Legal Documents, Amendments, and Special Provisions

STPUL-9927(056) Interstate 5 Port of Tacoma Road Interchange Phase 1 Contract Documents

Approved this ___ day of ________, 20__

CITY OF FIFE
APPROVED FOR CONSTRUCTION

BY: ___________________ DATE: __________

Prepared for City of Fife

February 2018

Prepared by

BergerABAM
PROJECT: INTERSTATE 5 PORT OF TACOMA ROAD INTERCHANGE - PHASE 1
OWNER: CITY OF FIFE

THE FOLLOWING SPECIAL PROVISIONS HAVE BEEN PREPARED UNDER THE DIRECTION OF THE PROFESSIONAL ENGINEER(S), REGISTERED IN THE STATE OF WASHINGTON, WHOSE SEAL(S) AND SIGNATURE(S) APPEAR BELOW FOR DIVISIONS 1 THROUGH 9 (Excluding sections by DKS, LOUIS BERGER, and Division 1 in accordance with City of Fife, APWA, WSDOT General Special Provisions).

James S. Guarre, P.E., S.E.
BergerABAM
22 Feb 2018
Date

David J. Sacamano, PLA
BergerABAM
(Sections 8-01, 8-02, 8-03 and 9-15 only)

22 Feb 2018
Date
PROJECT: INTERSTATE 5 PORT OF TACOMA ROAD INTERCHANGE - PHASE 1
OWNER: CITY OF FIFE

THE FOLLOWING SPECIAL PROVISIONS HAVE BEEN PREPARED UNDER THE DIRECTION OF THE PROFESSIONAL ENGINEER(S), REGISTERED IN THE STATE OF WASHINGTON, WHOSE SEAL(S) AND SIGNATURE(S) APPEAR BELOW:

DIVISION 7 – SECTION 7-02 AND 7-04
DIVISION 9 – SECTION 9-05

Jon W. Cammermeyer, P.E.
Louis Berger

22 Feb 2018
Date
PROJECT: INTERSTATE 5 PORT OF TACOMA ROAD INTERCHANGE - PHASE 1
OWNER: CITY OF FIFE

THE FOLLOWING SPECIAL PROVISIONS HAVE BEEN PREPARED UNDER THE DIRECTION OF THE PROFESSIONAL ENGINEER(S), REGISTERED IN THE STATE OF WASHINGTON, WHOSE SEAL(S) AND SIGNATURE(S) APPEAR BELOW:

DIVISION 8 – SECTION 8-20
DIVISION 9 – SECTION 9-29

Eric Shimizu, P.E.
DKS

2/20/18
Date
CITY OF FIFE

FED AID NO. - STPUL-9927(056)

Interstate 5 Port of Tacoma Road Interchange – Phase 1

INDEX

VOLUME I OF VII

I. LEGAL DOCUMENTS

1. NOTICE TO CONTRACTORS (City Specific)
2. INSTRUCTIONS TO BIDDERS (City Specific)
3. BIDDER’S CHECKLIST (City Specific)
4. PROPOSAL SIGNATURE PAGE
5. PROPOSAL (City Specific)
6. BID SUMMARY
7. SUBCONTRACTOR LIST
8. PROPOSAL BOND
9. NON-COLLUSION DECLARATION
10. CERTIFICATION FOR FEDERAL-AID CONTRACTS
11. UNDERUTILIZED DISADVANTAGED BUSINESS ENTERPRISE UTILIZATION CERTIFICATION
12. UNDERUTILIZED DISADVANTAGED BUSINESS ENTERPRISE CONFIRMATION DOCUMENT(S)
13. APWA PROPOSAL FOR INCORPORATING RECYCLED MATERIAL INTO THE PROJECT
14. LOCAL AGENCY CONTRACT
15. PERFORMANCE BOND
16. PAYMENT BOND
17. CERTIFICATE OF LIABILITY INSURANCE (SAMPLE FORM) (City Specific)
18. STATEMENT OF INTENT TO PAY PREVAILING WAGES (City Specific)
19. STATEMENT OF INTENT TO PAY PREVAILING WAGES (SAMPLE FORM)
20. AFFIDAVIT OF WAGES PAID (SAMPLE FORM)
21. REQUEST FOR RELEASE
22. REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
II. CONTRACT SPECIFICATIONS

