove temporary work access and containment systems according to Section 00253.

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 Julie Worsley.

The Agency Archaeology Representative for this Project is Jessie Plueard.

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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).

Prior to beginning On-Site Work, install work zone fencing from section 00221.13 of the QPL, or lath and flagging, around no work zones, as shown or as directed.

00290.51(b) Disturbing Unknown Sensitive Cultural Sites - Replace the paragraph that begins "If the Contractor finds a previously undiscovered..." with the following paragraph:

If the Contractor finds a previously undiscovered sensitive cultural site, immediately cease all activities at that site, follow procedures listed in 00290.50, and notify the Engineer. If the Contractor inadvertently disturbs unknown sensitive cultural sites, but immediately ceases all activities and follows the procedures listed in 00290.50, the Agency, to the extent permitted by Article XI, section 7 of the Oregon Constitution and by the Oregon Tort Claims Act, will indemnify, within the limits of the Tort Claims Act, the Contractor for costs associated with monitoring, recovery, site restoration or other required archaeological Work, provided neither the Agency nor the State are required to indemnify the Contractor for such costs resulting from, arising out of or relating to the willful misconduct, negligence or other wrongful acts attributable to the Contractor or other persons on the Project site.

Replace the paragraph that begins "Delays to Work due to new ..." with the following paragraph:

The Engineer may consider for exclusion from Contract Time according to 00180.50(e) delays to Work due to new cultural resource finds.

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".

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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 00296 - PAINT AND PAINTED MATERIALS

Section 00296 is not a Standard Specification and is included in this Project by Special Provision.

Description

00296.00 Scope - In addition to the requirements of Section 00290, remove lead, chromium, and cadmium based paints, and materials coated with lead, chromium, and cadmium based paints, according to the following Specifications.

Lead, chromium and cadmium based paints coat the concrete on the Gold Beach Bridge, Br. No. 01172. Analysis of paint samples collected from this Bridge detected concentrations of total lead, cadmium and chromium in the concrete paint indicated in Table 00296-1 below:

Table 00296-1

Sample Location and Material	Total Lead (mg/kg)	Total Chromium (mg/kg)	Total Cadmium (mg/kg)
Gold Beach Bridge Coating	9.29	76.7	8.49

ND = not detected above the laboratory detection limit.

Toxicity Characteristic Leaching Procedure (TCLP) analysis of paint samples, representative of the waste that are generated during construction activities, detected the concentrations of TCLP lead, chromium, and cadmium indicated in Table 00296-2 below:

Table 00296-2

Sample Location and Material	TCLP Lead (mg/L)	TCLP Chromium (mg/L)	TCLP Cadmium (mg/L)
Gold Beach Bridge Coating	ND	ND	ND

ND = not detected above the laboratory detection limit.

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The February, 2022 Hazardous Evaluation ODOT report, titled US 101: Gold Beach (Rogue River) Bridge documenting these analyses, is available from the Engineer.

Unless otherwise tested, assume that all coatings contain lead, chromium, and cadmium and handle paint and painted materials accordingly during demolition.

00296.03 Submittals - Submit the following documents:

- A job specific written compliance program, according to 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 compliance program within 7 Calendar Days of the modifications.
- Current employee training certificates and medical surveillance information before beginning work that disturbs paint containing lead, cadmium or chromium.
- Within 48 hours of completing or receiving them:
 - Disposal and recycling facility permits.
 - Transport manifests and bill-of-ladings.
 - All reuse, recycling, and disposal receipts.
 - All analytical test results.

00296.04 Documentation - Include paint and painted materials management and planned reuse, recycling, and disposal information in the pollution control plan. Obtain Engineer approval for the specific reuse, recycling, and disposal methods for all materials before beginning demolition work.

Complete, sign and pay all required fees for all required permits, manifests, and bill-of-lading forms for transport and disposal of the paint and painted materials.

Labor

00296.30 Personnel Qualifications - Provide employees trained in lead awareness, according to 29 CFR 1926.62(l), and also trained according to 29 CFR 1926.1126(j)(2) for chromium and 29 CFR 1926.1127(m)(4) for cadmium, during demolition of painted portions of the Structures.

Construction

00296.40 Handling - Minimize employee exposure to the metals contained in the paint. Provide containment that prevents release of paint chips to the environment. Do not remove or separate paint from painted substrates, unless required to accomplish repair activities.

00296.42 Painted Concrete Debris Management - Reuse, recycle, or dispose of painted concrete debris according to any of the following:

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- **Recycle as New Concrete** - Recycle the concrete into new concrete on site or at an off-site fixed facility. Only use concrete containing recycled concrete debris on the Project when testing demonstrates that the mix meets applicable design standards for the intended use and is acceptable to the Engineer. Before beginning on-site crushing, obtain permits required under OAR 340-216-0020 and comply with all the permit conditions.
- **Recycle or Dispose of at Landfill** - Recycle at a permitted municipal solid waste landfill or a permitted construction and demolition landfill as aggregate material for roads or other infrastructures within the landfill area or dispose of at a permitted municipal solid waste landfill or a permitted construction and demolition landfill for disposal.

Measurement

00296.80 Measurement - No measurement of quantities will be made for Work performed under this Section.

Payment

00296.90 Payment - No separate or additional payment will be made for Work performed under this Section. Payment will be included in payment made for the appropriate items under which this Work is required.

Attachment A
Lead, Chromium, and Cadmium Based Paint Acknowledgement Form

[Contractor] _____
[Bridge Identification] _____
[Description of Scrap Metal] _____

_____ [Recipient] acknowledges that they are aware that metal and materials received from _____ [Contractor] on _____ [Date(s)] may contain lead, chromium, or cadmium based paint. Recipient further acknowledges that it is aware of the risk to human health and the environment posed by exposure to lead, chromium and cadmium based paint. All storage, use, sale, and disposal of materials containing lead, chromium or cadmium based paint and any removal of lead, chromium, or cadmium based paint from the materials by Recipient will be conducted in compliance with all applicable Federal and State statutes and regulations, including but not limited to 40 CFR 262 through 265 and OAR Chapter 340, Divisions 100 through 106. Recipient acknowledges that they are solely responsible for any liability or damages resulting from the storage, use, sale, and disposal of the materials and removal of lead, chromium or cadmium based paint by Recipient and Recipient will indemnify and hold harmless the Contractor and the Oregon Department of Transportation from any such claims of liability or damages.

_____ [Signature]
_____ [Title]
_____ [Date]

SECTION 00305 - CONSTRUCTION SURVEY WORK

Comply with Section 00305 of the Standard Specifications modified as follows:

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 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:

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- 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, Surfacing, Curbs, and Islands	*	*

*Use Type 2 except when the Engineer requires Type 1 or 1-D

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 portions of the existing bridge no. 01172 as shown and specified.

Work includes but is not limited to:

- Removal of existing cathodic protection conduit and associated electrical power supply cabinets.
- Removal of existing city of Gold Beach arch lighting conduit and associated electrical power supply.
- Removal of sidewalk steel plate access covers.

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 unstamped bridge removal plans according to 00150.35 28 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.

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:

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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.

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:

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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)
Br. No. 01172	12

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)
Br. No 01172	26

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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.

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:

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- 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 ...”.

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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 with the following subsection:

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:

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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 with the following subsection:

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 with the following subsection:

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 (<u> </u>)
01172	292				

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:

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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:

00535.01 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 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).

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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.

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/ rebar)	Anchor Size	Anchor Grade	Anchor Sustained Tension (yes/no)	Demo. Test (yes/no)	Prod. Test (yes/no)
0117 2	J13	Resin	Rebar	#3	60 ksi	No	Yes	No

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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 00538 - CRACK INJECTING EXISTING BRIDGES

Comply with Section 00538 of the Standard Specifications modified as follows:

00538.01 Submittals - Replace the bullet that begins "Describe the Materials ..." with the following bullet:

- Describe the Materials to be used including the properties of each Material and the Specifications that the Materials comply with. Published manufacturer data is acceptable.

00538.30 Personnel Qualifications - Replace the paragraph that begins "Provide personnel skilled in ..." with the following paragraph:

Provide personnel skilled in the application of epoxy crack injection. Show experience relevant to anticipated conditions, Materials, and construction techniques for epoxy crack injection. Provide an on-site epoxy crack injection supervisor that has successfully completed at least three projects within the past 5 years.

00538.42 Acceptance - Replace the paragraph that begins "Crack injection Work ..." with the following paragraph:

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Crack injection Work is accepted visually by determining that the epoxy resin has set and cured and that all cracks are sealed. If visual inspection reveals suspected failures, the Engineer will require cores samples. When required, provide 2-inch minimum diameter by 6-inch minimum depth core samples. The Engineer will determine the number of core samples and the locations to take the core samples. Take core samples at least 24 hours after the crack injection Work. When the crack injection Work is performed on only one side of the girder, take the core sample from the opposite side of the girder. When obtaining core samples, do not cut or damage existing steel reinforcement. Fill core holes with a PCC repair material.

Replace the paragraph that begins "If core samples show fully ..." with the following paragraph:

If core samples show fully hardened epoxy resin and at least 90 percent of the crack is filled, the crack injection Work for that crack is accepted. If core samples show inadequately hardened or inadequately filled cracks, stop all crack injection Work. Submit a revised crack injection procedure to the Engineer. Do not resume crack injection Work until the revised crack injection procedure has been approved by the Engineer.

00538.90 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 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

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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 color that conforms to the following colors:

Light Gray, according to SAE AMS-STD-595C color #36375.

Dark Gray, according to SAE AMS-STD-595C color #36176.

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.

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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 unlevelled 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 unlevelled 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.

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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.

00540.42 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

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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:

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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.

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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).

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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. 01172

Type and Class	Quantity (Cu. Yd.)
General Structural Concrete, Class 3300	4

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?	_____	_____	_____

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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?

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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

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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?

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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?	_____	_____	_____

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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?	_____	_____	_____

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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 00554 – SINGLE LAYER POLYMER CONCRETE OVERLAY

Section 00554, which is not a Standard Specification, is included in this Project by Special Provision.

Description

00554.00 Scope - This work consists of preparing, sealing, and resurfacing bridge sidewalk with a primer, a single-layer polymer overlay, and an aggregate top course wearing surface.

00554.04 Submittals - Submit the following at least 21 Calendar Days before the pre-placement conference:

- The manufacturer's product data sheet.
- The manufacturer's written installation instructions.
- A Material Safety Data Sheet for each primer and epoxy polymer component.
- Manufacture dates and shelf-life expiration dates for each production lot of primer and epoxy polymer components.
- Tabulated data indicating the estimated cure time, in minutes, for the allowable ambient temperature range, in increments of 10 °F, for both the primer and polymer overlay
- A detailed work plan for the overlay preparation, application, cleanup, including the Manufacturer's recommended application rate, square feet per gallon, to achieve a minimum overlay thickness of 1/8 inch.
- A plan for illuminating the work area during hours of darkness.
- Names of manufacturer's approved installers meeting the requirements of 00558.30.

00554.05 Pre-placement Conferences:

(a) Supervisory Personnel - Hold a pre-placement conference with the Engineer and all supervisory personnel, subcontractors, suppliers, and all other personnel who will be involved in the overlay work. Meet at a mutually agreed time at least 14 Calendar Days before beginning the overlay work. Present and discuss all phases of the overlay work.

(b) Placement Crew - Before beginning overlay work, hold a second pre-placement conference with the Engineer and the entire overlay work crew at the Project Site, 30 minutes before overlay work begins, to discuss placement duties and procedures.

Materials

00554.10 Materials:

(a) Concrete Repair Material – Furnish a PCC repair material meeting the requirements of Section 02015.20 of the QPL and is compatible with the overlay.

(b) Primer - Furnish a low modulus epoxy concrete and crack sealer from section 02060.10 of the QPL.

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(c) Polymer Overlay - Furnish epoxy polymer from section 00556.10(a) of the QPL. Provide epoxy polymer and primer from the same manufacturer. Provide a polymer color that most closely matches existing concrete.

(d) Broadcast Aggregate - Furnish aggregate not on the QPL.

Provide material produced by Washington Quarries and is defined as 987-3, 8 x 14 sand.

Sample the furnished aggregate and test according to the following:

Property	Test Method	Requirements
Moisture Content *	AASHTO T 255	0.20% max.

* Test at time of packaging and shipment and at the time of mixing the polymer resin.

Package and store all aggregate material so that it remains clean and meets moisture content requirements.

Equipment

00554.20 Miscellaneous Equipment:

(a) Tools - Furnish squeegees, heavy-nap rollers, and other approved tools to apply the primer and the polymer resin.

Furnish a mechanical broadcaster to uniformly apply the aggregate.

(b) Coring Equipment - Furnish core cutting equipment that can produce a core 2 inches in diameter.

(c) Bond Testing Equipment - Furnish bond testing equipment that:

- Is compatible with the core tested.
- Can exert a tensile load to the core sufficient to exceed 300 psi.
- Is equipped with a measuring device capable of reading tensile force exerted within 1 percent accuracy.

(d) Surface Preparation Equipment - Furnish mono-directional or bi-directional shot blast machines with single or multiple blast wheels that conform to EPA air pollution requirements by containing dust and steel abrasive media and that can prepare concrete surfaces according to ICRI Technical Guideline No. 310.2R, to the project specific Concrete Surface Profiles (CSP) profile. If the Equipment is not equipped for simultaneous bi-directional blasting, make separate passes in opposite directions to ensure equal cleaning on all sides of the exposed aggregate.

Labor

00554.30 Personnel Qualifications - Provide a superintendent or foreman who is approved by the polymer material manufacturer, in writing, as qualified to oversee the placement.

Construction

00554.40 Construction:

(a) General - Do not begin overlay installation until all materials and equipment necessary to perform the installation and required repairs are at the Project Site.

Prepare the entire walkway surface, including curb and 1/2" up the face of rail, to receive the primer and overlay. Remove all grease, oil, paint, dirt, laitance, rust, and other contaminants that would affect adhesion of the primer to the concrete substrate.

(b) Weather and Other Restrictions - Place concrete repair material, primer, overlay when:

- The ambient temperature, surface temperature, and relative humidity (RH) meet the requirements on the manufacturer's written data sheet.
- Allow at least 24 hours after a precipitation event or pressure wash prep before placing overlay.

Illuminate work areas during the hours of darkness.

(c) Daily Report Requirements - Submit a daily written report to the Engineer by the end of each day that Work is being performed under this Section. The daily written report shall include the following:

- Broadcast Aggregate moisture content AASHTO T 255(00554.10(d))
- Surface preparation process and results of ASTM E965 (00554.41(c))
- Total gallons of primer and associated application rate.
- Bond test results ASTM D4541(00554.50)
- Size and location of repair areas with digital photographs taken both before and after placement of the overlay. Provide the digital photographs in a format acceptable to the Engineer.

00554.41 Preparing Bridge sidewalk:

(a) Bridge Deck Drains - Temporarily block all deck drains and catch basins while preparing the surface and placing the overlay. Do not allow material resulting from scarifying, chipping, sawing, sandblasting, sweeping, water blasting, or flushing to enter deck drains.

(b) Expansion Joints - Before constructing the membrane, block out expansion joints with rigid polyethylene foam or other approved material compatible with the primer/sealer and polymer resin.

Remove material that is within 12 inches of all joints with bush-hammers, scabblers, or by other methods approved by the Engineer. Do not damage the joints.

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(c) Surface Removal - Remove all spalled and loose surface concrete to sound concrete. Prepare the sidewalk surface so that it is free of voids, sharp projections, form release agents, concrete curing agents, and contaminants.

Prepare Concrete Surface Profile (CSP) to CSP 4-6 according to ICRI Guideline 310.2R-2013 for surface preparation of concrete. Roughen the existing horizontal concrete surface to an exposed aggregate surface texture depth profile of at least 1/16 inch, determined according to ASTM E965 (standard volumetric test). Visually compare vertical surface profile to horizontal surface profile. Perform at least two tests for each placement, or two tests for every 350 square yards of surface area, whichever results in the greater number of tests.

Use pressure washing for final surface preparation.

Prepare metal surfaces to SSPC SP10 Near White Blast.

Before placing the overlay, verify that the sidewalk is free from loose rocks and other debris. Clean the sidewalk with compressed air prior to placing the overlay.

Dispose of all removed materials according to 00290.20.

(d) Concrete Repair - When concrete repair material is used, allow it to cure as recommended by the concrete repair material manufacturer before applying the primer.

00554.42 Installation - Install 1/8 minimum thickness overlay according to the following:

- Condition and mix the primer and overlay resin according to the manufacturer's product data sheet and written installation instructions.
- Do not dilute, thin, or add foreign material to either the individual polymer resin components or the mixed polymer resin.
- After the Engineer has approved the surface preparation, completely flood the sidewalk surface with primer at the rate recommended by the primer manufacturer, or as directed. Use heavy-nap rollers to work the primer into the concrete surface and all visible cracks. Fill all visible cracks to refusal. Apply the primer only when the placement conditions as described above have been met and no rain is forecast within 12 hours. Allow the prime coat to pond and penetrate into the sidewalk surface a minimum of 15 minutes. Before the resin becomes tack free, remove excess primer using a broom or heavy-nap roller to prevent ponding.
- Flood the sidewalk with overlay resin to cover a maximum area of 50 square feet per gallon. Before gelling of the membrane resin occurs, broadcast a single layer of aggregate to refusal (100 percent coverage) so no wet spots are visible.
- Extend the overlay to the expansion joint edges, curb, and 1/2" up rail face, to ensure the sidewalk is sealed in those locations. Aggregate need not be placed up the rail face.
- Allow the overlay enough time to cure to initial set according to the manufacturer's product data sheet before subjecting it to loads or traffic.
- Protect surfaces outside the stated Limits of SPCO application from material splatter.

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00554.50 Overlay Bond Test - Test the full depth overlay according to ASTM D4541, Method "E", using Type "V" tester prior to allowing traffic on the overlay. Test using 2 inch diameter test dollies.

Randomly select bond test locations. For bridges with a surface area equal to or less than 4000 square feet, perform a minimum of four bond tests. For bridges with a surface area of more than 4000 square feet, perform four bond tests for the first 4000 square feet and one test for every additional 2000 square feet of surface area.

Take 2 inch diameter cores through the aggregate surface and 1/2 inch into the concrete substrate.

Minimum allowable bond strength is 175 psi or substrate failure.

Repair core holes with matching overlay system materials.

00554.53 Delamination Survey and Repair - The completed overlay surface may be inspected by the Engineer for delamination, bond failure, and other damage by use of a chain drag, coring, and other devices. If directed by the Engineer, perform additional bond tests as set forth in 00554.50, at locations directed.

Repair all surface defects, prior to paving by removing the defective material and reapplying the overlay according to these Specifications, at no additional cost to the Agency.

Measurement

00554.80 Measurement - The quantities of single layer polymer concrete overlay will be measured on the area basis. The area will be determined by measuring the actual surface area of the resurfaced sidewalk and will be limited to the neat lines and dimensions shown or directed.

Payment

00554.90 Payment - The accepted quantities of single layer polymer concrete overlay will be paid for at the Contract unit price, per square yard, for the item "Single Layer Polymer Concrete Overlay".

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

No separate or additional payment will be made for repairing or preparing existing concrete surfaces receiving single layer polymer concrete overlays.

Additional bond tests directed by the Engineer according to 00554.53 that meet or exceed minimum allowable bond strength will be paid according to 00195.20. No payment will be made for additional bond tests that do not achieve minimum allowable bond strength.

SECTION 00567 - TITANIUM ALLOY REINFORCEMENT SYSTEM

Section 00567 is not a Standard Specification and is included in this Project by Special Provision.

Description

00567.00 Scope - This Work consists of furnishing and installing a complete, near surface mounted, titanium alloy reinforcement system as shown or specified. The system is comprised of titanium alloy reinforcement ("bars") embedded in sawcut grooves and anchor holes with epoxy.

00567.01 Submittals - Submit the following to the Agency at least 21 Calendar Days before starting Work. Do not begin Work before receiving written approval of submittals from the Engineer.

(a) Materials Certifications - Submit the manufacturer's Material certifications and mill test certificates for the titanium alloy reinforcement system according to 00150.37. Include the supplier's name, ranges of the properties listed below, and test methods used for titanium alloy reinforcement and epoxy resin.

Material	Properties to be Furnished
Titanium Alloy	Tensile Strength Elongation Tensile Modulus Cross-Sectional Area Chemical Composition
Epoxy Resin	Tensile Strength Elongation Tensile Modulus Mix Ratio Pot Life Shelf Life UV Resistance

(b) Titanium Alloy Reinforcement Installation Plan - Before beginning girder preparation submit the following according to 00150.37:

- The sequence of anchor hole and groove preparation as it relates to the overall construction Plan.
- Methods for locating and protecting existing steel reinforcement. Details regarding the Equipment and structural attachments required for installation of the titanium alloy reinforcement. Include rail mount locations and dimensions required for accurate groove placement in bridge elements.