1. AMENDMENTS TO THE STANDARD SPECIFICATIONS
2. SPECIAL PROVISIONS

VOLUME II OF VII

APPENDIX A – GEOTECHNICAL ENGINEERING SERVICES FINAL REPORT

APPENDIX B – PERMITS

APPENDIX C – PREVAILING HOURLY MINIMUM WAGE RATES

VOLUME III OF VII

APPENDIX D – UTILITY STANDARDS

APPENDIX E – PLANS FOR LOVE’S REDEVELOPMENT

APPENDIX F – STANDARD PLANS

APPENDIX G – POTHOLING INFORMATION

VOLUME IV OF VII

APPENDIX H – SWPPP NARRATIVE

VOLUME V OF VII: CONTRACT PLANS VOLUME 1

VOLUME VI OF VII: CONTRACT PLANS VOLUME 2

VOLUME VII OF VII: CONTRACT PLANS VOLUME 3
I. LEGAL DOCUMENTS
Notice is hereby given that sealed bids will be received by the City of Fife City Hall up to the hour of 10:00 a.m. PST on Friday, March 23rd, 2018, for the City of Fife Port of Tacoma Road I-5 Interchange Phase 1 Project and will then be opened and publicly read. The work involved in this project includes:

The reconstruction of the SB I-5 on/off ramp at the Port of Tacoma Road interchange. It creates two new ramp intersections at 34th Ave E and at Port of Tacoma Road, constructs a new road (34th Ave E) from the I-5 SB off-ramp to Pacific Highway E, reconstructs 34th Ave E into a one-way NB street from Pacific Highway E to 12th St E, and reconstructs 12th Street E from 34th Ave E to Port of Tacoma Road. Traffic signals will be installed at the new ramp intersections. This is Phase 1 of a two phase project.

A pre-bid meeting will be held on March 6th, 2018 at 10:00 am at the City of Fife City Hall, 5411 23rd Street East, Fife, Washington. Attendance of the pre-bid conference is voluntary.

Plans, specifications, and addenda are available at the City of Fife website. Plans, specifications, addenda, bidders list and plan holders list for this project are also available through the City of Fife’s on-line plan room with the Builders Exchange of Washington. Free of Charge access is provided to Prime Bidders, Subcontractors, and Vendors by going to: “www.bxwa.com” and clicking on "Posted Projects”; “Public Works”; “City of Fife”; and “Projects Bidding”. Bidders are encouraged to “Register” in order to receive automatic email notification of future addenda and to be placed on the “Bidders List”. Contact Builders Exchange of Washington at 425.258.1303 should you require assistance with access or registration.

The contact is Russ Blount, PE Public Works Director at (253) 896-8677 rblount@CityofFife.org or Steve Worley, PE Assistant Public Works Director at (253) 896-8203 sworley@CityofFife.org.

All bids shall be submitted on the prescribed Bid Forms and in the manner as stated in this advertisement and in the Bid Document and said bids shall be accompanied by a bid deposit in the form of cash, cashier’s check, certified check, postal money order, or a surety bond to the City of Fife in the amount of five percent (5%) of the total amount of the bid. Bids submitted on other than the bond form provided by the City may be subject to rejection. Faxed bids and/or surety bond will not be accepted.

Bids must be submitted in a sealed envelope with the outside clearly marked “sealed bid” with the bid opening date and time, and the project name as it appears in this advertisement and the name and address of the bidder. Bids shall be addressed to the City Clerk, City of Fife, 5411 23rd Street, Fife, WA 98424. The City of Fife reserves the right to reject any or all bids and to waive irregularities in the bid or in the bidding.

The City of Fife in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 USC 2000d to 2000d-4 and Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-Assisted Programs of the Department of Transportation issued pursuant to such Act, hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises as defined at 49 CFR Part 26 will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin, or sex in consideration for an award.
Angela Woods  
City Clerk  
Dates of Publication:  

Tacoma News Tribune: February 23, 2018 and March 2, 2018  

Seattle Daily Journal of Commerce: February 23, 2018 and March 2, 2018
INSTRUCTIONS TO BIDDERS

1. PLANS, SPECIFICATIONS and ADDITIONAL INFORMATION
   See attached.

2. EXAMINATION OF PLANS, SPECIFICATIONS and SITE
   Bidders shall satisfy themselves by personal examination of Plans, Specifications, and site of the proposed improvements, and by any other examination and investigation that they may desire to make as to the accuracy of the estimate of quantities, the nature of the work, and the difficulties to be encountered.