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- Details of the proposed method, if different than specified, for ensuring the titanium alloy reinforcement is installed as shown.
- Details regarding construction tolerances for preparation, including groove depth, width and anchor hole dimensions.

(c) Order Lists and Bending Diagrams - Before ordering Material, submit all order lists according to 00150.37 and unstamped bending diagrams according to 00150.35 for approval. Do not order Material until such lists and bending diagrams are approved.

The review of order lists and bending diagrams by the Engineer will in no way relieve the Contractor of responsibility for the correctness of such lists and diagrams. Revise lists and diagrams as required to make them comply with the Plans at no additional cost to the Agency.

Material

00567.10 Titanium Alloy Reinforcement - Furnish deformed titanium alloy reinforcement conforming to the requirements of ASTM B1009. Unless otherwise shown or specified, furnish all titanium alloy bars that conform to the following mechanical properties:

Yield Strength	Ultimate Strength	Elastic Modulus	Elongation
130,000 psi	140,000 psi	15,000,000 psi	10%

Calculate elastic modulus using slope of the stress-strain curve between a stress range of 20,000 psi and 60,000 psi. Use 0.2 percent offset of the calculated elastic modulus line to obtain a yield strength of titanium alloy bars.

Furnish uniform deformations equally spaced along the titanium alloy bars with a minimum deformation height of 0.01 inch and a maximum spacing of 0.06 inch. Sharp stress risers are not allowed. Furnish the final cross-sectional area of the bars including the deformations that are not less than 96 percent of the nominal area of undeformed bars.

An approved source for titanium alloy reinforcement is Perryman Company, 213 Vandale Drive Houston, PA 15342. Contact the Infrastructure Development Manager, at 724-746-9390.

00567.11 Fabrication - Hot bend reinforcing bars to the shapes shown. Shop bending or field bending is allowed, unless otherwise shown or directed. Heat reinforcing bars a minimum of three inches each side beyond the bend section. At 400°F, the bars will turn yellow or straw color. Continue heating until the bars turn into blue color approximately equal to 800°F, that is the desired color and temperature for bar bending. Do not heat reinforcing bars more than 1300 °F or until the bars turn red hot. Discard the red hot (overheated) bars. After the bending is complete, grind surface of the inside bend radius to remove the deformations. Make bends, tag, mark and ship reinforcing bars according to the current edition of the *CRSI Manual of Standard Practice*. Re-bending of reinforcement bars is not permitted.

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00567.12 Material Sampling - Furnish sufficient material for the Engineer to select three samples from each lot of titanium alloy reinforcement delivered to the site, for testing by the Agency. Furnish samples that are a minimum of 4 feet in length.

00567.13 Epoxy Resin - Furnish epoxy resin from one of the following list of pre-approved epoxy resins.

Manufacturer	Material
Hilti, Inc. 7250 Dallas Parkway, Suite 1000 Plano, Texas, 75024 Contact: Pete Anderson Phone: (972) 403-5948	HIT-RE 500 V3
Adhesive Technology Corp 450 East Copans Road Pompano Beach, Florida, 33064 Contact: Mike Gaffigan Phone: (954) 541-7091	Ultrabond HS-1CC
Pilgrim Permocoat, Inc. 402 South 22 nd Street Tampa, Florida, 33605 Contact: Robert Forlong Phone: (813) 248-3328 FAX: (813) 248-1076	Magmaflow Grout-Pak CF

Construction

00567.40 Protection of Material - Protect reinforcement at all times from damage. Ensure reinforcement is free of dirt, detrimental scale, paint, oil and other foreign substances when placed in the Work.

00567.41 Existing Reinforcement Location and Concrete Cover - Use rebar detectors or other approved devices, capable of locating existing reinforcement within 0.1 inch, to locate existing reinforcement and to determine the thickness of concrete cover. Before constructing anchor holes and grooves, provide the Engineer with a summary of cover thickness and clear distance measurements between existing reinforcement and the titanium alloy reinforcement system.

00567.42 Drilling Anchor Holes and Sawcutting Grooves - Drill holes for hook embedment depth and size as shown using a rotary hammer drill with a carbide tipped drill bit. If existing reinforcement is encountered, stop drilling and adjust the hole location. Adjust the location of the holes for the end anchorage up to 3 inches longitudinally and laterally to avoid conflicts. Maintain the titanium bar lengths.

Cut grooves as shown to the designed width and depth $\pm 1/8$ inch. Make grooves deep enough to allow the titanium bar to be installed at least $1/8$ inch below the surface in all locations along the length of bars. Do not cut into existing rebar during construction of sawcut

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grooves. Visually inspect all existing rebar locations after sawcutting grooves. When existing reinforcement is cut, notify the Engineer before installation of titanium alloy reinforcement.

Groove spacing may be adjusted in the field as necessary to avoid existing reinforcement or other unforeseen conflicts; however, the average spacing of all grooves over any 2-foot-long section may not be more than the spacing as shown. Maintain a minimum clear spacing greater than three times the diameter of the bar and a minimum clear edge distance of six times the diameter of the bar.

00567.43 Anchor Hole and Groove Preparation - Prepare sawcut grooves and anchor holes for titanium reinforcement installation as follows:

(a) Surface Cleaning - Clean the groove and anchor holes thoroughly with high-pressure water and a nonmetallic brush. Before the groove and anchor holes dry out, blow it free of water and debris with compressed air. Ensure that all dust, sand, laitance, grease, curing compounds, and any other bond-inhibiting matter is removed from the groove and anchor holes. Ensure the concrete surface of groove and anchor holes is clean and structurally sound prior to installing titanium alloy bars.

(b) Moisture on Groove and Hole Surfaces - Before installation of titanium alloy bars, dry groove and anchor hole surfaces using a drying method approved by the Engineer and according to the epoxy manufacturer's recommendations. Do not directly apply a flame to the groove and anchor holes surfaces.

00567.44 Compressed Air - When using high-pressure air for cleaning, use adequate separators and traps to ensure that the air is free of water, oil, or any other Material detrimental to the titanium alloy reinforcement system. Compressed air cleanliness may be tested by the Engineer according to ASTM D4285.

00567.45 Titanium Alloy Bar Installation - Begin installation only after groove and anchor hole preparation Work is complete.

Install the titanium alloy bars to the embedment depths and in the anchor holes as shown.

Do not install the titanium alloy bars and epoxy resin when the concrete temperature is below 50 °F, unless otherwise advised by the resin manufacturer's recommendations.

Mask the concrete adjacent to the groove to prevent excess epoxy from adhering to the concrete outside the groove.

Place nylon or polyethylene spacer material between the titanium alloy bars and exposed, existing steel reinforcement.

Fill two-thirds of the anchor hole and one-half of the groove with epoxy resin. Press the titanium alloy bar in the anchor holes and in the center of groove using approved centering devices at one-third points along the titanium alloy bar. Install centering devices with a minimum of 1/8-inch resin cover.

Ensure epoxy resin is well consolidated around the bars without air pockets. Level epoxy resin flush with the surface of the adjacent concrete.

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00567.46 Surface Cleanup - Remove excess epoxy resin outside the groove.

Measurement

00567.80 Measurement - No measurement of quantities will be made for Work performed under this Section. The estimated quantity of titanium alloy reinforcement system is shown below.

Structure	Quantity (Feet)
Bridge No. 01172 - 0.625 Inch Diameter	84

Payment

00567.90 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:

Pay Item	Unit of Measurement
(c) Titanium System, 0.625 Inch Diameter.	Lump Sum

Payment will be payment in full for furnishing, fabricating 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 - 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 seal made of Materials that remain flexible that is poured into the gap of a joint and adheres to the sides of the gap.

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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(s) 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:

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.

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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.

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00585.49 Hot-Dip Galvanizing - Replace the paragraph that begins "The contact surfaces at all ..." with the following paragraph:

Furnish contact surfaces at all galvanized slip critical structural bolted connections meeting Class C (slip coefficient 0.33) surface preparation requirements.

00585.50 Control Joint - Replace this subsection, except for the subsection number and title, with the following:

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:

00585.51 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:

00585.52 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.

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Add the following to the end of the subsection:

The estimated quantities of joints are:

Structure	Joint Type	Quantity (Foot)
Bridge No. 01172	Asphaltic Plug Joint (APJ) Seal	54
Bridge No. 01172	Poured Joint Seal	27

00585.90 Payment - 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.

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:

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- Furnishing and installing hot-dip galvanized steel cover plate with slip-resistant surface or coating for facilities with a Pedestrian Access Route.

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 the security fence, provide a topcoat color of semi-gloss black that matches SAE AMS-STD-595 color # 27038.

00593.10(c) Slip-Critical Connections - Replace this subsection, except for the subsection number and title, with the following:

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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.

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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 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:

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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 subplot is accepted if the average of the measurements and at least 90 percent of the individual measurements within the subplot 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 subplot is accepted if the average of the measurements and at least 90 percent of the individual measurements within the subplot 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 _____ Type IAR Markers, Recessed	Each

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(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 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:

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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.

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If corrosive Soil conditions exist, coat metallic conduit with a nonmetallic coating or wrap with corrosion protection tape at least 10 mils thick.

Add the following subsection:

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

Add the following subsection:

00960.42(f) Conduit on Structures - Install conduit according to 00583.40.

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.

Add the following subsection:

00960.45(f) Structure Mounted Poles and Cabinets - Bond all poles and cabinets mounted on Structures or walls to a common ground rod at the end of the Structure. Ground the system at the first convenient acceptable location off the Structure.

Add the following subsection:

00960.45(h) Metallic Junction Boxes and Lids - Bond metal junction boxes and lids to form a continuous effectively grounded and bonded system with metallic conduit, grounding wire, metal standards and controller cabinets. Leave enough slack in the bond wire connected to the lid to allow complete removal of the lid. Junction boxes only containing circuits that operate at less than 25 V do not need to be bonded.

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.

Add the following to the end of the paragraph that begins "Install service cabinet and associated equipment..."

Field testing for Intelligent Transportation Systems (ITS) does not require prior electrical hook-up.

Add the following to the end of the subsection:

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

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Table 00960-1

Location	Utility	Utility Contact Person's Name, Email and Phone Number	Utility Job Number
US101 MP 327.51 (KA02) and MP 327.88 (KA03)	Coos-Curry Electric	Zane Adams, 541-332-3190, 541-373-3306, Zane.adams@cooscurryelectric.com	TBD 90 Days from Service Relocation

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

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 00985 - ITS ELECTRICAL SYSTEM INSTALLATION

Section 00985 is not a Standard Specification and is included in this Project by Special Provision.

Description

00985.00 Scope - In addition to requirements of Section 00960, install ITS electrical system as shown or specified. (Install Agency-furnished Equipment listed in 00160.30.)

00985.01 Regulations, Standards, and Codes - Comply with the following standards where applicable:

- Underwriters Laboratories (UL)
 - 6-2007 – Electrical Rigid Metal Conduit - Steel
 - 50-2015 - Enclosures for Electrical Equipment, Non-Environmental Considerations
 - 360-2013 - Standard for Liquid-Tight Flexible Metal Conduit
 - 486A-D-2018 – Wire, Splicing Wire, and Sealed Wire Connector Systems
 - 489-2016 - Molded-Case Circuit Breakers, Molded-Case Switches, and Circuit-Breaker Enclosures
 - 508-2024 – Standard for Industrial Control Equipment

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- 510-2020 - Polyvinyl Chloride, Polyethylene, and Rubber Insulating Tape

00985.02 Submittals - Submit according to 00150.37, within 30 Calendar Days after execution of the Contract, the following:

- Termination enclosures according to 00985.12
- Atmospheric sensors and accessories according to 00985.14
- Circuit breakers according to 00985.15
- Metal conduit according to 00985.16
- Metallic conduit fittings according to 00985.17
- Electrical splice materials according to 00985.19
- Wall mount luminaire according to 00985.21
- Lighting contactor according to 00985.22
- Power supplies according to 00985.23
- Analog to Ethernet converter according to 00985.24

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

Materials

00985.12 Termination Enclosure - Furnish enclosures constructed from 14-gauge Type 304 or 316 stainless steel, as well as be UL 50 compliant and Type 4X rated with a #4 brushed finish. Remove all sharp edges. Include doors with a continuous hinge and seamless gasket that is liquid-tight. Enclosures are to be padlockable. Dimensions are location specific as shown.

00985.14 Atmospheric Sensors and Accessories - Provide the following list of Equipment and install as shown:

(a) Temperature/Relative Humidity Sensor

- RM Young Model 41382LC2 (4-20 mA option)
- RM Young Model 41003P-24 radiation shield
- RM Young Model 18446 five conductor cable

(b) Anemometer

- RM Young Model 05106-12M (12-meter cable included)
- RM Young Model 05631C wind line driver
- RM Young Model 18446 five conductor cable

00985.15 Circuit Breakers - Furnish UL489 listed circuit breakers of the voltage rating shown or specified, unenclosed, molded case bolt-on type with end conductor terminals, and suitable for surface mounting in the cabinet on a false back or bracket. The interrupting rating is to meet or exceed the short circuit rating of the specified electrical system.

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00985.16 Metal Conduit - Furnish metal conduit meeting the following requirements:

- **Rigid Metal Conduit** - Galvanized rigid metal manufactured of mild steel conforming to UL 6, Rigid Metal Electrical Conduit.
- **Liquid-Tight Flexible Metal Conduit** - Furnish UL 360 listed, liquid-tight, nonmetallic, sunlight resistant outer jacket over an inner flexible metal core.

00985.17 Metallic Conduit Fittings - Furnish conduit fittings meeting the following requirements:

- **Metallic Expansion Fittings** - Weatherproof, hot dip galvanized malleable iron expansion head and body. Where the Plans do not specify an Equipment grounding wire in the conduit run, furnish fittings with external bonding jumpers. Permit conduit movement and install fittings in accordance with 00583.43.
- **Metallic Bushings** - Galvanized steel or die cast zinc with insulated throat. Include a bonding lug if required.
- **Conduit Hub** - Hot-dip galvanized malleable iron screw-on style with neoprene "O" ring.

00985.19 Electrical Splice Materials - Furnish electrical splice Material meeting the following requirements:

- **Split Bolt** - Made of silicon bronze to securely join the wires both mechanically and electrically.
- **Heat-Shrink Tubing** - Surface-irradiated tube complying with UL 486, rated at 194 °F, with 600 V inner melting wall or liner to provide void-free encapsulated insulation.
- **Insulating Rubber Tape** - Electrical grade, nondrying, rubber based, elastic type according to ASTM D4388.
- **Insulating Vinyl Plastic Tape** - Comply with ASTM D3005, Type II and UL 510.

00985.21 Wall Mount Luminaire - Furnish luminaire that is 12w, LED, 120V, wall pack, CREE Lighting C-WP-C-RDC-S3L-SCCT-DB or approved equal.

00985.22 Lighting Contactor - Furnish lighting contactor, 120V AC control voltage, 600V rated, 30A minimum, 1-pole, and UL 508 listed.

00985.23 Power Supply - Furnish power supply that is 12V DC, 15A minimum, DIN rail mountable, dual output, and UL 508 listed.

00985.24 Analog to Ethernet Converter - Furnish Acromag NTE2211-1111 that includes 8 differential current input channels of 4-20mA analog signals that converts to Modbus TCP/IP output via an RJ45 port that is configurable over Ethernet with a built-in web hosting service.

Construction

00985.40 Installation - Install the Materials as specified, shown, and according to the manufacturer's instructions.

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Install the Agency-furnished Materials listed in 00160.30; and all other Incidental items necessary to complete the Work as shown.

00985.41 Metallic Conduit - If corrosive Soil conditions exist, coat metallic conduit with a nonmetallic coating or wrap with corrosion protection tape at least 10 mils thick.

(a) 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, non-galvanized threads resulting from field cuts.

(b) Bushings - Furnish and install bushing according to the following:

- **Metallic Bushing** - Use metallic bushings with rigid metallic elbows, metallic risers, and junction boxes containing circuits less than 25 V.
- **Metallic Bonding Bushing** - Use metallic bonding bushings with rigid metallic elbows, metallic risers, and junction boxes containing 25 V or greater circuits.

00985.42 Cable and Wire - Install No. 16 AWG THWN orange base with blue tracetone wire in all conduits as a locate wire. Leave slack as required in 00985.43 and install a wire nut. Do not join multiple locate wires under a common wire nut unless otherwise shown.

Tape the ends of unused conductors with insulated vinyl plastic tape.

Install polyethylene pull line in all new conduits for future use. Leave 6 feet of slack pull line. If an existing pull line is used, replace the existing pull line with a new pull line during the installation.

Arrange wiring neatly within cabinets and junction boxes. Use electrical lubricants when inserting conductors in conduit. Before pulling wires through underground conduit runs, blow the conduit out with 120 cubic feet per minute compressed air.

Do not use tapes, straps, ties or other binding materials to bundle single conductors or cables together inside conduits or poles. Bundling of conductors or cables are allowed at the terminating end points for pulling only.

Pull all wire and cable by hand and on a straight line with the conduit opening to prevent damage to wire and cable insulation. Use a pulley device to achieve a straight pull if pulls are made with poles or controller cabinet in place.

00985.43 Conductor Slack - Leave slack in each wire and cable as follows:

- 2 feet in junction boxes and poles
- 6 feet in the first junction box nearest the controller cabinet
- 6 feet in controller cabinet and service cabinet

00985.44 Identification and Marking - Clearly and permanently label all cables and wiring between subsystems. Mark all conductors within 2 inches of wire terminations by means of imprinted tubular white or yellow plastic wire markers at termination points. Install marker

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nomenclature that is visible without moving wires or markers. Use thermal transfer label printer with minimum 3/4" tape.

00985.45 Covers and Guarding - Furnish covers or guarding for live parts of terminations on circuits of 50 V or more to ground.

00985.46 Conductor Splicing - Install all conductors as shown without splicing. Field verify lengths prior to ordering cables. If splicing is required to complete Work as shown, then submit the method using all materials listed in 00985.19 and the location of splicing for approval by Engineer before construction.

00985.50 Camera Installation - Install Agency-furnished camera and accessories consisting of the camera, housing, mounting bracket, power supply, and associated wiring as shown and specified. Final aiming of the camera to be completed by the Agency.

Measurement

00985.80 Measurement - No measurement of quantities will be made for Work performed under this Section.

Payment

00985.90 Payment - The accepted quantities of Work performed under this Section will be paid for at the Contract lump sum amount for the item "Electrical Systems Installation".

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 pick-up and installation of the Agency furnished Materials.

SECTION 01050 - FENCES

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

01050.00 Scope - Replace the bullet that begins "Fences, Gates, and..." with the following bullet:

- Fences, Gates, and Gateways of barbed wire, woven wire fabric, chain link fabric, and metal, or combinations, to the lines and grades as shown and directed.

Delete the bullet that begins "Protective Fences, on and...".

Add the following subsection:

01050.02 Required Submittals – Submit unstamped Working Drawings according to 00150.35(b) detailing the security fence and gates. Include as a minimum the following information:

- Grade of metal and dimensions for all members
- Location and dimension of supports
- Connection details
- Product name and number and manufacturer's literature for manufactured components such as hinges, etc.
- Methods and equipment to be used for joining members and attaching manufactured components

Do not proceed with fabrication of the security fence and gates prior to the Engineer's approval.

01050.10 Materials - Add the following to the end of this subsection:

Furnish materials for security fence and gates conforming to the following:

Tubular Steel Members – Use ASTM A 500 Grade B for Tubular steel members.

Other Shapes – Use ASTM A36 metal plates and runners, other than tubular shapes.

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:

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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(a)(3) Concrete Footings - Replace this subsection, except for the subsection number and title, with the following:

Construct footing to dimensions no less than shown. Place the concrete to fill the excavated areas with contact against firm Soil at the sides and bottom and tamp around the posts and brace ends after the posts and braces have been brought to and firmly held in proper position. Strike off, slope or crown and smooth the surface of the concrete at the ground level to shed water. Allow to cure for at least 5 Calendar Days before subjecting the posts and braces to strain.

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

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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

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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.

Add the following subsection:

01050.51 Security Fence – Construct security fence and gates as shown and specified.

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.

Add the following subsections:

01050.80(j) Security Fence - Security fences 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.

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01050.80(k) Security Gates - Security gates will be measured on the unit basis.

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.

Add the following subsections:

01050.90(f) Security Fence - Security Fence and gates will be paid for at the Contract unit price, per unit of measure, for the following items:

Pay Item	Unit of Measure
(a) Security Fence.....	Foot
(b) _____ Foot Security Gates	Each

In item (b), the width of the Gate will be inserted in the blank.

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 furnishing all Equipment, labor, and incidentals necessary to complete the Work as shown and specified.

SECTION 01201 - COMMON PROVISIONS FOR CATHODIC PROTECTION SYSTEMS

Section 01201 is not a Standard Specification and is included in this Project by Special Provision.

Description

01201.00 Scope - This Work consists of furnishing and installing Materials and Equipment for cathodic protection of existing Bridges.

To the extent feasible, and in conformance with the Plans, perform the Work without degrading the visual and architectural character of the Bridge.

01201.01 Abbreviations and Definitions:

(a) Abbreviations:

CP - Cathodic Protection

PVC - Polyvinyl chloride

(b) Definitions:

CP Zone - An area of the Bridge surface marked by edge boundaries of the anode, as defined in the Plans. CP Zones are established for the purpose of managing the power needed to operate the cathodic protection system effectively.

Damaged Concrete - Concrete that is spalled or delaminated; concrete with near-surface rock pockets; concrete that is unbonded from reinforcing bars; unsound or delaminated concrete in existing patches; and concrete that has been drilled, excavated, or removed during prior maintenance work or during the Work of this Project. Areas of near-surface metal removal in sound concrete less than 1/2 square foot will not be considered Damaged Concrete.

Essential Near-Surface Metal - Metal located less than 1/2 inch below the surface of the concrete, and that has a structural or functional purpose. Essential near surface metal includes objects such as reinforcing bars, reinforcing mesh, bearing devices, drains, conduits, Bridge supports, and anchors.

Hold Point - A time when the Contractor is required to cease a particular activity until a phase of Work is inspected by or tested in the presence of the Engineer. If the Engineer finds this phase conforms to the Specifications, the subsequent phase of Work may proceed.

King Bar - Primary connection of the direct current power source of a cathodic protection system to the reinforcement of a concrete structure (cathode).

Non-Essential Near-Surface Metal - Metal located less than 1/2 inch below the surface of the concrete, and that does not have a structural or functional purpose. Non-essential

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near surface metal includes objects such as form ties, wires, nails, rebar supports, staples, and abandoned conduits.

Primary Deck Bar - Reinforcing bars in the Bridge deck slab, that span between the members that support the deck slab.

Pumped Concrete - Portland cement, Sand and admixtures or a pre-packaged repair mortar thoroughly mixed and hydrated that is suitable for placement by pumping into restricted liquid tight formwork.

QCE Work - Quality Critical Elements (QCE) of Work is any Work that requires trained personnel to complete the Work. QCE Work consists of the following:

- Quality Control according to Section 01210
- Locate and Remove Near Surface Metal according to Section 01215
- Replace Damaged Concrete according to Section 01235
- Install Reference Cells according to Section 01240
- Locate and Eliminate Electrical Discontinuities in Rebar according to Section 01245
- Prepare Surfaces and Apply Zinc Anodes according to Section 01260

Saturated Surface Dry Condition - Surface condition where hardened concrete is thoroughly saturated with water without any free standing water.

Secondary Deck Bar - Reinforcing bars in the Bridge deck slab, oriented perpendicular to the Primary Deck Bars.

Shallow Rebar - Rebar that is less than 1/2 inch below the surface of the concrete.

Materials

01201.10 Hand Patching Materials - Furnish hand patching Materials from Section 02015.30 of the QPL designated for vertical and overhead application.

01201.11 Non-Conductive Resin - Furnish non-conductive resin from Section 00535.10 of the QPL designated as "high strength".

01201.12 Non-Conductive Sealant - Furnish one of the following non-conductive sealants:

- Dow Corning 790 Silicone Building Sealant.
- GE SCS9000 SILPRUF Sealant.
- Sikaflex 1a Polyurethane Elastomeric Sealant/Adhesive.

01201.13 Heat Shrink Tubing; Electrical Tape - Furnish the following heavy-walled heat-shrink tubing or approved equal:

- Raychem WCSM series.

Furnish the following electrical tapes or approved equal:

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- Electro Tape Specialties MW101 Mastic Rubber Wrap and 750 Premium Grade Vinyl.

01201.14 Ring Connectors; Tap Connections; Solder - Furnish UL listed, un-insulated copper ring connectors sized for #10 AWG wire.

Furnish the following C-taps or approved equal:

- Thomas & Betts catalog number 54715.

Furnish RoHS compliant solder meeting IPC-J-STD-004, 005 and 006.

01201.15 Conduit and Fittings - Furnish UL listed, schedule 40, extruded PVC electrical conduit that conforms to UL Standard Number 651, rated for 194 °F conductors. Furnish gray conduit and gray fittings.

Furnish gray conduit fittings constructed from PVC or thermoplastic according to UL Standard Number 514. Furnish PVC expansion fittings that are UL listed and constructed to provide a weathertight seal. Furnish UL listed PVC conduit elbows.

Furnish gray UL listed junction boxes constructed from PVC or thermoplastic furnished with mounting feet and a gasketed weathertight cover mounted with brass or stainless steel screws.

Furnish gray UL listed, single-hole PVC conduit straps.

Furnish cement recommended by the conduit manufacturer to secure conduit joints.

Furnish pre-fastening plastic anchors designed for 1 1/2" minimum embedment in concrete. Furnish fasteners rated for indoor/outdoor and damp/dry location that are also rated for -30 °F or less and 140 °F or greater.

01201.16 Fasteners:

(a) Brass Nuts and Bolts - Furnish 1/4-inch-diameter brass hex nuts and brass bolts or all-thread according to ASTM F467/468 UNS number C27000, C46200 or C46400.

(b) Stainless Steel Bolting Materials - Furnish Type 316 stainless steel bolting Materials 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.

- For conduit hangers, furnish bar stock and all-thread from the same alloy group as the nuts and bolts listed in the subsection.

01201.17 Labels - Use printed labels at least 1 1/2 inches in length with a text height of at least 1/8 inch (12-point Arial). Protect labels by completely covering with clear, flexible heat shrink tubing that is CSA/UL approved meeting MIL-I-23053.

01201.18 Electrical Conductors - Furnish UL listed, Type XHHW stranded copper wire with 600 volt rated insulation rated for 167 °F operation in wet or dry locations.

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01201.19 Marking Tape - Furnish marking tape made of red polyethylene six inches wide and a minimum of four mils thick, continuously imprinted with the message "CAUTION BURIED ELECTRIC LINE".

Equipment

01201.20 Short Circuit Detection Equipment - Use a voltage detection system that monitors the potential between the steel rebar and the zinc coating and activates an alarm if a short circuit occurs during conduit or junction box installation. Use one of the following digital panel meters, installed in a NEMA 4 enclosure:

- Newport digital panel voltmeter number Q2005AVR2-SPC
- Simpson Hawk 3 digital panel voltmeter number H345-2-12-0-1-0
- Laurel Electronics Laureate digital panel voltmeter number L10100DCV2

Labor

01201.30 Electricians - Provide electricians licensed as a S or J in the State of Oregon, under Oregon Administrative Rule 918-282-0140 or 918-282-0170.

Construction

01201.40 Short Circuit Detection - Monitor the potential between the steel rebar and the zinc to detect short circuits. A short circuit is indicated if the measured potential is less than 100 mV.

Connect the negative input terminal of the detection Equipment to the anode terminal plate connection in the zone where Work is being performed and connect the positive input terminal to a terminal on the rebar at the nearest reference cell rebar connection or King Bar connection.

Operate the short circuit monitoring system during any Work capable of causing a short circuit between the zinc anode and the rebar including conduit installation over zinc anode surfaces. If this alarm is actuated, stop installation Work until the short circuit has been eliminated. Perform elimination of short circuits using a method approved by the Engineer.

Use a separate short circuit detector for each concurrent Work area where the anode is discontinuous. When a short is detected, Work may continue in other areas not continuous with the affected anode.

01201.41 Installing Conduit and Fittings:

(a) Conduit - Furnish conduit of the sizes shown. If the size is not shown, meet the requirements of the conduit fill limits listed in Table 4 of Chapter 9 of the NEC.

Support major conduit runs through Bridge Utility holes under the Bridge using stainless steel all-thread and plate hangers. Provide an insulated threaded hole for plate hangers by drilling into the concrete surface, inserting non-conductive sealant into the hole, and inserting a plastic anchor. Secure all-thread with non-conductive resin. Maintain major conduit runs straight and level between transverse beams where the conduit is run.

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Support surface-mounted conduit with conduit straps. Provide an insulated threaded hole for the strap by drilling into the concrete surface, inserting non-conductive sealant into the hole, and inserting a plastic anchor. Mount the conduit straps with stainless steel bolts and secure with non-conductive resin.

Provide square-cut or square-formed ends on all sections of conduit. Remove any internal and external sharp edges if the conduit is cut. Cap conduit ends, and provide protection for wires that are exposed at the end of a Work shift until the Work can be completed.

If obstructions require conduit runs to deviate from the routing shown, locate the conduit to minimize visual impact after obtaining written approval from the Engineer. Only drill through concrete with written approval from the Engineer. Locate reinforcing bars before drilling through concrete. Perform drilling through concrete without drilling through reinforcing bars unless otherwise approved. Repair any damage to the surrounding concrete.

(b) Conduit Fittings - When fittings require removable access holes for pulling conductors, furnish conduit fittings with a gasketed cover mounted with stainless steel or brass screws according to 01201.16, to form a weathertight fit. Install conduit fittings as follows:

(1) Expansion Fittings - Furnish expansion fittings with at least a 6-inch throw for all major conduit runs at all Bridge expansion joints.

Secure the expansion fitting to the surface only at the barrel end of the fitting. Adjust the initial setting of the fitting to account for installation temperature and future expansion/contraction movement based on a minimum design temperature of 10 °F and a maximum design temperature of 110 °F.

(2) Conduit Elbows - Wherever possible, provide factory made bends. If a field bend is necessary, provide a bending radius not less than six times the inside diameter of the conduit. Do not use conduit that is damaged or flattened during bending.

(3) Reducer Couplings - Reducer couplings are not allowed.

(4) Junction Boxes - Provide insulated threaded holes for mounting junction boxes by drilling into the concrete surface, inserting non-conductive sealant into the hole, and inserting a plastic anchor. Mount junction boxes with stainless steel screws. If no size is shown, furnish junction boxes sized according to the guidelines given in the NEC.

Field removal of the bottom of junction boxes is allowed, if the Plans show the box without a bottom. Accomplish field removal of box bottoms without damaging the box mounting feet and leaving a minimum of 3/4 inch of box bottom along each side of box.

Install junction boxes with the bottom flush on the concrete surface. Drill a 1/8-inch-diameter hole through the lowest point in each junction box to provide drainage. Junction boxes without mounting feet are acceptable if a hole is drilled in each corner of the bottom for fasteners.

(5) Conduit Cement - Apply cement only within the manufacturer's recommended installation temperature range. Follow all other manufacturer's recommendations.

Temporary

01201.70 Electrical Service - Install and remove any temporary electrical service needed to perform the Work at no additional cost to the Agency. Use electricians meeting the requirements of 01201.30.

SECTION 01210 - QUALITY CONTROL

Section 01210 is not a Standard Specification and is included in this Project by Special Provision.

Description

01210.00 Scope - In addition to the requirements of Section 01201, Section 01215, Section 01220, Section 01235, Section 01240, Section 01245, Section 01260, Section 01270, Section 01280, Section 01285 create and execute a Quality Control (QC) Plan to ensure that all Quality Critical Elements (QCE) of Work conform to the Contract Documents, and providing Quality Control Specialist(s) (QCS) to execute the QC plan according to the following Specifications.

For the purposes of all Work related to cathodic protection, QC is understood to refer specifically to the QC for cathodic protection.

01210.01 Submittals - Submit the QC Plan according to 00150.37 at least 21 Calendar Days before QCE Work begins. At a minimum, include:

- The names of the QCS(s).
- A list of all Work items and Hold Points. Identify all QC tests, pass/fail criteria as stated in the Specifications, and the names of personnel who will perform and witness the test. Include a checklist clearly outlining the work flow for the QCS to follow.
- A copy of each form used to report QC inspection and test data to the Agency.

Following each QC inspection and test, submit all inspection and test data according to 00150.37.

Labor

01210.30 Quality Control Specialist(s) - Provide Quality Control Specialist(s).

Provide QCS qualified to inspect QCE Work for defects. The Engineer will determine if the QCS is qualified to perform the Work based on their familiarity with all cathodic protection QC test methods and by experience in performing the specified Work. Each QCS is required to be approved by the Engineer prior to performing quality control Work.

Multiple QCSs may be designated. A QCS need not fill this role for all QCEs as long as each QCE has at least one QCS responsible for it.

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The QCS is responsible for:

- Reviewing all Work for defects and ensuring defects are corrected prior to requesting verification testing and inspection
- Witnessing or performing all QC tests and submitting inspection and test data according to the QC Plan
- Establishing Work limits prior to beginning QCE Work or anytime Work limits are broken into smaller areas
- Inspecting Equipment and abrasive daily
- Cooperating with Agency verification testing and inspection
- Stopping Work when test Equipment is not available, and when necessary to ensure that the Work is performed according to the Contract Documents

Do not allow the QCS to perform production duties or supervision for any QCE Work when the QCS is responsible for quality control.

The QCS will be immediately removed from QCS duties and disqualified from future QCS duties if any quality control failure occurs. Quality control failure includes:

- Three separate occurrences of accepting QCE Work that does not comply with the Contract Documents
- A determination that zinc anode thickness approved by the QCS are later found to be below the minimum or above the maximum thickness values.
- Two separate occurrences of QCS performing production duties when they are designated as the QCS for that QCE Work.
- Two separate occurrences of the QCS failing to perform any duties as specified.

Stop QCE Work if the QCS responsible for it is no longer employed by the Contractor, a Subcontractor, or is otherwise unavailable. If the QCS will no longer be available, propose a new QCS for approval by the Engineer before resuming the QCE Work in question.

Construction

01210.40 Quality Control Testing and Inspection - Provide QC testing and inspection to ensure compliance of the Work with the Contract Documents. Ensure that defects are corrected prior to requesting verification testing and inspection.

01210.41 Agency Verification Testing and Inspection - Coordinate with Agency verification testing and inspection to provide timely access and ensure a QCS is present.

Provide the Inspector timely access to areas where Work is being performed. Allow adequate time for inspection and testing at each Hold Point. The Engineer will inspect each phase of the Work. If the Engineer finds a phase conforms to the Specifications, the subsequent phase of Work may proceed.

The following Hold Points are defined for Agency verification testing and inspection:

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- After the Work platforms and containment Structures have been installed and accepted according to Section 00253.
- After marking of near-surface metals, before removal of near-surface metals according to Section 01215
- After removal of near-surface metals, before patching according to Section 01215
- After patching of near-surface metals areas according to Section 01215
- After marking of corroded reinforcing bars according to Section 01220
- After preparation for reinforcing bar repairs, before splicing according to Section 01220
- After completion of splicing, before patching according to Section 01220
- After patching of reinforcing bar repair areas according to Section 01220
- After marking of damaged concrete according to Section 01235
- After removal of damaged concrete, before installing forms according to Section 01235
- After installation of forms, immediately before pumping patch concrete according to Section 01235
- After form removal according to Section 01235
- After surface finishing according to Section 01235
- After conducting potential surveys according to Section 01240
- After preparation, before installation of reference cells according to Section 01240
- After installation of reference cells according to Section 01240
- After continuity checks, before continuity welding according to Section 01245
- After continuity welding, before patching according to Section 01245
- After patching of continuity weld areas according to Section 01245
- After completion of anode terminal installation according to Section 01260
- Before abrasive blast according to Section 01260
- After abrasive blast according to Section 01260
- Before anode application according to Section 01260
- After anode application according to Section 01260
- After installation of conduits and wiring according to Section 01270
- After fabrication of cabinets, before shipment of cabinets according to Section 01285
- After installation of cabinets according to Section 01285

Measurement

01210.80 Measurement - No measurement will be made for Work performed under this Section.

Payment

01210.90 Payment - The accepted quantities of Quality Control Work will be paid for at the Contract Lump Sum amount for the item "Quality Control Plan".

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 01215 - LOCATE AND REMOVE NEAR-SURFACE METAL

Section 01215 is not a Standard Specification and is included in this Project by Special Provision.

Description

01215.00 Scope - In addition to the requirements of Section 01201, Section 01210, Section 01235, and Section 01260, this Work consists of locating, and eliminating low resistance paths for CP current from the thermal spray anode to the rebar.

01215.02 Timing - Perform locating and marking of Essential and Non-Essential Near-Surface Metal after boundaries of damaged concrete have been marked for removal according to Section 01235.

01215.03 Submittals - At least 21 Calendar Days before beginning Work, submit according to 00150.37 detailed procedures for locating and marking Essential and Non-Essential Near-Surface Metal. Identify patching Materials and resins to be used. Include the manufacturers' specifications and operating instructions for all Equipment. The Engineer will respond within 21 Calendar Days after receipt of the submittal.

Do not start Work until written approval of submittals is received from the Engineer.

Materials

01215.10 Hand Patching Materials - Comply with 01201.10.

Construction

01215.40 Location and Removal Requirements - Locate and mark all metal bearing plates, drains, Bridge supports, anchors, and other exposed Essential Near-Surface Metal on all concrete surfaces receiving anode.

Locate all reinforcing bars, reinforcing mesh, and other Essential Near-Surface Metal that have less than 1/2 inch of concrete cover. Locate by visual inspection and by using a metal detector.

Within areas marked for replacing damaged concrete under Section 01235:

- Do not mark Essential Near-Surface Metal.
- Do not mark Non-Essential Near-Surface Metal.
- Do not remove Non-Essential Near-Surface Metal as it is removed under 01235.
- Do not perform resin coating or concrete build-up over Essential Near-Surface Metal, as concrete cover is restored under Section 01235.

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Outside areas marked for replacing damaged concrete under Section 01235:

- On surfaces identified as high visual impact in 01235.46, mark for resin buildup on shallow rebar according to 01235.46.
- On surfaces not identified as high visual impact in 01235.46, mark for mortar buildup on shallow rebar according to 01235.46.
- Remove all Non-Essential Near Surface Metal within 1/2 inch from the concrete surfaces. Do not remove or cover objects if it is obvious that none of the metal can survive abrasive blasting.

Wire brush and mask Essential Near-Surface Metal and the adjacent concrete surface within four inches of metal to prevent bonding of the anode to the exposed metal and the immediate area surrounding it.

Explore all spots of rust visually and with a metal detector to determine if a metallic object is present. Mark the location and extent of all known Non-Essential Near Surface Metal.

If a pattern of form ties or other objects is identified, examine all expected locations visually and with a metal detector. If form ties are found, examine the opposite side of the member to locate the other end of the tie.

Remove marked Non-Essential Near-Surface Metal to a minimum of 1/2 inch below the concrete surface and clean the cavity.

An acceptable removal technique for Non-Essential Near Surface Metal of less than 1/4-inch diameter that is oriented perpendicular to the concrete surface is to drill one or more small diameter holes, a minimum of 3/4 inch deep, with a rotary or rotary-impact drill beside each object. Sever the object at the required depth by grinding, sawing, or shearing.

Leave nails and other small metallic objects with their entire length at the concrete surface for removal during abrasive blasting under Section 01260.

Mark cavities that are greater than 1/2 square foot in area and long cavities such as those from removal of a piece of wire more than 12 inches long as repair damaged concrete under Section 01235.

Repair cavities with hand patching Materials created by non-essential near surface metal removal that are less than 1/2 square foot leaving no feathered edges. Observe QPL remarks and follow manufacturer's guidelines for application.

Measurement

01215.80 Measurement - The quantities of Work performed under this Section will be measured according to the following:

(a) Locate Near Surface Metal - Locating near surface metal will not be measured.

(b) Remove Non-essential Near Surface Metal - Removal of Non-Essential Near-Surface Metal will be measured on the unit basis.

Payment

01215.90 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) Locate Near Surface Metal	Lump Sum
(b) Remove Non-Essential Near-Surface Metal.....	Each

Item (b) includes removing Non-Essential Near-Surface Metal and hand patching cavities less than 0.5 square foot.

No separate or additional payment will be made for Non-Essential Near-Surface Metal that is left in place to be removed by abrasive blasting under Section 01260.

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 01220 - REPAIR DAMAGED REINFORCING BARS

Section 01220 is not a Standard Specification and is included in this Project by Special Provision.

Description

01220.00 Scope - In addition to the requirements of Section 01201, Section 01210, Section 01235, Section 01240, Section 01245, and Section 01260, locate and repair damaged reinforcing bars according to the Specifications.

01220.02 Timing - Perform reinforcing bar repairs after removing all damaged concrete and blast-cleaning all exposed concrete and reinforcement according to Section 01235, and before:

- Patching concrete excavations (including excavation made in competent concrete under this Section) as specified in Section 01235
- Performing any Work under Section 01240
- Performing any installation Work under Section 01245
- Performing any Work other than initial abrasive blast under Section 01260

01220.03 Pre-Welding Conference - Before beginning the Work of this Section, attend a pre-welding conference with the Engineer, at a mutually agreed-upon date and time. Attendance is mandatory for the Contractor's supervisory personnel and the Contractor's Certified Welding Inspector (CWI). The pre-welding conference includes discussion of the Contractor's quality control responsibilities, documentation requirements, and welding procedures and Equipment; and demonstration(s) of welder(s) skills.