3. DELIVERY OF PROPOSAL
   Bids shall be submitted upon the Proposal form that is bound to these Specifications. The Contractor shall submit those items listed in the “Bidder’s Checklist”, addressed to the Owner, and plainly marked “Port of Tacoma Road I-5 Interchange Phase 1 Project,” Bids shall be delivered, opened, and read as specified in the NOTICE TO CONTRACTORS.

4. MODIFICATION OF PROPOSAL
   A Proposal will be considered irregular and will be rejected if the Proposal Form furnished by the Owner is not used or is altered, or if the completed Proposal Form contains any unauthorized additions, deletions, alternate Bids or conditions. No oral or telephonic proposals or modifications will be considered.

5. PROPOSAL GUARANTY
   Each Proposal will be accompanied by a certified check, cashier’s check, postal money order, or Proposal guaranty bond, as required by RCW 47, made payable without reservations to the Owner, in amount not less than five percent (5%) of the total Bid for all Schedules. Said check or bond will be held as a guaranty that the successful Bidder will, within ten (10) days from the date of notification of award, enter into a Contract and furnish an approved Performance Bond and Payment Bond, on forms attached, in an amount equal to one hundred percent (100%) of the amount of the Contract, including state sales tax.

6. RETURN OF PROPOSAL GUARANTY
   As soon as the bid prices have been compared, the Owner will return the good faith token accompanying such of the Proposals, as in the Owner’s judgment, would not be considered in making award. All other Proposal guarantees will be held until the Contract and the Bonds of the successful Bidder have been executed, after which they shall be returned to the Bidders whose Proposals they accompanied.

7. AWARD OF CONTRACT
   A Contract will not be awarded until the Owner is satisfied that the successful Bidder is reasonably familiar with this class of work and has the necessary capital and tools to satisfactorily perform the same. The right is specifically reserved by the Owner to reject any or all Proposals, to accept the proposal of the lowest responsible bidder, or to re-advertise for new proposals. Refer to Section 1-02 of the Special Provisions. After the date and hour set for the opening of the Bids, no Bidder may withdraw his Proposal unless the award of the Contract is delayed for a period exceeding ninety (90) days.

8. FAILURE TO EXECUTE CONTRACT.
   In the event the successful Bidder fails to furnish an approved Performance Bond, execute the Contract, and comply with all other pertinent legal requirements within ten (10) days after
notification by the Owner of the award of Contract, the certified check, bank draft, or money order accompanying the Bid shall be forfeited in the amount lost by the Owner in making the award to the next low, responsible Bidder, but said forfeiture not to exceed five percent (5%) of the amount bid by the Contractor failing or refusing to comply with the award requirements. In the event the bid bond is tendered as a “Good Faith” token, and the awardee fails or refuses to comply with the requirements of entering a Contract on the basis of his Proposal, said Contractor and his Surety shall be likewise held liable under the Bid Bond in an amount not to exceed five percent (5%) of his Bid for losses suffered by the Owner in being forced to award to the new low, responsible Bidder.

9. BID ERRORS
No consideration will be given by the Owner to a claim of error in a Proposal, unless such claim is made to the Owner within two (2) hours after the time stated in the advertisement for receiving proposals, and unless supporting evidence of such claim, including cost breakdown sheets, is delivered to the Owner within three (3) hours after the time stated in the advertisements for receiving Proposals.

10. PREVENTION OF ENVIRONMENTAL POLLUTION and PRESERVATION OF NATURAL RESOURCES
Bidders are expected to familiarize themselves and comply with all statutes, regulations, and ordinances that relate to their proposed work and that deal with the prevention of environmental pollution and the preservation of natural resources, including but not limited to the National Environmental Policy Act of 1969, PL 91-190, Executive Order 11514, and the State Environmental Policy Act of 1971, RCW 43.21C.
BIDDER’S CHECKLIST

1.01 THE BIDDER’S ATTENTION IS ESPECIALLY CALLED TO THE FOLLOWING FORMS THAT MUST BE EXECUTED IN FULL AND SUBMITTED WITH THE PROPOSAL UNLESS SPECIFIED OTHERWISE:

Prime Contractor must be included on the Official Plan Holder’s List which is developed and maintained by the owner.