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No later than 21 Calendar Days before the pre-welding conference, submit the following according to 00150.37:

- Descriptions of Materials to be used. Identify all relevant constituents and properties of each Material and the Specifications where it complies. Data published by the manufacturer is acceptable, except when certifications of Materials characteristics are required.
- Detailed procedures for performing the Work of this Section. Include the manufacturer's specifications and operating instructions for all Equipment, and:
- Welder certifications according to AWS D1.4
- Pre-approved Welding Procedure Specifications (WPS) or Procedure Qualification Record / Welding Procedure Specifications (PQR/WPS)
- Detailed procedures for electrode control measures
- Detailed procedures for achieving, maintaining and monitoring pre-heat and inter-pass temperatures

Do not schedule the Work until at least 21 Calendar Days after submitting procedures, and do not start Work until written approval is received from the Engineer.

Materials

01220.10 Reinforcing Bars - Furnish uncoated, ASTM A706, Grade 60 reinforcing bars according to 02510.10.

01220.11 Welding Materials - Use weld Materials according to the current version of AWS D1.4, "Structural Welding code - Reinforcing Steel". When using shielded metal arc welding (SMAW), furnish low-hydrogen electrodes.

Labor

01220.30 Welders; Welding Inspectors - Provide certified welders and welding inspectors according to AWS D1.4.

Construction

01220.40 Location Requirements - Mark all locations where exposed bars have 50 percent or more section loss. At all such locations, splice bars according to the following:

(a) Sidewalks, Miscellaneous Beams, and Walls - On sidewalks and their supports, and on miscellaneous beams and walls:

- Splice longitudinal and transverse bars at each location having at least 50 percent section loss.
- Splice every stirrup and hoop having a location with at least 50 percent section loss.

(b) Longitudinally Framed Floor Systems:

(1) Girders - In the bottoms of girders, splice every longitudinal bar at each location having at least 50 percent section loss. Use tied splices only.

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Splice every stirrup having at least 50 percent section loss.

(2) Bottom of Deck Slabs - Splice every primary deck bar at each location having at least 50 percent section loss except within one half of a splice length of a supporting member.

(c) Transversely Framed Floor Systems:

(1) Transverse Floor Beams - In the bottoms of floor beams, splice every longitudinal bar at each location having at least 50 percent section loss. Use tied splices only.

Splice every stirrup having at least 50 percent section loss.

(2) Bottom of Deck Slabs - Splice every primary deck bar at each location having at least 50 percent section loss except within one half of a splice length of a supporting member. Use tied splices only.

01220.41 Repair Requirements - Remove sound concrete as necessary according to Section 01235, to leave a minimum of 3/4 inch clearance between the bar and concrete around the entire perimeter of all splice bars over their entire length. Remove any additional concrete that cracks or spalls during welding. Remove only as much sound concrete as needed to shape excavations for adequate patch retention. Avoid gouging or loosening rebar and damaging sound concrete outside of splice areas.

Furnish splice bars with cross sectional area equal to or greater than the section loss of the bar being repaired. Repair round bars with splice bars the same diameter as the original bars. Repair square bars with round splice bars of a diameter equal to the thickness of the square bars. Extend splice bars both ways beyond the area of 50 percent section loss for at least the minimum splice length shown.

If feasible, place splice bars so as to allow 1/2 inch of concrete cover without raising the original concrete surface. Furnish enough wire ties to keep the splice bar in position during the placement of concrete cover and to provide electrical continuity between existing and new bars.

Except where tied splices are specified, tied or welded splices are allowed.

Perform all weld splicing according to ANSI/AWS D1.4, "Structural Welding Code - Reinforcing Steel". Since the carbon content of existing reinforcement is unknown, assume that preheating is required under ANSI/AWS D1.4. Limit the temperature of reinforcing bar at concrete interface to 500 °F or less, verified using an infrared thermometer.

Perform weld inspection according to ANSI/AWS D1.4. A Certified Welding Inspector marks each inspected weld.

01220.42 Documentation - Provide a map in an approved electronic format detailing the locations of all rebar repairs within $\pm$ three inches.

Measurement

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01220.80 Measurement - The quantities of reinforcing bar repair Work will be measured on the unit basis, by count of splice bars installed.

Payment

01220.90 Payment - The accepted quantities of reinforcing bar repair Work will be paid for at the Contract unit price, per each, for the item "Repair Damaged Reinforcing Bars".

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 documentation of repairs.

SECTION 01235 - REPAIR DAMAGED CONCRETE

Section 01235 is not a Standard Specification and is included in this Project by Special Provision.

Description

01235.00 Scope - In addition to the requirements of Section 01201, Section 01210, Section 01215, and Section 01260, this Work consists of:

- Locating and removing damaged concrete and replacing it with pumped repair mortar.
- Removing Non-Essential Near-Surface Metal in areas larger than 1/2 square foot and long cavities such as those from removal of a piece of wire more than 12 inches long and filling cavities with pumped repair mortar.

01235.02 Timing - Begin the Work only after the entire surface within the Work area has been cleaned to remove dirt, grease, oils, laitance, paint, sealers, coatings, and other deleterious material according to Section 01260.

Provide temporary shoring of Work areas when required by 01235.50 before removing existing concrete.

Mark boundaries for excavating concrete and boundaries for adding concrete cover before locating surface metal according to Section 01215.

Place and cure repair mortar before preparing anode surfaces according to Section 01260

01235.03 Submittals - Submit the following according to 00150.37. Within 21 Calendar Days after receipt of submittals, the Engineer will review the submittals and designate them in writing as "approved", "approved as noted", or "returned for correction". At least 21 Calendar Days before beginning concrete repair Work, submit the following:

(a) Repair Mortar:

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- A description of all relevant constituents and properties of the Material. Data published by manufacturer is acceptable unless certifications of the material characteristics are required by these Specifications.
- For prepackaged products, the manufacturer's certification that the furnished Material meets the requirements of 01235.11.
- The Specifications subsection where each repair mortar complies
- If proposing an alternate repair mortar to those specified in 01235.10, test data demonstrating compliance with 01235.10.

For alternate repair mortar submit three 4 by 8-inch cylinders of patch Material cast in the presence of the Engineer using the proposed mix proportions, admixtures, and mixing and application Equipment, at least 7 Calendar Days before starting concrete repair Work. Cast and cure the cylinders according to AASHTO R 100 or AASHTO R 39.

Submit records of mix proportions and identify the mix design that was used in each repair location. Maintain and provide records that are complete enough to be able to match repaired bridge areas with the mix records.

(b) Concrete Repair Procedure:

- Manufacturer's specifications and operating instructions for all Equipment
- Details of each step to accomplish the Work
- Steps to maintain quality control of all newly applied mortar
- Plan to maintain records of verification of mix proportions for all repair mortar mixed on-site
- Plan to maintain records identifying the mix design for each repaired area

Do not begin Work until written approval is received from the Engineer.

Submit stamped shoring drawings and design calculations according to 00150.35, at least 21 Calendar Days before starting concrete removal.

01235.04 Procedure Qualification - Demonstrate in the presence of the Engineer, proposed procedures and Equipment for patching and curing.

The Engineer will evaluate the results and determine whether procedures are accepted or rejected.

01235.05 Acceptance Criteria – The Work performed under this Section is acceptable if it passes the tests described below.

After the repair mortar has cured, and in the Engineer's presence, conduct a delamination survey of all repaired areas, as follows:

- Sound all repaired areas with a hammer.
- Mark boundaries of all delamination in the repaired areas.
- Identify the following delaminations for repatching:

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- All delaminations greater in area than a 3-inch diameter circle.
- All delaminations with a dimension greater than five inches.
- Verify that delamination survey results are repeatable by spot checking using a different surveyor.
- When a spot check finds a non-repeatable result, re-survey the area surveyed since the latest repeatable spot check.

After repairing repatched areas repeat the survey. Repeat the survey and repair procedure until all areas of unsound repair mortar have been successfully repaired.

Perform quality control testing according to 01235.47.

Furnish material for verification testing according to 01235.48.

If a core tested for pull-off strength according to 01235.47 has Sand pockets or voids, fully remove the defects and repair the affected area.

Materials

01235.10 Repair Mortar - Furnish one of the following micro-concrete (MC) or repair mortars with the required admixture as specified in 01235.14:

- SikaEmaco 440MC (formerly BASF MasterEmaco S 440MC)
- Alternative repair mortar according to the following:
 - Non-polymer flowable micro-concrete
 - Suitable for pumping
 - At least 3,000 psi 28-Day compressive strength
 - "Low" potential for cracking and no cracking in 28 Calendar Days when tested according to ASTM C1581, including Appendix
 - Electrical resistivity in the range of 2,000 to 20,000 ohm-cm

Submit proposed alternate repair mortar for approval according to 01235.03.

Furnish hand patching Materials complying with 01201.10.

01235.11 Prepackaged Product - Premixed and prepackaged concrete furnished for on-site mixing is acceptable if approved by the Engineer. Furnish packages containing cement and Aggregate according to these Specifications with no silica fume, fly ash, or any other porosity-reducing admixture.

01235.12 Non-Conductive Resin - Furnish non-conductive resin according to 01201.11.

01235.13 Embedded Steel - Furnish un-galvanized steel whenever welded wire fabric or other metal is to be embedded in the mortar.

01235.14 Admixtures - Use only admixtures approved by the Engineer.

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When admixtures are used to reduce water-cement ratio or retard or accelerate the development of strength, use only admixtures compatible with the cement used, at the rate specified by the manufacturer.

01235.15 Hollow Wall Anchors - Furnish the following plastic hollow wall anchors or approved equal:

- ITW Red Head EZP100 Nylon E-Z Drywall Anchor

01235.16 Water - Furnish water according to 02020.

Construction

001235.40 Access; Containment; Disposal - Provide Work access and debris containment according to Section 00253.

Dispose of waste according to 00290.20.

01235.41 Locating and Marking - Locate and mark all damaged concrete and surface defects.

Locate surface defects such as rock pockets or delaminated finishing coatings or mortars by visual inspection. Mark boundaries for patching all surface defects that do not sound as damaged concrete and are not located over a rebar or it is obvious that rebar corrosion is not associated with the surface defect.

Locate damaged concrete by visual inspection and by sounding the concrete surface with a 16-ounce masonry hammer. Mark as damaged concrete all areas where damaged concrete is visually obvious or is suspected based on sounding with a hammer. Where sounding indicates possible delamination and the concrete surface appears sound, with no obvious damage, use a bar locator to determine rebar location and cover depth. Remove concrete according to 01235.41 from a four-inch wide by eight-inch-long exploration area centered over the rebar, and extend the exploration area along the rebar until rebar that is free of rust scale or pitting is exposed. Mark the exploration area as damaged concrete.

Mark boundaries for concrete removal around all:

- Damaged concrete
- Shallow rebar, if the reinforcement is a prefabricated mesh
- Patches that were located and marked according to Section 01215

Do not use angles sharper than 45 degrees in defining the repair boundaries. Make all repairs at least four inches wide in each direction. While conforming to these guidelines, draw repair boundaries that minimize the effort needed to saw and excavate.

The Engineer will perform verification surveys of selected sections of the Work and determine the final quantity of repairs. Do not begin concrete removal until the Engineer has completed the verification surveys of the selected sections.

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01235.42 Concrete Removal - Sawcut the boundaries of concrete to be removed, to a depth just missing the reinforcing bars or to a depth of 1/2 inch, whichever is less. Do not overrun sawcuts at the corners of the marked boundaries. Sawcutting is not required if the Contractor can consistently provide, by another technique, a minimum 1/2-inch deep excavation surface that is uniformly perpendicular to the original concrete.

Remove concrete within the marked boundaries with high-pressure waterjet blasting Equipment, pneumatic hammers, chipping guns, manual picks and chisels, or other Equipment approved by the Engineer. Do not use pneumatic hammers heavier than a nominal 15-pound class. Remove concrete in such a way that removal of sound concrete beyond established boundaries is kept to a minimum. When working around reinforcing bars, avoid loosening the reinforcement or fracturing the concrete around it beyond the repair area.

Remove all damaged concrete within the marked boundaries to the depth of sound concrete. In areas where the reinforcing bar lacks bond with the existing concrete, continue to excavate to 1/2 inch beyond the depth of the reinforcing bar. In areas where it is difficult to determine if the reinforcing bar lacks bond with the existing concrete, do not excavate beyond the depth of the reinforcing bar if a 4-inch wide exploration area shows the reinforcing bar to be free of rust scale or pitting, and the reinforcing bar is not separated from the remaining concrete. Limit removal to no more than one inch above the bottom mat reinforcing bar in deck soffits. If further excavation is required to remove all damaged concrete, inform the Engineer and do not proceed until approved.

Do not remove sound concrete over shallow rebar.

Verify that all damaged concrete has been removed by sounding with a 16-ounce hammer.

01235.43 Surface Preparation - Abrasive-blast or water blast all concrete surfaces that are to receive repair mortar to remove all debris, loose concrete, concrete pulverized during removal, scale, and loose rust. Abrasive-blast exposed reinforcing bars according to SSPC Standard SP6 "Commercial Blast Cleaning" or equivalent procedure. Do not allow prepared surfaces to remain exposed more than 36 hours before placing repair mortar.

Prepare surfaces that are to receive repair mortar with a surface profile according to International Concrete Repair Institute (ICRI) *Guideline 310.2R-2013 surface profile CSP 6*.

Furnish hollow wall anchors according to 01235.15 for concrete surfaces that are to receive more than one inch of repair mortar and have reinforcing bar spacing greater than nine inches. Install anchors by drilling 1/4-inch diameter holes 1/2 to 3/4 inch deep on a nine-inch maximum grid in the concrete substrate. Apply non-conductive resin and insert anchors. Remove excess resin from the concrete substrate.

01235.44 Repair Mortar Installation - Install repair mortar patches as follows:

(a) **Forms** - Furnish smooth-surfaced form Materials. Provide adequate support and bracing of forms to prevent deflection under the weight and pressure of new concrete, and to prevent vibration damage to mortar during setting and curing. Leave forms in place for a minimum of 72 hours after concrete placement.

Furnish watertight form Materials and a watertight form system to prevent loss of water during presoaking repair mortar placement, and curing. Incorporate enough pumping ports

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to ensure consistent placement, drains for flushing, and enough vent holes or vent tubes to allow air to escape extreme surface irregularities and remote cavities. Limit port spacing to prevent mortar segregation.

Provide forms that can readily be removed and reinstalled for presoaking, flushing, and blowdown, and for verification of saturated surface dry condition.

(b) Pre-soak - Saturate the substrate concrete for at least 24 hours before application of repair mortar, using either a watertight form kept full of water or saturated burlap or foam Material packed inside the forms, in contact with the entire existing concrete surface, and soaked frequently, or any other method demonstrated to produce saturated surface dry condition.

After the substrate has been saturated, temporarily remove the form and, immediately before placing mortar, remove all dust, dirt, and other debris by flushing the surface with water pressurized to at least 60 psi, followed by blasting with clean compressed air to remove excess water. Provide a damp surface free of standing water (saturated surface dry condition) and free of contaminants when applying repair mortar. Light surface rust that appears during the pre-soak stage does not need to be removed. When the concrete surface is in saturated surface dry condition and free of contaminants, and reinforcement is clean or has only light surface rust, immediately reinstall the forms and place mortar.

(c) Mixing - When a package of prepackaged repair mortar is opened, mix the entire contents of the package. Do not allow packaging to be mixed into the repair mortar.

Mix repair mortar according to the manufacturer's instructions, including, but not limited to, mixing speed, mixing time, and mixing Equipment.

(d) Placing Repair Mortar - Pump repair mortar and achieve thorough and uniform hydration without the use of excess water.

Do not pump mortar before acceptance of saturated surface dry condition by the Engineer.

Follow all of the manufacturer's recommendations regarding temperature and weather conditions during mortar placement, and:

- Do not pump mortar during freezing weather, or if temperatures are likely to drop below freezing during the cure period.
- Ensure that substrate, surface and ambient air temperatures are at least 40 °F and rising when mortar is applied, and remain above 40 °F for at least 24 hours after application.
- Do not apply mortar to frosted surfaces

Provide adequate pumping pressure into each port to ensure mortar completely fills the cavity and mortar is observed at all vents. Vibrate only if approved in advance by the Engineer.

(e) Miscellaneous Metal - Electrically connect all welded wire fabric or other metal installed to facilitate repair mortar placement to existing metal reinforcement, and fasten

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securely to remain 1/2 inch clear of final finished surface. Do not use galvanized or coated Materials.

(f) Adjacent Surface Protection - Protect surfaces outside the repair area from mortar overshoot and drip, and remove the excess Material from these areas after the application has been completed.

(g) Mix Records - Record mix proportions for all mortar mixed on-site at the start of each mortar placement operation and every time proportions or additives are changed.

Repair surface defects with hand patching Materials. Observe QPL remarks and follow manufacturer's guidelines for application.

01235.45 Curing and Finishing - Take care to avoid cracks in the new mortar due to excessive surface evaporation in the dry, controlled environment of the containment Structure. Continuously cure all newly applied mortar for a minimum of 72 hours.

Finish all exposed surfaces and surface defects to straight and true lines, as shown. Provide a Class 2 surface finish according to 00540.53(c) on all exposed surfaces and a general surface finish according to 00540.53(a) on all other surfaces, with no coating on any surface unless otherwise directed.

01235.46 Essential Near-Surface Metal - For sound concrete in the following areas of high visual impact provide electrical isolation of Essential Near-Surface Metal identified in 01215.40 with resin buildup on shallow rebar. Coat the concrete over the Essential Near-Surface Metal with two-inch wide strips of non-conductive resin before abrasive-blasting:

- Bottom surface of girders, cross beams, and sidewalk stringers.
- Outer surface of exterior girders, box girders, or sidewalk stringers.
- All sidewalk bracket surfaces.
- Sidewalk soffits except areas of prefabricated mesh where both dimensions exceed 12 inches.
- All columns, spandrel, and abutment walls.
- All arch rib and strut surfaces.
- Web walls in bents and cross bracing in arches.

For sound concrete in all other areas provide electrical isolation of Essential Near-Surface Metals identified in 01215.40 with mortar buildup on shallow rebar. Use hand tools to prepare the existing surface according to 01235.43. Form raised patches to provide at least 1/2 inch of clearance between Essential Near-Surface Metal and surface of the patch and install repair mortar according to 01235.43.

For damaged concrete, provide additional mortar build-up on shallow rebar as needed to achieve at least 1/2 inch of cover between the Essential Near-Surface Metal and the surface of the repair.

01235.47 Quality Control Testing - For each 500 square feet of applied mortar placed on the Bridge, but not less than once per production Work shift, cast three 4 by 8-inch cylinders in single-use plastic molds, at the same time and under the same conditions as placement

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on the Bridge. Cast and cure strength specimens according to AASHTO R 100 or AASHTO R 39. Test the cylinders for compressive strength after 28-Day cure according to AASHTO T 22. The minimum acceptable 28-Day compressive strength (f'_c) of cylinders is 3000 psi.

Following a 7-Day cure, core one 3-inch-diameter test specimen at a location designated by the Engineer, from each 500 square feet of newly applied mortar placed on the Bridge surface but not less than one specimen from each Day's production. Locate cores to avoid rebar and to have sufficient length to extend into the original Bridge concrete. Do not break cores free before testing. Perform pull-off strength tests of the cores in the presence of the Engineer once dolly adhesive has fully cured. Individually seal the cores taken from the test panel in plastic bags and tag them for identification.

Measure the core pull-off strength according to ASTM C1583. The minimum acceptable pull-off strength is 175 psi or as directed by the Engineer. Conduct the test until failure.

If any quality control test fails to meet the minimum requirements, any or all mortar represented by that test may be rejected by the Engineer.

01235.48 Verification Testing - For each 1,500 square feet of applied mortar placed on the Bridge, cast three 4 by 8-inch cylinders in single-use plastic molds, at the same time and under the same conditions as placement on the Bridge. Cast and cure strength specimens according to AASHTO R 100 or AASHTO R 39. Deliver these specimens to the Engineer within 48 hours of casting for verification testing by the Agency.

01235.49 Deficient Repair Mortar - All repair mortar represented by a failed verification test is rejected regardless of any passing quality control tests. Replace all repair mortar that is rejected based on quality control testing or verification testing, or that are found deficient in respect to any of the specified criteria, as directed. Further testing is allowed to identify the extent of deficient repair mortar in the quality control test area represented at no additional cost to the Agency. If additional areas are found to be deficient, repair the represented production test area, as directed. Repairs include, but are not limited to, removal and replacement of repair mortar.

"Deficient repair mortar" includes new repair mortar with alligatored surface or uncontrolled cracks that are visible without magnification after completion of abrasive blasting.

Repair small crevices a maximum of 0.4 inch deep and 0.1 inch wide at the edge of a repair area with non-conductive resin at no additional cost to the Agency. Cut out pockets and other defects and replace with new repair mortar according to the Specifications.

Temporary

01235.50 Concrete Removal Limits - Prevent damage to Bridge structural components during concrete removal and repair. For the purposes of this subsection, repaired concrete is defined as past repairs to the Structure or repair mortar that has been wet cured for the minimum requirement of this Section. Limits defined in the subsection only apply to removal of concrete and pumped patch sizes may be larger when not in conflict with this subsection.

When the concrete removal requirements of 01235.50 cannot be met, design shoring to support the entire dead load, live load, and wind load of member(s) being protected, with a

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safety factor not less than 2.0. Construct shoring according to AASHTO *Construction Handbook for Bridge Temporary Works* except if in conflict with the Specifications.

Do not combine any of the following methods without the Engineer's approval. Prevent damage to structural components by one or more of the following methods:

(a) General - Removal Work is unlimited for concrete removal on all structural components, except arches and columns, to the centerline depth of the reinforcement closest to the surface being worked on and not behind reinforcement.

(b) Bottom Surface of Girders - Limit concrete removal on the bottom surface of girders to four-foot-long sections separated by at least eight feet of intact un-repaired or repaired concrete. Limit concrete removal to 1/2 inch above the highest longitudinal bar in the bottom reinforcement.

(c) Sides of Girders and Crossbeams - Limit concrete removal on the sides of girders and crossbeams higher than 1/2 inch above the highest longitudinal bar in the bottom reinforcement to one side of girder or crossbeam centerline at a time. Limit the length of removal to the spacing between two stirrups separated by at least the spacing between four stirrups of intact un-repaired or repaired concrete.

(d) Girders - Eliminate live loading on the girder by closing the Traffic Lane, according to 00220.40(e), above the girder and limit concrete removal to one side of girder centerline at a time. Do not use this method to protect any girder within two feet of Project centerline unless both lanes can be closed as shown or directed.

(e) Bottom Surface of Crossbeams - Limit concrete removal on the bottom surface of crossbeams to sections of concrete no longer than $22D$, where D equals longitudinal bar diameter (bar width for square bars), separated by a distance of at least $44D$. Limit concrete removal to one inch above the highest longitudinal bar in the bottom reinforcement.

(f) Top Surface of Girders or Crossbeams - Limit concrete removal on the top surface of girders or crossbeams to sections of concrete no longer than $22D$, where D equals longitudinal bar diameter (bar width for square bars), separated by a distance of at least $44D$. Limit concrete removal to 1/2 inch below the lowest longitudinal bar in the top reinforcement. If the bottom surface also requires repair beyond the centerline depth of the reinforcement nearest the surface at the same section, complete each repair separately or limit removal to one side of the component centerline at a time.

(g) Columns and Arches - Limit concrete removal on columns and arches to sections of concrete covering two hoop bars and a vertical height of $22D$, where D equals vertical or primary bar diameter (bar width for square bars), separated by a distance of at least $44D$. Limit concrete removal to 1/2 inch inside the vertical bars on columns and longitudinal bars on arches.

(h) Deck Soffits - Limit concrete removal on deck soffits to half the section of the deck. Limit removal length and width to twice the smallest spacing between two parallel reinforcement bars in the mat closest to the surface.

(i) Abutments and Pier Walls -

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(1) Repairs at Least 24 Inches Thick - Limit concrete removal on abutments and pier walls at least 24 inches thick to sections of concrete covering up to 10 square feet, separated by a distance of at least 3 feet. Limit concrete removal to 1/2 inch behind the reinforcement closest to the surface.

(2) Repairs less than 24 Inches Thick - Limit concrete removal on abutments and pier walls less than 24 inches thick to sections of concrete covering two vertical bars and a vertical height of 22D, where D equals vertical bar diameter (bar width for square bars), separated by a distance of 44D. Limit concrete removal to 1/2 inch inside the longitudinal bars.

Measurement

01235.80 Measurement - No measurement of quantities will be made for locating damaged concrete.

The quantities of repair damaged concrete will be measured on the area basis, and is the outside measurement of each area marked for concrete removal and verified by the Engineer, not including areas marked for mortar buildup on shallow rebar. Measurement will be made before concrete removal.

The quantities of mortar buildup on shallow rebar will be measured on the area basis, and is the outside measurement of each area marked for concrete removal and verified by the Engineer containing shallow rebar. Measurement will be made before concrete removal.

The quantities of resin buildup on shallow rebar will be measured on the area basis. Measurement is the outside measurement of each area marked for resin buildup and verified by the Engineer. Measurement will be made before resin placement.

The quantities of repair surface defects will be measured on the area basis. Measurement will be the outside measurement of the defect prior to patching.

Payment

01235.90 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) Locate Damaged Concrete	Lump Sum
(b) Repair Damaged Concrete	Square Yard
(c) Mortar Buildup on Shallow Rebar	Square Yard
(d) Resin Buildup on Shallow Rebar	Square Yard
(e) Repair Surface Defects.....	Square Yard

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.

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No separate or additional payment will be made for providing mix proportions or mix design records.

No payment will be made for repair of initially sound concrete that is micro-fractured or otherwise damaged by the Contractor's operations.

SECTION 01240 - INSTALL REFERENCE CELLS

Section 01240 is not a Standard Specification and is included in this Project by Special Provision.

Description

01240.00 Scope - In addition to the requirements of Section 01201, Section 01210, Section 01215, Section 01235, Section 01245, and Section 01260, conduct corrosion potential surveys to determine reference cell locations and install permanent reference cells.

01240.01 Timing - Begin the Work of this Section only after the entire surface within the Work area has been cleaned to remove dirt, grease, oils, laitance, paint, sealers, coatings and other deleterious material according to Section 01260.

Do not start this Work until written approval of detailed procedures is received from the Engineer. Provide at least 24 hours' notice before the installation of each reference cell.

Make corrosion potential surveys in each zone only after the Work of Sections 01215, 01235, and 01245 is complete, and:

- All patches and new concrete have cured at least three Calendar Days.
- All curing compounds have been removed from patches and the adjacent concrete by abrasive blasting.

01240.02 Submittals - Submit detailed descriptions of all Materials according to 00150.37. Identify all relevant constituents and properties of each Material and the Specifications with which it complies. Data published by the manufacturer is acceptable if testing was performed and reported by an independent test laboratory. This includes but is not limited to reference cell assembly, grout, and test Equipment.

Submit complete and detailed procedures for this Work according to 00150.37 at least 21 Calendar Days before the first scheduled Work under this item. Include the recommended reference cell conditioning procedures, Specifications, calibration certificates, and operating instructions for all Equipment, grout mixing, and wire labeling.

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Submit a report according to 00150.37 detailing the following reference cell data:

- Pre-installation calibration potential of each reference cell after conditioning.
- Location of each permanent cell and labeling system for its lead wires.
- Circuit resistance measurements.
- Potential of each reference cell in its permanent location with respect to the rebar and the potential of a portable Copper/Copper sulfate (Cu/CuSO₄) or Silver/Silver Chloride (Ag/AgCl) reference cell taken in the test hole adjacent to the reference cell.
- Potential, with respect to the rebar, of a portable Cu/CuSO₄ or Ag/AgCl reference cell placed on the surface of the reference cell grout backfill.
- Resistance between each reference cell, the rebar adjacent to the reference cell, and the king bar.
- Potential of each reference cell in its permanent location with respect to the zinc anode placed directly over the reference cell grout.

Submit the following potential survey information according to 00150.37 at least 10 Calendar Days before installation of reference cells. Provide all potential survey data in an approved electronic format labeled to indicate the cathodic protection zone:

- One copy of large-scale potential survey data. Clearly identify data taken over patches or within three inches of patches. Provide a labeling method for survey grids and typical grid layout and survey procedures (e.g. origin location, direction in where data was taken) in sufficient detail to allow interpretation of data.
- One copy of a summary of large-scale potential survey data. For each survey grid provide a location description, the number of data points collected, the average potential for the grid, the minimum potential in the grid, and a rank of the grid's minimum potential as compared to other grids in the zone.
- One copy (each) of maps of small-scale potential surveys, designating their location with respect to the original surveys and the location of rebar and potential readings. Provide surveys for each reference cell location plus one backup location for each reference cell. Scale these surveys with units indicated and use compass point directions and reference to the Bridge structural elements. Identify the cathodic protection zone. Show the precise location and orientation marks where the reference cells are to be installed.
- A summary sheet showing the grid number and location, rank of minimum potential and minimum potential from the large-scale grid survey, and the type of reference cell for each selected location. If additional locations with greater negative potentials are omitted, show the grid number, rank, minimum potential, and reason the location was omitted.

Do not start survey Work until these submittals have been approved by the Engineer.

Materials

01240.10 Reference Cells - Furnish two permanent Silver/Silver Chloride (Ag/AgCl) reference cells for each zone. Furnish the following reference cells or approved equal:

- Staperm by GMC Electrical, Inc. Model AG-4-UGPC

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Furnish each reference cell with a #14 AWG wire having sufficient length to reach the junction box at the rebar connection location.

01240.11 Reference Cell Grout - Furnish non-epoxy grout from the QPL or an approved mix design provided by the reference cell manufacturer.

01240.12 Eyebolts and Anchors - Furnish 1/4"-20 threaded eyebolts designated for lifting constructed from Type 316 stainless steel. Provide a minimum eye diameter of 3/4" and a minimum vertical lifting capacity of 450 pounds.

Furnish 1/4"-20 female threaded concrete anchors constructed from Type 316 stainless steel with a minimum pull-out and shear capacity of 450 pounds tested in 4,000 psi concrete.

Equipment

01240.20 Resistivity Meter – Use one of the following resistivity meters:

- Fluke 1623 or 1625 GEO Earth Ground Tester
- Tinker & Rastor Model SR-2 Soil Resistivity Meter
- Miller 400A Analog Resistance Meter.

Construction

01240.40 Location Requirements - Identify two permanent reference cell locations in each cathodic protection zone. Install a Silver/Silver Chloride (Ag/AgCl) permanent reference cell at a location in each zone with the most negative potential. Install a second Ag/AgCl permanent reference cell at the maximum distance from the anode terminal plate but within 30 mV of most negative potential location. Locate each reference cell adjacent to a reinforcing bar.

Do not install the two permanent reference cells within 10 feet of each other measured along the surface of the Structure or within three feet of any galvanized steel in contact with the concrete. If the location with the most negative potential is also the most distant from the anode terminal plate, install the second Ag/AgCl cell at the location with the second most negative potential.

Identify a location for future linear polarization testing block outs adjacent to each reference cell location. Do not place the block out within 3 feet of a reference cell or negative connection excavation or within 10 feet of each other. Where possible, place the block out over the same reinforcing bar being read by the adjacent reference cell. Place at the most negative potential location possible while maintaining specified spacing from the reference cell excavations.

In each cathodic protection zone, conduct a corrosion potential survey with 36-inch grid spacing ("large-scale" survey) according to ASTM C876, "Standard Test Method for Half Cell Potentials of Reinforcing Steel in Concrete". Use a wetting solution of water and 0.2 percent sodium chloride by weight or 1.6 percent sodium chloride by volume.

Select prospective reference cell locations based on the most negative results of the large-scale corrosion potential survey. Perform a survey with 12-inch grid spacing ("small-scale"

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survey) of these locations directly over and following the reinforcing bar of the large-scale survey. Mark the precise location for the reference cell following the procedure described above in the first paragraph of this subsection.

Select final reference cell locations based on the most negative results of small-scale corrosion potential survey.

01240.41 Concrete Excavation Requirements - Excavate concrete for reference cell installation by carefully sawcutting or drilling to the rebar depth and then chipping out the concrete as specified in Section 01235 and as shown. Avoid disturbing the concrete around the adjacent reinforcing bar. In the event the concrete is disturbed, select a new location from the alternate sites.

Excavate concrete for rebar connections according to Section 01235 and as shown. Remove only as much material as necessary to weld a rebar terminal stub. Avoid contacting the rebar directly and de-bonding concrete surrounding the excavation. Install rebar terminals according to Section 01245.

Provide a 2-inch-diameter access hole for taking potential measurements with a portable Cu/CuSO₄ or Ag/AgCl reference cell, located opposite the rebar from the permanent reference cell and the same distance from the rebar. Make the access hole with a core drill to the depth of adjacent rebar. Insert a 1 1/2-inch diameter PVC plastic pipe inside the access hole and secure with reference cell grout. Extend the pipe two inches outside the concrete. If the access hole is located on a vertical surface, slope downward at approximately five degrees below horizontal. Install the pipe perpendicular to the surface on overhead, horizontal surfaces. Furnish a removable threaded PVC or rubber cap to protect the hole from debris.

01240.42 Reference Cell Installation - Condition the reference cells as recommended by the manufacturer. Take potential readings in the conditioning solution compared to a calomel, Ag/AgCl, or Cu/CuSO₄ with a salt bridge. Clearly label each cell for identification along with its potential reading for future reference after installation. Provide a written description included in reference cell reports that indicates the location of each installed reference cell. Measure cell potentials.

Install each cell as soon as possible after removal from the conditioning solution to prevent its drying out. Wrap the reference cells in a suitable container to hold the moisture and protect the cell from contamination. Do not place the reference cell in contact with metallic dust.

Follow the manufacturer's instructions regarding any special backfill Materials required around the reference cell.

Place a layer of reference cell grout on all sides of reference cell before installing the cell in the excavation. Do not allow the reference cell to contact the rebar or other cathodic protection system components. Fill the excavation flush with the existing concrete surface by hand packing. Ensure that no air pockets remain. Take care to avoid damage to lead wires. Make bends in the lead wire with a radius no less than six times the lead wire diameter. Where the reference cell is to be placed along a non-horizontal bar, install with the lead wire end down.

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Take reference cell-to-rebar resistance measurements after wet curing of the reference cell grout is complete, in the Engineer's presence, using a resistance meter according to 01240.20.

Acceptable resistance values between reference cell and reinforcing bar are 5000 ohms or less. Reference cell installations with resistance measurements outside this limit may be rejected.

Take installed reference cell voltage readings using a voltmeter with an input impedance of at least one megohm. Take these readings between the permanent reference cell and the rebar and compare with the voltage between a portable Cu/CuSO₄ or Ag/AgCl reference cell in the access hole adjacent to the permanent cell and the rebar. Take these measurements in the Engineer's presence, within one hour of each other, after 7-Day wet curing of the reference cell grout is complete, and before any connection is made between the anode and cathode. Acceptable reference cell-to-rebar potential voltage reading is 75 ± 25 millivolts more positive than a Cu/CuSO₄ portable reference cell-to-rebar potential voltage measurement and ± 25 millivolts when using an Ag/AgCl portable reference cell. Reference cell installations with voltage measurements outside these tolerances may be rejected.

Support and protect wiring and rebar terminals from mechanical damage and corrosion during conduit installation and other construction until permanently enclosed in concrete, conduit, or junction boxes.

Mask future testing block out areas as shown. Install female threaded anchors on opposite sides of the block out areas, 180 degrees apart. Locate reinforcing bars and rotate anchors to avoid the bars. Install anchors according to manufacturer's recommendations using a rotary hammer and an approved insertion tool. Screw eyebolts 1/4 turn past hand tight and mask as shown.

Measurement

01240.80 Measurement - The quantities of reference cells will be measured on the unit basis.

Payment

01240.90 Payment - The accepted quantities of reference cells will be paid for at the Contract unit price, per each, for the item "Reference Cells".

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 corrosion potential surveys, submittals, future testing blockouts or eyebolt installation.

SECTION 01245 - ELIMINATE ELECTRICAL DISCONTINUITIES IN REINFORCING

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Section 01245 is not a Standard Specification and is included in this Project by Special Provision.

Description

01245.00 Scope - In addition to the requirements of Section 01201, Section 01210, Section 01235, Section 01240, and Section 01270, locate areas where sufficient electrical continuity between reinforcement elements is not provided by direct contact, provide electrical continuity between all reinforcing steel in each CP zone except the top deck mat, and install rebar terminals for king bar connections to CP power supplies. The majority of reinforcing bars in the Bridge are expected to be sufficiently interconnected by direct contact.

01245.01 Timing - Check continuity of embedded steel after all excavations and rebar replacements have been made, and before replacing damaged concrete.

Inspect each rebar terminal installation and do not begin encapsulation until the installation is approved.

01245.02 Submittals - Submit descriptions of proposed Materials according to 00150.37. Identify all relevant constituents and properties of each Material and the Specifications with which it complies. Data published by the manufacturer is acceptable except when certifications of Materials' characteristics are required by the Specifications.

Submit detailed procedures for performing this Work according to 00150.37 at least 21 Calendar Days before Work is scheduled to start. Include the manufacturer's specifications, operating instructions, and calibration certifications for all Equipment and:

- Welder certifications according to AWS D1.4.
- Pre-approved Welding Procedure Specification (WPS) or Procedure Qualification Record / Welding Procedure Specification (PQR/WPS).
- Detailed procedure for electrode control measures.
- Detailed procedure for achieving, maintaining and monitoring pre-heat and inter-pass temperatures.
- A map in an approved electronic format detailing the locations of all continuity repairs and rebar terminals within plus or minus 3 inches according to 00150.37.

Submit a complete rebar terminal specimen according to 00150.37.

01245.03 Installation Acceptance Criteria - The Work performed under this Section is acceptable if the resistance between each individual reinforcing bar and the king bar is less than 6.0 ohms.

Welds are acceptable if they meet the requirements of AWS D1.4 criteria.

Materials

01245.10 Patching Material - Furnish hand patching Material conforming to 01201.10.

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01245.11 Welding Materials - Use weld Materials according to the current version of AWS D1.4, "Structural Welding code - Reinforcing Steel". When using shielded metal arc welding (SMAW), use low-hydrogen electrodes.

01245.12 Brazing - Furnish brazing filler designed for fabrication applications on steel and copper alloys according to AWS A5.8 RCuZn-C with the manufacturer's recommended flux. Remove flux residue by the method recommended by manufacturer.

01245.13 Brass Threaded Rod . Furnish 1/4-inch diameter brass threaded rod according to ASTM F468, UNS number C27000, C46200 or C46400, or approved equal.

01245.14 Non-Conductive Resin - Provide non-conductive resin according to 01201.11.

Labor

01245.30 Welders - Provide an AWS Certified Welding Inspector (CWI).

Construction

01245.40 Basic Continuity Check - Perform a basic continuity check on exposed reinforcing bars and 50 covered bars in each zone.

Measure the resistance using a resistivity meter according to 01240.20.

Start continuity checks with longitudinal bars that contact multiple stirrups, hoops, or transverse bars. Complete the electrical connection of longitudinal bars before any testing on stirrup and hoop bars.

Test continuity of concrete-covered bars at locations selected by the Engineer. Find these bars using the provided original construction drawings and a rebar locator. Use a rotary impact drill with a maximum 1-inch diameter bit to access the rebar.

Clearly label bars having more than 6.0 ohms resistance relative to the king bar, with their resistance, and mark them for connection to the nearest bar that is continuous with the king bar.

Classify as continuous any group of two or more bars in a zone with resistance values greater than 6.0 ohm with respect to the king bar but less than 6.0 ohm with respect to one bar in the group. Mark only one bar of a continuous group for connection to a bar that is continuous with the king bar.

Verify resistance after welding and provide results to the Engineer according to 01245.02.

01245.41 Additional Continuity Checks - Perform additional continuity checks as directed if the basic continuity check finds non-continuous reinforcing bars in a zone. Follow procedures outlined in 01245.40 for exposing reinforcing bars and testing continuity.

01245.42 Select King Bar - Select the king bar connection locations in each zone to minimize the length of conduit runs. Select a major reinforcing bar as the king bar, not a stirrup or hoop. If practical, select an existing spall or excavation. The connection location can be excavated to accommodate the rebar stub and allow the rebar weld.

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01245.43 Electrical Connection - Electrically connect all steel components that have been marked as non-continuous to a component that is electrically continuous with the king bar.

Provide electrical connection of steel components by welding two adjacent or crossing bars together according to the current version of AWS D1.4 "Structural Welding Code - Reinforcing Steel". Since carbon content of existing reinforcement is unknown, assume that preheating is required under ANSI/AWS D1.4. Limit the temperature of reinforcing bar at concrete interface to 500 °F or less, verified using an infrared thermometer.

Remove slag from all completed welds and clean the weld and adjacent rebar by brushing or other approved means. Visually inspect all weld connections at least 48 hours after welding. Do not patch over weld connections until they have been inspected and accepted by the Engineer.

Repair excavations made for connections using hand patching Material according to 01201.10. Follow all manufacturer's recommendations for placement. Hand patching Material may not be used for connections in areas marked as damaged concrete under 01235.41.

In zones with multiple king bars, install a rebar terminal on each king bar and furnish connecting jumpers between king bars according to Section 01270.

Demonstrate to the Engineer continuity checks according to 01245.40 for completed continuity welds when required by the Engineer.

01245.44 Rebar Terminal - Furnish a rebar terminal at each king bar connection and adjacent to each reference cell installation.

The rebar terminal consists of a 1/4-inch-diameter brass threaded rod that is brazed to an eight-inch No. 4 rebar stub. After excavating sufficient concrete for access to the king bar at the selected area for the system negative connection, clean the king bar to bright metal and weld the rebar stub to the king bar as shown.

Inspect each rebar terminal installation by visual examination.

Verify resistance after welding and provide results to the Engineer according to 01245.02.

Completely encapsulate the brazed joint and the portion of threaded rod below the concrete surface with non-conductive resin.

Allow non-conductive resin to completely cure according to the manufacturer's recommended schedule. Backfill the excavation with repair mortar according to 01235.10 and according to 01235.44.

Measurement

01245.80 Measurement - No measurement of quantities will be made for basic continuity checks.

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The quantities of additional continuity checks, excavate for continuity welds, establishing continuity, and rebar terminals will be measured on the unit basis.

Payment

01245.90 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) Basic Continuity Check	Lump Sum
(b) Additional Continuity Check	Each
(c) Excavate for Continuity Welds	Each
(d) Establish Continuity	Each
(e) Rebar Terminals	Each

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.

Item (a) includes basic continuity checks on exposed reinforcing bars and 50 covered bars in each zone.

Item (b) includes payment for additional continuity checks resulting from finding non-continuous reinforcing bars during basic continuity checks. Additional continuity checks in excess of those specified in 01245.40 will only be paid for if directed by the Engineer.

In items (c) and (d) no separate or additional payment will be made for additional excavation required in delaminated areas to establish continuity.

SECTION 01260 - PREPARE SURFACES AND APPLY ZINC ANODES

Section 01260 is not a Standard Specification and is included in this Project by Special Provision.

Description

01260.00 Scope - In addition to the requirements of Section 01201, Section 01210, Section 01215, Section 01220, Section 01235, and Section 01240, this Work consists of the following:

- Initial abrasive blasting of the entire surface in the Work area.
- Installing anode terminal plates at the locations shown.
- Abrasive blasting and cleaning concrete surfaces receiving zinc anodes.
- Thermally spraying coatings of zinc to the concrete surfaces, and masking to separate the zones.

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01260.01 Timing - Install anode terminal plates before preparing concrete surfaces and after replacing damaged concrete according to Section 01235.

Begin abrasive blasting operations in each Work area only after containment has been installed according to Section 00253 in that area.

Wet abrasive blast entire surface within each Work area before beginning the Work of Sections 01215, 01220, 01235, and 01240.

Prepare zinc anode surfaces by abrasive blasting and cleaning the entire surface within each Work area after completing the Work of Section 01215, 01220, 01235, and 01240.

Dry or wet abrasive blast patched concrete areas and anode terminal plates after repair mortar and the resin used to install the anode terminal plates or buildup on shallow rebar in areas of high visual impact has cured as recommended by the manufacturer.

Do not conduct dry abrasive blasting operations on surfaces that are wet or damp or if the surfaces are less than 6 degrees Fahrenheit above the dew point.

Thoroughly clean concrete surfaces with a 50-psi air blowgun within 15 minutes before zinc spraying. Remove any oil, grease, Soil, water, or other foreign matter that is deposited on the surface after the surface preparation has been completed and before the zinc is applied.

Apply the zinc coatings within 24 hours after completing preparation of zinc anode surfaces.

Test electrical continuity between the primary anode terminal plates and the zinc anodes after installing zinc anodes.

Perform touch-up and patching of zinc coating at Work platform and containment Structure attachment points after removing platforms and containment.

01260.02 Submittals - Submit descriptions of Materials to be used according to 00150.37. Identify all relevant components and properties of each Material and the Specifications with which it complies. Data published by the manufacturer is acceptable, unless otherwise specified.

Submit detailed procedures for performing this Work according to 00150.37, at least 21 Calendar Days Work begins. Include the manufacturer's specifications and operating instructions for all Equipment.

Submit a mill certificate according to 00165.35 verifying compliance with the requirements of ASTM B36 for brass plates.

Submit Material certifications according to 00165.35 verifying compliance with the requirements of ASTM B833 for each lot of zinc.

01260.03 Acceptance Criteria - Anode terminal plates are acceptable if they are attached securely enough that the Engineer is unable to dislodge selected plates and all installations have electrical continuity between the threaded section of the anode terminal plate and the zinc anode.

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Provide abrasive-blast surface profile in the range of CSP 3 to 5, as defined by the International Concrete Repair Institute (ICRI) Guideline 03732.

Furnish acceptable coatings that have a uniform appearance, follow the form of the concrete surface, and do not contain any lumps, blisters, coarse texture, loosely adhering particles, cracks, pinholes, or chips that expose the concrete substrate.

Minimum acceptable adhesion strength is 50 psi.

Acceptable coating thickness is between 0.015 and 0.020 inch. In narrow areas of thermal spray overlap or difficult access such as behind piping, a coating thickness between 0.010 and 0.035 inch may be allowed.

Materials

01260.10 Anode Terminal Plates - Furnish 2 1/2-inch-diameter, 1/8-inch-thick brass plates according to ASTM B36, UNS number C26000, C21000 or C22000.

Furnish 1/4-inch diameter by one-inch-long brass cap screws or threaded rod conforming to ASTM F468 UNS number C27000, C46200 or C46400.

Furnish #10 x 1" tapered flat head brass screws.

Furnish silver alloy brazing filler Material according to AWS classification Bag.

01260.11 Non-Conductive Resin - Furnish non-conductive resin according to 01201.11.

01260.12 Zinc - Furnish High Grade Zinc (Z15005, 99.9 percent zinc) wire according to ASTM B833.

01260.13 Masking - Furnish nonconductive masking Material.

Do not allow the masking to debond the zinc coating on adjacent surfaces when removed.

Demonstrate the performance and acceptability of masking by preparing a 12 by 12 by one inch or larger concrete test sample. After abrasive blasting and before thermal spraying the test sample, install a four by eight inch piece of masking on the concrete surface. Spray zinc on the test sample according to the Specifications and strip the tape from the sample. Examine the condition of adjacent zinc for evidence of debonding.

01260.14 Abrasives - Furnish clean, dry, non-metallic grit abrasive Material with no mineral constituents that break down and remain on the surface in visible quantity. Furnish hard angular shaped abrasives from 16 – 30 mesh.

01260.15 Compressed Air - Provide compressed air that is clean, oil free, and dry per ASTM D4285 for abrasive blasting and thermal spraying. Provide air line filters and moisture separators upstream from the blasting and spraying Equipment. Inspect air line filters and moisture separators daily for cleanliness and correct operation. Immediately correct any malfunctioning Equipment that is indicated by oil or water in the filter or trap.

Equipment

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01260.20 Abrasive Blasting Equipment - Provide conventional, air pressure-type dry abrasive blaster or a wet abrasive blaster. Wet abrasive methods may include water injected air pressure type, abrasive injected pressurized water type, or pressurized slurry (vapor) type.

01260.21 Zinc Application Equipment - Provide one of the following electric-arc type spray systems:

- Precision Arc 4.8 CE, manufactured by Thermion Incorporated
- Arcspray 170-CL, manufactured by Metallisation
- Eco Arc 600, manufactured by Sulzer Metco
- Bridgmaster Arc Spray System, manufactured by TMS Metalizing Systems, Ltd

01260.22 Short Circuit Detection Equipment - Comply with 01201.20.

Construction

01260.40 Anode Terminal Plate Location - Locate the anode terminal plates as shown. Furnish at least two anode terminal plates per zone, separated by a minimum of 40 inches and located at least 40 inches from a zone boundary. Locate anode terminal plates for minimum visual impact where they have continuity with conduit runs supplying other zones, a central location in the zone, and ease of future access.

Furnish additional anode terminal plates to provide continuity across expansion joints, bearings, or other features that cause discontinuity of the anode. Furnish a minimum of two anode terminal plates for each discontinuous area.

01260.41 Anode Terminal Plate Installation – Construct anode terminal plates as shown. Braze according to the *AWS Brazing Manual*. Remove flux residue by the method recommended by the manufacturer.

Install anode terminal plates with the exposed face of the plate flush with the concrete surface and the bottom and edges of the plate coated with resin so that no portion of the brass plate is in direct contact with the concrete. Roughen the brass plate by abrasive blasting and then clean it to enhance adhesion. Mix and install the resin according to the manufacturer's recommendations with viscosity to support the plates in place without the resin running onto adjacent concrete surfaces. Place the resin between all surfaces of plate and the concrete as shown.

Ensure that no resin is allowed to run on to the side of the brass plate where the zinc anode is to be applied. If the concrete-to-brass plate bond is damaged or an anode terminal plate is incorrectly fabricated or installed, install a satisfactory replacement anode terminal plate at the same location at no additional cost to the Agency.

01260.42 Abrasive Blasting and Cleaning - Protect the insulation of all exposed conductors and the threads of all anode terminal plates with tubing that has sufficient abrasion resistance to prevent damage from abrasive blasting operations.

Clean concrete surfaces to remove existing zinc anode dust, grit, coatings, chalk marks, paints, curing compounds, laitance, and other substances that would inhibit bonding of the anode to the concrete.

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Remove soil, cement spatter, and other foreign matter (other than grease and oil) by scraping, chipping, or brushing with stiff fiber or wire brushes. Remove oil and grease by cleaning with detergents or emulsifying agents. Flush the surface with potable water to remove residue.

Perform demonstration tests before beginning abrasive-blast Work at agreed upon locations. Test three 36 x 36 inch patches with the equipment and methods that will be used for project production. A successful test will produce a consistent surface profile in the range of ICRI CSP 3 to 5. The Engineer will be responsible for accepting or rejecting the results. If a test is unsuccessful, adjust equipment and methods to achieve the acceptance criteria. All three tests must be successful for abrasive-blast Work to begin. If during production, CSP 3 to 5 surface profile is not achieved, adjust equipment and methods, and repeat the demonstration test process described herein. Do not resume abrasive-blast Work until the Engineer has approved the test results.

Abrasive-blast using non-metallic grit, to remove contaminants. Do not damage completed portions of Work. Limit operating pressure and stand-off distance on areas of sound concrete to minimize exposed Aggregate on finished surfaces. Finished surface area shall be comprised of no greater than 50% exposed aggregate surface. Protect exposed conductors and anode terminal plate threads during abrasive blasting. Do not reuse blasting abrasives that have been used to remove oil and grease. Recovered abrasives may be re-used only if they satisfy the purity and mesh requirements of the Specifications.

Abrasive-blast the unprotected exposed surface of anode terminal plates to provide bright metal.

Do not allow cleaned surfaces to become re-contaminated, including contamination by the oil left from a hand print.

01260.43 Masking - Install masking four inches wide between zones. Install masking to provide two inches of uncoated surface between the zinc anode and any exposed metal object.

01260.44 Zinc Anode Application Requirements - Perform coating application, including touch-up and patching, only when the enclosure air temperature and the surfaces to be sprayed are at least 6 °F above the dew point and the surface temperature is 65 °F or higher. Apply coating only to clean, dry, surfaces.

Use a heating and ventilating system to bring surfaces to temperature. It is acceptable to use a portable propane powered weed burner to increase surface temperature in minor areas that do not fully respond to heating and ventilating. If using a weed burner, keep the burner moving at an even pace, heating the concrete surfaces to a maximum temperature of 150 °F. Use an infrared thermometer to verify the surface temperature.

Start zinc anode application in each zone at the anode terminal plate where the short circuit detector is connected. Apply the zinc anode in a continuous coating to facilitate short circuit detection. Adjust machine controls, such as voltage, current, wire feed rate, air pressure, and compressed air flow rate, to provide the most uniform thickness attainable on all accessible surfaces. Carefully monitor spray gun-to-surface distance, rate and path of travel, overlap distance, time between successive overlaps, and number of overlaps to ensure complete coverage and uniform thickness.

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Before starting Work on each shift, perform bend tests to verify the proper operation of Equipment, as follows: Spray two separate 2 by 4 inch by 0.05-inch carbon steel coupons with a 0.015-to 0.018-inch-thick coating. Apply the zinc to the coupons using the same techniques and Equipment settings as used for spraying the concrete. Bend the coupons 180 degrees around a 5/8-inch diameter rod with the coating on the tensile side of bend test specimen. Bend test results with minor cracking or no cracking and no lifting or spalling of coating are acceptable. Bend test results with zinc that can be picked off the cracked surface with a knife blade are unacceptable. Adjust Equipment and procedures and repeat bend test until acceptable results are achieved. Do not proceed with production zinc application until approved by the Engineer.

Locate short circuits according to 01201.40.

Eliminate short circuits using a method approved by the Engineer at no additional cost to the Agency.

01260.45 Environmental Monitoring Requirements - Install up to four Agency-furnished temporary run-off monitors at locations designated by the Engineer. Allow the Engineer to collect samples at any time during construction. Repair or replace any components damaged during construction at no additional cost to the Agency.

01260.46 Acceptance Tests - Perform the following tests in the presence of the Engineer, with additional tests as needed to establish the boundary of defective coatings:

(a) Visual Examination - Visually inspect anode surfaces using a lens with a magnification of at least 10.

(b) Adhesion Test - Measure adhesion strength according to ASTM D7234. Perform adhesion testing between eight and 24 hours after anode application.

Perform a minimum of 15 adhesion tests per zone in the zinc CP surface. Test locations are to be chosen by the Engineer.

After each adhesion test, recoat adhesion test areas with 0.002 to 0.004 inch of zinc after scraping any loose or delaminated zinc caused by the adhesion test.

(c) Thickness Test - Perform a minimum of ten thickness measurements for each operator in each shift of zinc application. It is acceptable to use a combination of tape tabs left by the operator and the random adhesion dolly tests.

(d) Anode Terminal Plate Continuity Test - Test electrical continuity between threaded section of anode terminal plate and zinc anode with a resistivity meter according to 01240.20.

Anode terminal plate installations with resistance values less than 1.0 ohm are acceptable. Repair installations with resistance greater than 1.0 ohm by abrasive blasting to remove arc-sprayed zinc from anode terminal plate and recoating with zinc. Repeat continuity test until an acceptable result is obtained.

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01260.47 Touch-up, Patching, and Repair of Unacceptable Coatings - After removal of Work platforms and containment Structures, prepare and coat all tie-up points and attachment points with zinc according to 01260.11.

Remove Soil, cement spatter, and other foreign matter, except grease and oil, by scraping, chipping, or brushing with stiff fiber or wire brushes. Remove grease and oil by cleaning with detergents or emulsifying agents. Flush the surface with potable water to remove detrimental residue. Air-blast using 80 to 100 psi compressed air through a blasting nozzle held approximately two feet from the surface, to remove all traces of residue. Examine the abrasive blasted surface for traces of oil, grease, and other adhering contaminants. Repeat cleaning procedures until contaminants are completely removed. If wet cleaning methods are used, allow the surface to dry thoroughly before coating.

Feather the edges of adjacent existing zinc coating by grinding for a distance of one to two inches.

Apply the zinc coating using an approved thermal spray process to a thickness of 0.015 to 0.020 inches. Operate the short circuit detection system during zinc application.

Repair damaged surfaces and surfaces not in compliance with the Specifications at no additional cost to the Agency and according to the following:

(a) Unacceptable Visual Examination - Repair or replace unacceptable areas using an approved procedure as directed by the Engineer.

(b) Unacceptable Adhesion Test - Remove zinc in unacceptable areas and recoat with zinc according to the Specifications. Perform remedial surface cleaning and surface preparation if needed to obtain satisfactory adhesion, regardless of prior surface preparation acceptance.

(c) Insufficient Zinc Thickness - Apply additional zinc by thermal spraying after the surface is completely dry and any visible contamination has been removed. Warm the areas slowly before thermal spray of additional Material to avoid thermal shock.

(d) Excessive Zinc Thickness - Remove and reapply coatings of zinc greater than 0.035 inches according to the Specifications.

Measurement

01260.80 Measurement - No measurement of quantities will be made for preparing anode surfaces or installing zinc anodes.

The quantities of anode terminal plates will be measured on the unit basis.

Payment

01260.90 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) Install Anode Terminal Plates	Each

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- (b) Prepare Anode Surfaces..... Lump Sum
- (c) Install Zinc Anodes 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.

Item (a) includes acceptance testing performed according to 01260.46(d).

Item (b) includes all masking, blasting, cleaning and roughening of surfaces including brass anode terminal plates.

Item (c) includes acceptance testing performed according to 01260.46(a), (b), and (c).

No separate or additional payment will be made for touch up, patching or repair of unacceptable or damaged coatings.

SECTION 01262 - PREPARING AND COATING CONCRETE STRUCTURES

Section 01262, which is not in the Standard Specifications, is included in this project by special provision.

Description

01262.00 Scope - This work consists of preparing and coating exterior concrete surfaces on Gold Beach (Rogue River) Bridge No. 01172 with a Silpro Skimwall and silane sealer as identified in the plans. Existing paint is presumed to contain lead.

01262.01 Abbreviations, Definitions and References:

(a) Abbreviations:

ASTM - American Society for Testing Materials
FTMS - Federal Test Method Standard
SSPC - Society for Protective Coatings

(b) Definitions:

Cleaning - Removing detrimental material in preparation for coating.

Coat - Apply protective material to a substrate to form a single, uniform layer. A coat is comprised of as many applications as necessary to achieve the specified coat thickness.

Coating - Protective material after it is applied to a structure.

Coating Material - Protective material before it is applied to a structure.

Coating System - All specified coats applied separately in a predetermined order.

Field Coating - The onsite coating of new or existing structures before or after erection.

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Hold Point - A time at which the Contractor must cease 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.

Maintenance Coating - The coating of existing structures that have been previously coated and need recoating.

Manufacturer's Recommendation - The written specifications and instructions provided by a manufacturer of a coating material concerning the handling, mixing and application of the coating material.

Phase - An activity or step of the preparation and coating procedures to be inspected or tested. The transition from one phase to another represents a hold point.

Preparation - Measures taken to provide a suitable surface ready to coat.

Skimming - The process in which a film forms over a liquid coating, either during storage or after application.

Solvent - Liquid used to solvate or put materials into solution.

Substrate - Any surface to which a coating is to be applied. This may be the prepared surface of the structure or a previous coating.

Surface Profile - Roughness of a cleaned surface. The height of the profile is measured from the bottom of the valleys to the top of the peaks in mils.

Thinner - Volatile liquids used to thin compatible coating materials. Thinners may be a blend of solvents.

(c) References - In this Section, references SSPC-PA 1 refer to Volume 2, "Systems and Specifications", of SSPC's "Painting Manual".

In this Section, references such as applicable portions of SSPC-SP 13/NACE No. 6, "Surface Preparation of Concrete".

In this Section, references such as CSP 2 or CSP 6 refer to International Concrete Repair Institute (ICRI) Guideline 310.2R-2013 surface profile.

In these Specifications, references are made to FTMS 141, "Paint, Varnish, Lacquers, and Related Materials: Methods of Inspection, Sampling and Testing", which is distributed by the U.S. General Services Administration.

01262.02 Location of Work:

(a) Existing Concrete Structures - Prepare and coat the following surfaces in place on the structure as specified and as shown:

- Bridge Railing
- Pier 1 and 8 Towers

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01262.03 Precoating Conference - Before beginning work, meet with the Engineer together with any subcontractors who are to be involved in the preparation and coating work, and a representative from the coating manufacturer in a precoating conference. Submit a plan for accomplishing all phases of the preparation and coating work including but not limited to ventilation, containment, surface prep, coating materials, and quality control plan ten business days prior to the precoating conference.

01262.04 Notice - Notify the Engineer, in writing, at least five business days in advance of the date that preparation and coating operations are to begin.

01262.05 Submittals - Submit the following to the Engineer 21 days prior to the precoating conference:

(a) Temporary Work Access & Containment - Submit containment and access systems according to 00253.

(b) Surface Preparation and Coating Plan

Provide written procedures for conducting the Work of this Section including, but not limited to, the preparation of surfaces; coating mixing, application method, and repair; recoat times and cleaning between coats; and the installation of sealant materials in those areas specified.

Provide a comprehensive listing of the equipment to be used for surface preparation.

If temporary heating or lighting units are used, submit evidence of heating and lighting unit test acceptance by UL, FM or other recognized association and information related to the type of fuel used by the heating units in such tests and to be used in Work of this Section. In addition, all heating and lighting must meet all State fire codes.

Identify the name and chemical composition of any detergents or solutions to be used if it is necessary to clean the surface of one coat prior to the application of the next. Only detergents which are environmentally safe and which will have no adverse effect on aquatic life are acceptable. Submit the MSDS sheets for the chemicals and detergents.

Product data sheets and MSDS for abrasives and additives.

(c) Coating Materials -

1. Identify the coating materials to be applied to all substrate types as specified in 01262.11 "Coating Materials".
 - a. Provide the manufacturer's name, product names, product numbers, material product data sheets, VOC levels, and MSDS sheets.
2. Provide product data sheets, written application instructions, and MSDS from the manufacturer:
3. Provide the following coating material certifications:

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- a. Coating materials meet the specifications on the manufacturer's data sheets.
- b. The coating materials in the coating system are compatible.
- c. Coatings to be used do not contain lead or other hazardous heavy metals.

(d) Quality Control Inspection Plan - Submit a quality control inspection plan to be followed to confirm that all Work complies with the requirements of this Section.

The plan must include the following at a minimum:

1. Inspection organization chart including lines of authority and the experience, training, and qualifications of all quality control personnel.
2. Written inspection procedures for all phases of the Work, including the frequency of inspections to be performed, and the procedures for correcting non-conforming work.
3. Written description of equipment to be used for surface preparation and coating application inspection, calibration procedures, frequency of calibration, and the methods for handling equipment that is found to be out of calibration.
4. Maintain a daily log of all quality control inspections and test results in compliance with the approved Quality Control Inspection Plan. Submit a copy of the daily logs each week.
5. Sample daily log form.

01262.06 Access and Containment for Field Preparation and Coating – See Section 00253

Materials

01262.10 General - Use materials meeting the requirements of this Section, and the applicable portions of SSPC-PA 1, "Shop, Field and Maintenance Painting", when not in conflict with this Section.

01262.11 Coating/Sealing Materials - Provide an approved high performance, clear silane concrete sealer from section 02060.30 of the QPL, containing 100% silane. Apply two coatings at the manufacturer's minimum yield.

Provide Silpro Skimwall in "Palouse" gray. Apply minimum thickness of 1/16" depth. Follow the manufacturer's recommendations for all products.

Construction

01262.41 Preparation of Surfaces:

Prepare concrete surfaces according to SSPC-SP13 and the coating manufacturer's recommendations. Alternate preparation according to ICRI guidelines. CSP 1-2 for sealer and CSP 3-5 for Skimwall coating.

01262.42 Coating:

(a) Description - When not in conflict with this Section, perform coating application conforming to:

The recommendations of the coating manufacturer
The applicable portions of the SSPC-PA 1
The applicable portions of the SSPC-PA2
ICRI Technical Guideline No 310.2R

The best practices of the trade

(b) Application Site Mixing, Thinning, and Storage of Coating Materials:

(1) Rejection – Do not use the contents of any container if:

- The material arrives at the application site in other than original, unopened containers.
- The container has a break in the lid seal or a puncture.
- The coating materials have begun to polymerize, solidify, gel or deteriorate in any other manner.
- The date of manufacture is more than 12 months past.
- A skin forms on the surface of the material or on the sides of the container and the volume of the skin exceeds 2% of the material. If there is not more than 2% skin, remove and discard only the skin.
- Discard any coating material removed from its original container at the end of that shift.
- The recommended shelf life, as stated in the manufacturer's product data sheets, has expired.

(2) Mixing - Thoroughly mix coating materials by mechanical means to insure a uniform composition. Do not mix coating materials by means of air stream bubbling or boxing. Mix in the original container and continue until all pigment or metallic powder is in suspension. Take care to ensure that any solid coating material that may have settled to the bottom of the container is thoroughly dispersed. After mixing, inspect the coating materials for uniformity and to insure that no unmixed pigment or lumps are present.

(3) Storage – Store coating material and solvents in original containers. Store coating materials in a weather-tight space where the temperature is maintained between 40° F and 100° F or per manufacturer recommendations, whichever is more restrictive.

(c) Application of Coating:

(1) Surface Condition - Ensure that the surface to be coated is free of moisture, dust, grease, or other substance which would prevent the bond of succeeding applications. Protect freshly coated surfaces from contamination by abrasives, dust or foreign materials from any source. Prepare contaminated surfaces to the Engineer's satisfaction before applying succeeding coats.

(2) Application Methods - Apply coating as recommended by the coating material manufacturer unless otherwise specified.

Silpro Skimwall application: Apply minimum thickness of 1/16" depth, with a steel trowel or rubber float to provide a class 2 surface finish that is smooth and has a non translucent appearance.

Replicate existing surface textures on bridge railing and pier 1 and 8 towers.

Silane application: Apply silane to thoroughly cured and dry skimwall. Apply coating materials by brush, roller, any combination of these methods, or as recommended by the coating material manufacturer unless otherwise specified. Regardless of which application method is used to apply the coating, use brushes to push the coating into complex details, crevices, gaps, difficult to access areas and areas where spraying does not adequately cover or penetrate. Use only application techniques that conform to Section 7, SSPC-PA 1. Apply each coat in a uniform layer, completely covering the preceding coat. Correct runs, sags, skips or other deficiencies before application of succeeding coats. Such corrective work may require recleaning, application of additional coating, or other measures as directed, at no additional compensation.

(d) Coating Requirements - Silane:

(1) Number of Coats and Film Thickness - Apply at least two coats to the minimum thickness specified in the manufactures product data sheet for the coating.

(2) Coating Thickness and Coverage Requirements - Coating thickness measurements will not be made. A visual inspection for complete coverage will be made by the Engineer after each coat. Apply each coat in sufficient thickness to achieve uniform and complete coverage and appearance.

(3) Environmental Conditions - Apply coating materials only during periods when, according to testing by ASTM E 337, the environmental conditions satisfy all of the coating manufacturer's requirements.

01262.43 Inspection - The Engineer will inspect materials and each phase of preparation and coating. Do not proceed with succeeding phases until approved. Provide the inspector with timely, safe access to areas where work is being performed. Allow adequate time for inspection at each hold point. Provide hold points at the following times:

Before cleaning operations begin.

After cleaning operations are completed and before application of any coating materials.

After each full coat.

After cleaning in conjunction with coating repairs.

After application of each coat in coating repairs.

After application of last coat.

Repair coating system damages resulting from Agency inspection and testing at no cost to the Agency.

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Aspects of the preparation and coating process to be inspected and tested include, but are not limited to:

Test Silpro Skimwall	Test Method
Measuring Humidity with a Psychrometer	ASTM E 337
Cleanliness of Abrasive Material	ODOT TM 616
Indicating Oil or Water in Compressed Air.....	ASTM D 4285

Test Silane Sealer	Test Method
Environmental Conditions for Coating	ASTM E 337
Cleanness of Compressed Air	ASTM D 4285
Pictorial Surface Preparation Standards	ICRI 310.2R Replicas CSP 1 - 10
Measuring Surface pH.....	ASTM D 4262
Moisture in Concrete.....	ASTM F 2659
Nonvolatile Vehicle Content	FTMS 141, Method 4053

01262.44 Protection against Damage:

(a) Contaminated Surfaces - If the prepared surface becomes contaminated by any material, at any time, clean the surface in a manner satisfactory to the Engineer before making the succeeding application. Clean, re-prepare and recoat at no cost to the Agency.

(b) Surfaces Not to Be Coated - Protect surfaces that are not identified to receive coatings under the Contract from abrasive blasting, power tool cleaning, water cleaning, overspray and drippings. Remove or repair unintended coatings or other damage on these surfaces to the Engineer's satisfaction at no cost to the Agency.

(c) Surface Damage - Prevent, at no cost to the Agency, damage resulting from preparation and coating work, including:

- Damage to marine or vehicular traffic or harm to pedestrians in the vicinity of the work
- Abrasive material or debris falling into an area which would create a traffic hazard
- Damage to the structure or motorized equipment
- Damage to other property as a result of the Contractor's operations
- Escape of dust and waste materials from containment structures, during cleaning and coating operations, during containment structure erection, relocation, and removal, and during high winds when containment structures may be uncovered

01262.60 Repair of Damaged and Unacceptable Coatings - Repair surfaces damaged by the Contractor's operations, and surfaces coated by the Contractor that do not comply with requirements of 01262.42 as follows:

(a) Surface Preparation - Repair localized damage and unacceptable coatings. Remove all loose, delaminating, non-intact, non-sound coating, or otherwise defective coating down to sound, still performing coating in areas exhibiting coating defects. Extend the prepared areas at least 2 inches into adjacent coating.

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(b) Feathering of Repair Areas - Feather the existing coating system surrounding each repair location, for a distance of 1 inch to 2 inches to provide a smooth, tapered transition into the existing intact coating.

(c) Coating Application in Repair Areas - Use the procedure in this subsection for all repairs. When the bare substrate is exposed in the repair area, apply all coats of the system to the specified thicknesses.

Measurement

01262.80 General - No measurement of quantities will be made for work performed under this section.

Coating	Location	Estimated Quantity (Square Yard)
Silpro Skimwall Coat	See plans	4,100
Silane Seal Coat	See plans	4,100

Payment

01262.90 General - The accepted quantities of Work performed under this Section will be paid for at the Contract lump sum amounts for the following bid items:

Pay Item	Unit	of
Measurement		

- (a) Prepare and Coat Concrete Structures, _____Lump Sum

The type of coating will be inserted in the blank.

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

Temporary work access and containment will be paid according to 00253.90.

SECTION 01270 - INSTALL CATHODIC PROTECTION SYSTEM WIRING

Section 01270 is not a Standard Specification and is included in this Project by Special Provision.

Description

01270.00 Scope - In addition to the requirements of Section 01201 and Section 01210, furnish and install cathodic protection system wiring providing direct current distribution to CP zones, reference cell monitoring, and communication interconnects between CP cabinets.

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This Work is to be done in a way that does not degrade the Bridge's visual and architectural character.

01270.01 Timing - Perform installation of conduit, junction boxes, and the associated wiring and miscellaneous Equipment in each zone after the Work required under Section 01260 has been completed in that zone.

01270.02 Submittals - Submit detailed descriptions of all Materials to be used according to 00150.37. Identify all relevant constituents and properties of each Material and the Specifications with where it complies. Data published by the manufacturer is acceptable. Provide conduit cement data clearly indicating the manufacturer's recommended installation temperature range.

Submit detailed procedures for the Work of this Section according to 00150.37 at least 21 Calendar Days before the scheduled start of the Work. Include the manufacturer's specifications and operating instructions for all Equipment and a plan for installing and testing electrical conductors. Do not start this Work until written approval is received from the Engineer.

Submit unstamped wiring drawings according to 00150.35 that show the identification and labeling scheme for all wires and conduits.

Submit a conduit and wire installation plan according to 00150.37 at least 21 Calendar Days before the start of installation, showing how the Work is coordinated with scheduled movements of the Work containment system.

Submit unstamped as-built drawings according to 00150.37, showing the location, wiring details, and labeling of all power distribution, permanent reference cells and conduit runs within 30 Calendar Days of completing the Work.

Materials

01270.10 Electrical Conductors - Comply with 01201.18. Furnish consistent wiring insulation color for all zones with separate, unique colors for anode wiring, rebar wiring, and reference cell wiring.

Furnish No. 16 AWG shielded, twisted pair instrumentation cable meeting the following requirements:

- Cable rated for 300 volts
- Primary insulation XLPE
- Outer jacket moisture and sunlight resistant 190 °F rated polyvinyl chloride
- Shielding providing 100 percent coverage of twisted pair with aluminum foil-polyester tape with 18 AWG drain wire

Furnish UL labeled, Type XHHW stranded copper wire for all conductors with 600 volt rated insulation rated for 167 °F operation in wet or dry locations.

01270.11 Materials - Furnish Materials meeting the following requirements:

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Brass Nuts and Bolts	01201.16(a)
Conduit and Fittings	01201.15
Heat Shrink Tubing, Electrical Tape	01201.13
Labels	01201.17
Non-Conductive Resin	01201.11
Non-Conductive Sealant	01201.12
Ring Connectors, Solder	01201.14
Stainless Steel-Bolting Materials	01201.16(b)

Furnish tin-plated brass, barrier-style, 2-pole terminal blocks rated for 600V and able to accept #16 AWG wire.

Equipment

01270.20 Short Circuit Detection Equipment - Comply with 01201.20.

01270.30 Technician Qualifications - Perform all Work of this Section, except for installation and removal of temporary electrical service, using Oregon licensed electricians holding a Class "A" or Class "B" Limited Energy Technician license, General Journeyman license, or General Supervising license.

01270.31 Supervisor Qualifications - Supervise all Work of this Section using an Oregon licensed electrician holding a General Supervising license.

Construction

01270.40 Conduit and Fittings - Install conduit and fittings according to 01201.41.

01270.41 Connections:

(a) Wire-to-Wire - Make wire-to-wire splice and tap connection only in junction boxes with prior Engineer approval. Insulate all splice and tap connections using heat shrink tubing.

(b) Wire-to-Anode - Crimp and solder the ring connector to the anode end of the DC power distribution wire. Attach the ring connector between two brass nuts to the bolt on the anode terminal plate assembly. Tighten the first brass nut on the bolt to a hand tight condition with a non-adjustable wrench. Place the ring connector over the bolt and tighten a second brass nut against the ring connector to a hand tight condition with a non-adjustable wrench. Tighten a third brass nut, with a wrench, to a hand-tight condition against the second nut.

(c) Wire-to-Rebar Terminal - Crimp and solder the ring connector to the rebar terminal end of the DC power distribution wire. Attach the wire lug between two brass nuts to the threaded rod on the rebar terminal. Run the first brass nut onto the threaded rod. Place the wire lug over the threaded rod and tighten a second brass nut to a hand tight condition with a non-adjustable wrench against the first nut. Tighten a third brass nut with a wrench to a hand tight condition against the second nut.

(d) Wire-to-Zone Rectifier - Connect DC power wiring from the anode terminal plates and rebar terminals to the corresponding zone power supply terminal strips in the CP cabinets.

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(e) Wire-to-Binding Post (System Negative at King Bar) - Furnish a test wire lug connected to a brass binding post in the side of the junction box at each king bar terminal. Construct this connection with XHHW wire, brass nuts, brass bolts or all-thread, and copper ring connectors.

(f) Reference Cell-to-Instrumentation Cable - Mount a 2-pole, barrier style terminal block inside the king bar junction box using stainless steel or brass nuts and bolts. Connect the reference cell lead and the king bar lead to the terminals. Connect the instrumentation cable wire to the other side of the terminal. Torque terminals to manufacturer's recommendations. Do not connect shield wire at this terminal block.

(g) Instrumentation Cable-to-CP Cabinet - Run the cable without splicing from the terminal block to the monitoring terminal strips in the CP cabinet. Torque terminals to manufacturer's recommendations

01270.42 Labeling - Secure labels to both ends of conductors with clear heat-shrink tubing according to 01201.13. Label both connections at all splice points. Designate the zone number for all DC power wiring according to the following example:

D 10 P

Where D = DC Power
 10 = Zone Number
 P = Positive lead to anode (N = Negative lead to rebar)

Designate the zone number for all remote monitoring system wiring according to the following example:

R 02 A

Where R = Reference cell circuit
 02 = Zone Number
 A = First reference cell installed in zone (B = second)

01270.43 Short Circuit Detection - Locate and eliminate short circuits according to 01201.40.

Eliminate short circuits using a method approved by the Engineer at no additional cost to the Agency.

Measurement

01270.80 Measurement - No measurement of quantities will be made for Work performed under this Section.

Payment

01270.90 Payment - The accepted quantities of Work performed under this Section will be paid for at the Contract Lump Sum amount for the item "Install Cathodic Protection System Wiring".

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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 01280 - INSTALL POWER AND COMMUNICATIONS

Section 01280 is not a Standard Specification and is included in this Project by Special Provision.

Description

01280.00 Scope - In addition to the requirements of Section 01201 and Section 01210, this Work consists of providing power and communications to the cathodic protection (CP) cabinets:

01280.02 Submittals - Submit descriptions of Materials to be used according to 00150.37. Identify all relevant constituents and properties of each Material and the Specifications with which it complies. Data published by the manufacturer is acceptable.

Submit detailed procedures for the Work of this Section according to 00150.37 at least 21 Calendar Days before the scheduled start of the Work. Include the manufacturer's specifications and operating instructions for all Equipment. Do not start this Work until written approval is received from the Engineer.

Submit stamped drawings detailing the electrical and telephone service according to 00150.35 at least 21 Days before installation.

Submit unstamped wiring as-built drawings according to 00150.37, showing the identification and labeling scheme for all wires and conduits within 30 Calendar Days of completing the Work.

Submit results of resistance-to-ground measurements at all ground rods according to 00150.37 within 7 Calendar Days of driving ground rods.

Materials

01280.10 Materials - Furnish Materials meeting the following requirements:

Conduit and Fittings	01201.15
Electrical Conductors	01201.18
Heat Shrink Tubing	01201.13

01280.11 AC Power Cabinets - Furnish electrical cabinets fabricated from 14-gauge Type 316 stainless steel, with hardware fabricated from Type 316 stainless steel. Furnish in

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each cabinet a dead-front panel installed with slots cut for operating handles. Mount electrical Equipment on a false back. Ensure internal wiring of cabinets is performed by a UL listed facility. Supply mounting brackets and a padlock hasp with each cabinet.

Label the outside face of AC power cabinet doors with a permanent metallic sign reading "120/240 VOLT, CATHODIC PROTECTION" in letters 3/8 inch tall.

01280.12 Circuit Breakers - Furnish molded case, bolt-on type circuit breakers of ratings shown. Furnish main service panel breakers that are UL listed for the minimum interrupting rating shown. Permanently label all circuit breakers to indicate the circuit that the breaker controls.

01280.13 Cabinet Mounting Bolts - Furnish bolts according to ASTM F593 Group 2 Condition CW and nuts conforming to ASTM F594 Group 2 Condition CW.

01280.14 Meter Bases - Furnish NEMA 4X meter bases fabricated from 14-gauge Type 316 stainless steel, or enclose the meter base in a Type 316 stainless steel NEMA 4X cabinet. Furnish meter socket according to requirements of the electric Utility.

01280.15 Stainless Steel Screws - Furnish Type 316 stainless steel screws according to ASTM A193, Grade B8M, B8MA, B8M2, or B8M3, Class 1, 1A, 1D, or 2.

01280.16 Marking Tape - Furnish marking tape made of red polyethylene six inches wide and a minimum of four mils thick, continuously imprinted with the message "CAUTION BURIED ELECTRIC LINE".

01280.17 Grounding Electrodes - Furnish copper coated ground rods according to the NEC.

Furnish bare stranded copper wire according to ASTM B8, of gauge(s) shown.

Labor

01280.31 Supervisor Qualifications - Supervise all Work included in this Section, except for excavation Work and pole installation, using an Oregon licensed electrician holding a General Supervising license.

Construction

01280.40 Electric Service - Provide electric service in the location shown. Coordinate the electric service installation with the electric Utility.

Install the meter according to the requirements of the electric Utility.

Any existing metered service belonging to the Agency is not available for the Contractor's use during construction.

01280.41 Excavation for Conduit - Provide trenches in the locations shown. Comply with Section 00290 and all regulations affecting the Regulated Work Area.

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Perform all trench excavation, bedding and back-filling, according to Section 00405. Restore the surface according to Section 00495.

Permanently mark all underground conduit runs by placing a continuous run of underground marking tape six inches below the ground surface directly over the conduit between junction box and AC power cabinet locations.

Dispose of all waste materials according to 00290.20.

01280.42 Conduit and Fittings - Install conduit and fittings according to 01201.41.

01280.43 Grounding and Bonding - Furnish two grounding electrodes at each AC power cabinet installation, unless shown otherwise. Connect the grounding electrodes together and to the electrical system using bare copper conductors. Ground all metal cabinets by connecting to the Equipment ground wire (green insulation). Do not connect the system neutral (white insulation) to the cabinet. Do not ground the negative terminal of the rectifier, the negative terminals of the remote monitoring system, or the rebar.

Drive ground rods perpendicular to the ground until the top of rod is six inches below finished grade. Verify that the resistance-to-ground of the ground rod complies with NEC requirements.

01280.44 Conductor Insulation Testing - Perform insulation integrity checks of all conductors, after installation of the conductor and before connecting each end. Use a 500-volt DC megger insulation tester to measure between conductors and to the grounded shield or ground. The installation is acceptable if the insulation resistance of each conductor within a conduit is five megohms or greater. Remove and replace all conductors in any conduit where an insulation resistance of less than five megohms is found.

Maintenance

01280.60 Electric and Communication Contacts -

The electric Utility is Coos Curry Electrical Cooperative, contact name Zane Adams, telephone number 541-373-3306. The nearest existing electric Utility service is located at the Southeast approach end of the bridge.

Contact information for ODOT electricians is available from the Engineer.

The Agency will provide a service address and billing address for the permanent electric service.

Measurement

01280.80 Measurement - No measurement of quantities will be made for Work performed under this Section.

Payment

01280.90 Payment - The accepted quantities of Work performed under this Section will be paid for at the Contract Lump Sum amount for the item "Install Power and Communications".

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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:

- Trench excavation, bedding, and backfill
- Surface restoration
- Waste disposal

SECTION 01285 - CP CABINETS, RISERS, AND WEATHER EQUIPMENT

Section 01285 is not a Standard Specification and is included in this Project by Special Provision.

Description

01285.00 Scope - In addition to the requirements of Section 01201 and Section 01210, furnish and install custom-built CP cabinets, risers, and weather Equipment as shown and as directed.

01285.01 Timing - Notify the Engineer 21 Calendar Days prior to scheduling shipping, to allow for quality assurance testing at the manufacturing facility.

Prepare mounting surfaces for CP cabinets prior to their delivery to the Project Site.

Provide Agency access for quality assurance testing and CP system testing during installation.

Do not power up any portion of the CP system.

01285.02 Submittals - Submit descriptions of Materials to be used according to 00150.37. Data published by manufacturers is acceptable. Submit shop drawings and electronic design schematics according to 00150.37 at least 21 Calendar Days before fabrication begins. Redlined Plans are acceptable.

Submit detailed procedures for this Work according to 00150.37 at least 21 Calendar Days before the scheduled start of Work under this Section.

Submit as-built cabinet drawings according to 00150.37 upon delivery of the cabinets.

Materials

01285.10 Materials - Furnish Materials meeting the following requirements:

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Conduit and Fittings	01201.12
Non-Conductive Resin and Spray	01201.11
Non-Conductive Sealant	01201.12

Furnish an expanding spray foam.

Use Class 3300 structural concrete meeting the requirements of Section 02001 and the requirements of Table 02001-1.

Use reinforcement complying with Section 00530 and Section 02510.

01285.11 General - Furnish all similar products from the same manufacturer and of the same quality. Verify that all Equipment is permanently marked with the manufacturer's name and the appropriate Equipment ratings. Correct faulty workmanship and Materials immediately upon discovery.

Ensure that all items conform to NFPA 70 (NEC) requirements.

Protect all Materials from damage and corrosion during shipping and storage.

01285.12 Stainless Steel Fasteners - Furnish stainless steel fasteners and mechanical anchors according to ASTM F593 Group 2 Condition CW and nuts according to ASTM F594 Group 2 Condition CW.

Equipment

01285.20 General - Store all electronic Equipment in a dry, clean location protected from condensation. Protect all Equipment from physical damage and contaminants such as moisture, dust, fingerprints, and dirt.

01285.21 Cabinet and Risers - Furnish cabinets with a NEMA 250-4X rating constructed from 12-gauge, Type 316 stainless steel. Do not drill holes in cabinets for any purpose other than mounting the cabinets. Furnish cabinets that include:

- A heavy-duty 3-point door latch with external locking rings on the handle. Include continuous hinges on the cabinet doors. Use Type 316 stainless steel for all external metal hardware (e.g.; padlock hasp, hinges, latches). Include a continuous lip around the door opening to provide a tight seal against a gasket approved for use in a NEMA 250-4X enclosure. Perform all welding according to AWS D1.6.
- Mechanisms that hold each cabinet door in place when in the open position. This item may be constructed from any industry standard Material.
- One 15-watt (maximum), 700 lumen (minimum) light fixture mounted to the cabinet ceiling. Include two door interlock switches wired in parallel to activate the light when either door is opened. The switches may be of any industry standard construction.

Furnish risers constructed from 12-gauge Type 316 stainless steel. Furnish riser access covers constructed from 6-gauge Type 316 stainless steel. Weld locking hasps, lock eyes, and stiffeners according to AWS D1.6.

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01285.22 Equipment Rack - Furnish four-post, 19-inch Equipment racks with 17-inch (± 1 inch) depth according to CEA-310-E specifications. Include:

- Five shelves with a minimum 50-pound capacity, placed at the spacing shown
- A 12-gauge aluminum AC power distribution panel attached to the lower rear of the rack
- A 12-gauge aluminum control panel above the AC panel hinged on the rack to open in the same direction as the adjacent door. Include a door stop that does not allow Equipment to contact the adjacent door when the panel is opened. Include three latching points to secure the door closed without the use of tools other than a standard screwdriver.
- Mounts for diodes constructed of a thermally conductive Material. Utilize shelves or the control panel as a heat sink for the diodes.
- A documentation drawer designed to work with the 19-inch Equipment rack, no larger than 2 inches in height and 17 inches deep. Include a hinged cover providing a writing surface when the drawer is extended.

01285.23 Zone Power Supplies, Diodes, and Shunts:

(a) Power Supplies - Provide one of the following variable output DC power supplies:

- Instek SPS3610
- Sorensen XPD33-16
- TDK Lambda Zup20-10/u

(b) Diodes – Furnish 1N3881 diodes,

(c) Shunts - Furnish one of the following measurement shunts:

- Crompton Instruments FN-10-100
- Empro Shunts HA-10-100
- Murata Power Solutions 3020-01107-0

01285.24 Circuit Protection:

(a) Surge Protectors - Provide one of the following surge protectors:

- Allen Bradley 4983-DH300-25 (requires 3 units per cabinet)
- Schneider Electric PMP3XS-B
- Sola Heavy-Duty STV 100K-10S

(b) Circuit Breakers - Provide one of the following circuit breakers:

- Allen Bradley 1489-A2D 200
- Altech 2DU20UL

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01285.25 Terminal Blocks and Conductors - Furnish barrier type, standard screw terminals for the incoming 240/120VAC single phase electrical service, meeting the following requirements:

- Four feed-thru terminals
- An insulating protective cover that is clear to allow for visual inspection
- Compatible with #4-#12 AWG wire
- Rated for at least 600 volts

Furnish control panels and AC Bus terminal blocks, including fused blocks, meeting the following requirements:

- IEC 60715 dimensions
- Din rail mounting
- Compatible with #8-#16 AWG wire
- Rated for 600 volts
- Compatible with 1 1/4-inch automotive fuses (fused blocks only). Include 5A fuses.

Use #16 AWG stranded copper conductors according to UL 1015 standards.

Use slotted PVC wire ducts to organize wiring.

Use printed labels according to 01201.17.

01285.26 Campbell Scientific Equipment - Provide the following Equipment from Campbell Scientific with appropriate connectors, as applicable, indicated in the electronic Equipment schedule in the Plans:

- CR 1000 Datalogger
- PS100 Power supply w/battery backup
- AM16/32B Multiplexer
- MD485 Network interface module
- COM220 Telephone modem (analog line)
- 3315 Type T Thermocouple
- VDIV10:1 Voltage Divider

01285.27 Weather Equipment - Provide HMP155-L Relative humidity/temperature sensor with pigtail terminations. Determine proper lead length from the Plans. Include a 14-gill radiation shield.

01285.28 Additional Panel Mounted Equipment - Provide the following:

- A ground fault interrupting (GFI) duplex receptacle rated for 20 A that conforms to UL 514C standards
- One of the following high-efficiency 12VDC switching type power supplies:

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- Allen Bradley 1606-XLP30B
- Rhino PSP12-024S
- Sola Heavy-Duty SCP30S12-DN
- One of the following cabinet heaters:
 - Hammond ELHT200A230
 - Hoffman DAH2002a
 - Rittal 3105.180 (requires 3110.000 thermostat)

01285.29 Manual Override Control Box - Furnish a custom-built manual override control box that will mount on the control panel. This may be constructed of any standard enclosure Material with a removable face/cover. Do not exceed a 9 by 7-inch device footprint, 4 inches deep. Include a rubber-lined entry/exit hole for wires. Include the following devices, as applicable:

- A standard single-pole, double-throw (SPDT), panel mounted, toggle switch rated for 5 amps or greater
- A standard double-pole, double-throw (DPDT), panel mounted, toggle switch rated for 5 amps or greater
- 1N4004 diode
- 1N4937 diode
- 5 mm to 10 mm diameter light emitting diode (LED) of the color shown. Bias the diodes with properly sized resistors or provide units with proper integral resistors. Identify diodes and resistors in shop drawings.
- One of the following solid state relays:
 - Crydom D1D07
 - NTE Electronics, Inc. RS3-1D12-41M
 - Omron Electronic Components G3NA-D210B-DC5-24

6-pole, double-throw (6PDT) relays (R1 and R2 as shown in the Plans) are only required on zone power supplies that utilize a contact closure to activate the remote output disable function. If this function requires a TTL level input, the output of the solid state relay may be wired in parallel to these inputs. Include this design with submittals to be approved by the Engineer. If applicable, provide one of the following:

- Magnecraft & Struthers-Dunn W67RCSX-12
- NTE Electronics, Inc. R16-23D5-12
- Tyco Electronics/Potter & Brumfield

Labor

01285.30 Panel Shop Qualifications - Perform all Work included in this Section using a panel shop certified by the Underwriters Laboratories (UL), or have the final product certified by means of UL inspection.

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01285.31 Electricians - Perform all DC wiring, reference cell wiring, and telecommunications wiring Work using Oregon licensed electricians holding a Class "A" or Class "B" Limited Energy Technician license, a General Journeyman License, or a General Supervising license.

Perform all AC power wiring using electricians complying with 01201.30.

01285.32 Supervisor Qualifications - Supervise all Work of this Section using an Oregon licensed electrician holding a General Supervising license.

Construction

01285.40 Pads For CP Cabinets - Construct pads as shown. Remove debris from pads prior to cabinet installation.

01285.41 Mount Risers and CP Cabinets - Mount risers and CP cabinets in the locations shown, using stainless steel fasteners. Apply non-conductive sealant between washers and cabinet and tighten fasteners while sealant is wet.

01285.42 Conduits - Terminate conduit runs from the Work of Sections 01265, 01270, and 01280 in the sides of the cabinet riser where they do not interfere with the hatch of the riser. Route conduits so that conduits containing AC conductors enter the riser in separate locations from conduits containing DC, monitoring, and communications conductors.

01285.43 Wiring:

(a) **General** - Arrange all wiring neatly in the cabinet. Handle conductors carefully to avoid kinking the wire or damaging insulation during installation. Remove and replace all kinked or damaged wire. Terminate all wiring connections at wire terminals. Follow the terminal block manufacturer's specifications for the number of wires per terminal. Tighten the terminal screw to the terminal block manufacturer's recommended torque.

(b) **AC Wiring** - Provide a hole in the bottom of the CP cabinet(s) large enough to accommodate the branch circuit conductors located as close to the AC barrier terminals as possible. Install a PVC fitting using non-conductive sealant as shown for this entry after removing any sharp edges.

Pull branch conductors from the Work of Section 01280 through this hole and terminate them at the appropriate terminals. Verify proper voltage at the terminal with the cabinet main disconnect in the off position.

Seal the hole as shown with expanding spray foam and non-conductive resin after voltage has been verified.

Energize cabinet heaters and set to 60 °F.

(c) **DC, Monitoring, and Communications Wiring** - Provide a hole in the bottom of the CP cabinet(s) large enough to accommodate all DC, monitoring, and communications wiring, located as far from the AC wiring as possible. Install a PVC fitting using non-conductive sealant as shown for this entry after removing any sharp edges.

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Pull DC, monitoring, and communications wiring installed under Sections 01265 and 01270 through this hole, routing away from AC circuits, and terminate at the appropriate terminals on the control panel.

Seal the hole with expanding spray foam and non-conductive resin after the Engineer has performed quality assurance testing of the system.

01285.44 CP Cabinet Layout - Arrange Equipment within the CP cabinet in a logical and orderly manner following and as shown. Provide as much separation as possible between 120/240 VAC Equipment and sensor and DC wiring. Secure all electrical components to shelves or electrical panels. Secure the Equipment rack to the cabinet using welds or threaded fasteners that do not protrude beneath the cabinet.

01285.45 Weather Equipment Wiring - Wire Equipment in accordance with the Campbell Scientific product manuals and the wiring schedule shown. Use Campbell Scientific cables whenever a multi-pin connector is specified in the product manuals.

Furnish grounding for shielded cable drain wires at one end of the cable only.

01285.46 Labeling - Attach permanent labels to all wires. Use a labeling designation scheme that indicates the adjacent termination name at each end of the wire.

Label each power supply to indicate the zone with lettering a minimum of 3/16 inches high.

01285.47 Temperature/Relative Humidity Sensor - Mount the sensor as shown.

01285.48 Testing - Provide access for the Engineer to perform quality assurance testing before shipping the cabinets to the Project Site.

01285.49 Documentation - Provide a copy of as-built drawings in the documentation drawer of each cabinet. Provide a copy of the technical data sheet along with installation instructions for each unique electronic component in the documentation drawer of each cabinet.

Measurement

01285.80 Measurement - No measurement of quantities will be made for Work performed under this Section.

Payment

01285.90 Payment - The accepted quantities of CP cabinets, risers, and weather Equipment will be paid for at the Contract Lump Sum amount for the item "Provide CP Cabinets, Risers, and Weather Equipment".

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 additional payment will be made for as-built drawings, datasheets, or operations manuals.

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

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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 $k\Omega \cdot cm$ 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:

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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 k Ω ·cm at 56 Days for 4x8 inch cylinders and 29 k Ω ·cm at 56 Days for 6x12 inch cylinders are accepted as equal when tested according to AASHTO T 358 using the sealed conditioning method.

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

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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.

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(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 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

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with the limits and ranges of ASTM C1602. Make test results available for review upon request.

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:

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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 AWWPA 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.)

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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.

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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 WWPAA 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 AWWA 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 02210 – COATING MATERIALS FOR TIMBER AND CONCRETE

Comply with Section 02210 of the Standard Specifications modified as follows:

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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.

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:

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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 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.

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(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:

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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:

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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:

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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.

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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 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.

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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 subplot. 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	Test Method		Percent (by Weight)
	ODOT	AASHTO	
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	Test Method		Requirements
	ODOT	AASHTO	
Abrasion	—	T 96	30.0% Max.
Oregon Air Aggregate Degradation:			
Passing No. 20 sieve	TM 208	—	30.0% Max.
Sediment Height	TM 208	—	3.0" Max.

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

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(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 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.

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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.

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(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.

BID SCHEDULE

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**OREGON DEPARTMENT OF TRANSPORTATION
BID SCHEDULE**

CONTRACT NO.: 15682 **PROJECT:** US101: GOLD BEACH (ROGUE RIVER) BRIDGE
PROJECT KEY: 21769 **ADDENDUM NO.:** 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE	BID AMOUNT
			(IN FIGURES)	(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	565.00 SQFT		
0040	0222-0164000E PORTABLE CHANGEABLE MESSAGE SIGNS	2.00 EACH		
0050	0223-0168000T FLAGGERS	10,000.00 HOUR		
0060	0223-0168100E FLAGGER STATION LIGHTING	5.00 EACH		
0070	0223-0200000E AUTOMATED FLAGGER ASSISTANCE DEVICE	2.00 EACH		
0080	0224-0104000E TEMPORARY BARRICADES, TYPE II	8.00 EACH		
0090	0224-0105000E TEMPORARY BARRICADES, TYPE III	2.00 EACH		
0100	0224-0145000E TEMPORARY PLASTIC DRUMS	12.00 EACH		
0110	0225-0152000F TEMPORARY NON-REFLECTIVE TAPE	2,400.00 FOOT		
0120	0226-0126100F TEMPORARY BARRIER	960.00 FOOT		
0130	0226-0134000E TEMPORARY IMPACT ATTENUATOR, NARROW SITE SYSTEM	2.00 EACH		

**OREGON DEPARTMENT OF TRANSPORTATION
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ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE	BID AMOUNT
			(IN FIGURES)	(IN FIGURES)
0140	0226-0137000E MOVING TEMPORARY IMPACT ATTENUATORS, NARROW SITE SYSTEM	6.00 EACH		
0150	0226-0138000E TEMPORARY IMPACT ATTENUATOR, TRUCK MOUNTED	1.00 EACH		
0160	0226-0141300E REPAIR TEMPORARY IMPACT ATTENUATOR, NARROW SITE SYSTEM	8.00 EACH		
0170	0226-0141400E REPAIR TEMPORARY IMPACT ATTENUATOR, TRUCK MOUNTED	4.00 EACH		
0180	0280-0100000A EROSION CONTROL	ALL LUMP SUM		
0190	0280-0106030E CHECK DAM, TYPE 3	3.00 EACH		
0200	0280-0114030E INLET PROTECTION, TYPE 3	4.00 EACH		
0210	0290-0100000A POLLUTION CONTROL PLAN	ALL LUMP SUM		
0220	0290-0102000A WORK CONTAINMENT PLAN	ALL LUMP SUM		
0230	0290-0200000A TURBIDITY MONITORING	ALL LUMP SUM		

SECTION: 0002 ROADWORK

0240	0305-0100000A CONSTRUCTION SURVEY WORK	ALL LUMP SUM		
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SECTION: 0003 BR NO 01172

**OREGON DEPARTMENT OF TRANSPORTATION
BID SCHEDULE**

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ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE	BID AMOUNT
			(IN FIGURES)	(IN FIGURES)
0250	0252-0104000A TEMPORARY WORK BRIDGES	ALL LUMP SUM		
0260	0253-0106000A TEMPORARY WORK ACCESS AND CONTAINMENT	ALL LUMP SUM		
0270	0501-0100000A BRIDGE REMOVAL WORK	ALL LUMP SUM		
0280	0510-0101000A STRUCTURE EXCAVATION	ALL LUMP SUM		
0290	0510-0108000A GRANULAR STRUCTURE BACKFILL	ALL LUMP SUM		
0300	0530-0104000A REINFORCEMENT, GRADE 60	ALL LUMP SUM		
0310	0538-0100000F INJECT AND SEAL CRACKS	4,000.00 FOOT		
0320	0540-0301000A GENERAL STRUCTURAL CONCRETE, CLASS 3300	ALL LUMP SUM		
0330	0567-0103000A TITANIUM SYSTEM, 0.625 INCH DIAMETER	ALL LUMP SUM		
0340	0585-0200100A ASPHALTIC PLUG JOINT SEALS	ALL LUMP SUM		
0350	0585-0206100A POURED JOINT SEAL	ALL LUMP SUM		
0360	1210-0100000A QUALITY CONTROL PLAN	ALL LUMP SUM		
0370	1215-0100000A LOCATE NEAR SURFACE METAL	ALL LUMP SUM		
0380	1215-0301000E REMOVE NON-ESSENTIAL NEAR SURFACE METAL	10,000.00 EACH		
0390	1220-0100000E REPAIR DAMAGED REINFORCING BARS	20.00 EACH		

**OREGON DEPARTMENT OF TRANSPORTATION
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PROJECT KEY: 21769 **ADDENDUM NO.:** 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE	BID AMOUNT
			(IN FIGURES)	(IN FIGURES)
0400	1235-0200000A LOCATE DAMAGED CONCRETE	ALL LUMP SUM		
0410	1235-0400000J REPAIR DAMAGED CONCRETE	110.00 SQYD		
0420	1235-0600000J RESIN BUILDUP ON SHALLOW REBAR	15.00 SQYD		
0430	1235-0600000J MORTAR BUILDUP ON SHALLOW REBAR	10.00 SQYD		
0440	1240-0101000E REFERENCE CELLS	100.00 EACH		
0450	1245-0100000A BASIC CONTINUITY CHECK	ALL LUMP SUM		
0460	1245-0200000E ADDITIONAL CONTINUITY CHECK	250.00 EACH		
0470	1245-0300000E EXCAVATE FOR CONTINUITY WELDS	120.00 EACH		
0480	1245-0400000E ESTABLISH CONTINUITY	120.00 EACH		
0490	1245-0500000E REBAR TERMINALS	161.00 EACH		
0500	1260-0050000E INSTALL ANODE TERMINAL PLATES	307.00 EACH		
0510	1260-0060000A PREPARE ANODE SURFACES	ALL LUMP SUM		
0520	1270-0101000A INSTALL CATHODIC PROTECTION SYSTEM WIRING	ALL LUMP SUM		
0530	1280-0101000A INSTALL POWER AND COMMUNICATIONS	ALL LUMP SUM		
0540	1285-0100000A PROVIDE CP CABINETS, RISERS AND WEATHER EQUIPMENT	ALL LUMP SUM		

**OREGON DEPARTMENT OF TRANSPORTATION
BID SCHEDULE**

CONTRACT NO.: 15682 **PROJECT:** US101: GOLD BEACH (ROGUE RIVER) BRIDGE
PROJECT KEY: 21769 **ADDENDUM NO.:** 0

ITEM NO	ITEM DESCRIPTION	QUANTITY AND UNITS	UNIT PRICE	BID AMOUNT
			(IN FIGURES)	(IN FIGURES)
0550	1999-9Z90000A INSTALL ZINC ANODES	ALL LUMP SUM		
0560	1999-9Z90000A PREPARE AND COAT CONCRETE STRUCTURES, SILANE	ALL LUMP SUM		
0570	1999-9Z90000A PREPARE AND COAT CONCRETE STRUCTURES, SILPRO	ALL LUMP SUM		
0580	1999-9Z90000I SINGLE LAYER POLYMER CONCRETE OVERLAY	1,957.00 SQYD		

SECTION: 0004 PERMANENT TRAFFIC SAFETY AND GUIDANCE DEVICES

0590	0855-0103100E BI-DIRECTIONAL YELLOW TYPE IAR MARKERS	25.00 EACH		
0600	0865-0119600F THERMOPLASTIC, SPRAYED, SURFACE, NON-PROFIED	2,000.00 FOOT		

SECTION: 0005 PERMANENT TRAFFIC CONTROL AND ILLUMINATION SYSTEMS

0610	0985-0110000A ELECTRICAL SYSTEMS INSTALLATION	ALL LUMP SUM		
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SECTION: 0006 RIGHT-OF-WAY DEVELOPMENT AND CONTROL

0620	1050-0107000E 3 FOOT SECURITY GATES	3.00 EACH		
0630	1050-0135000F SECURITY FENCE	387.00 FOOT		

TOTAL BID: _____