A. Local Agency Proposal

B. Local Agency Signature Page (WSDOT form 272-036K)

C. Schedule of Prices:
The base bid, the price bid for each alternate (if any), and the unit prices must be shown in the space provided. Each unit price item shall have the unit price shown and the total (unit price times the number of units shown in the estimated quantity) amount shown for each schedule. The unit price shall be the same for each schedule. Each lump sum bid item shall have the lump sum amount entered in each schedule. The final sheet of the Proposal must be filled in and signed by the Bidder. The sheet identifying receipt of any and all Addenda must be completed as well.

D. Local Agency Proposal Bond (WSDOT form 272-001A)
This form is to be executed by the surety company unless Bid is accompanied by a certified check. The amount of this bond shall not be less than five percent (5%) of the total amount of Bid for all Schedules and may be shown in dollars or on a percentage basis.

E. Subcontractor’s List (Plumbing, HVAC and Electrical per RCW 39.30.060)

1.02 THE FOLLOWING FORMS ARE TO BE EXECUTED AFTER THE CONTRACT IS AWARDED, AND PRIOR TO NOTICE TO PROCEED:

A. Local Agency Contract:
This Contract to be executed by the successful Bidder and their surety company.

B. Local Agency Performance Bond (WSDOT form 272-002A):
To be executed by the successful Bidder and his surety company.

C. Local Agency Payment Bond (WSDOT form 272-003A)
To be executed by the successful Bidder and his surety company.

D. Statement of Intent to Pay Prevailing Wages
LOCAL AGENCY PROPOSAL

Project: Port of Tacoma Road I-5 Interchange Phase 1 Project  Date: 03/23/2018
Total Bid Amount: $25,384,049.52

The undersigned, as Bidder, declare that we have personally examined the Project site in the City of Fife, and all of the plans, specifications, and Contract Documents herein contained, and that we will contract with the City of Fife on the form of agreement provided herewith to do everything necessary to perform and complete construction called for in the Contract for the construction of the Project listed above, at the price and on the terms and conditions herein contained in the Contract Documents. Total price for the Contract has been written in words followed by numbers in parentheses.

Attached is a proposal guaranty bond duly completed by a guaranty company authorized to carry on business in the state of Washington in the amount of at least five percent (5%) of the total amount of our proposal.

If our proposal is accepted, we agree to sign the Contract and to furnish the performance bond and the required evidence of insurance within ten (10) calendar days after receiving written notice of the award of the Contract. We acknowledge that the City of Fife may forfeit our bid deposit as liquidated damages in the event of our non-compliance with the requirements of this paragraph.

The Bidder agrees to prosecute the work in accordance with this Document and the Standard Specifications. Bidder further agrees to complete the Project within the allotted time as specified in the Contract.

The Bidder understands that the Owner reserves the right to reject any and all proposals, as well as increase or decrease the scope of work, in accordance with Section 1-04 of the 2016 WSDOT/APWA Standard Specifications for Road, Bridge, and Municipal Construction.

See the follow page for signature page. All blank lines must be filled in to constitute a completed Bid Form.
Local Agency Proposal - Signature Page

The bidder is hereby advised that by signature of this proposal he/she is deemed to have acknowledged all requirements and signed all certificates contained herein.
A proposal guaranty in an amount of five percent (5%) of the total bid, based upon the approximate estimate of quantities at the above prices and in the form as indicated below is attached hereto:

Cash
☐ In the Amount of __________________________ Dollars
Cashier’s Check
☐ __________________________ (Payable to the State Treasurer)
Certified Check
☐ __________________________ Proposal Bond
☐ In the Amount of 5% of the Bid

Receipt is hereby acknowledged of addendum(s) No.(s) 1, 2, 3, 4, 5, 6 & 7

Signature of Authorized Official(s)

Lane N. Shinnick, Regional Manger

Firm Name Goodfellow Bros., Inc.
Address P.O. Box 1419
Maple Valley, WA 98038

State of Washington Contractor’s License No. GOODFB*370N0
Federal ID No. 91-0236810

Note:
(1) This proposal form is not transferable and any alteration of the firm’s name entered hereon without prior permission from the ______ will be cause for considering the proposal irregular and subsequent rejection of the bid.
(2) Please refer to section 1-02.6 of the standard specifications, re: “Preparation of Proposal,” or “Article 4” of the Instruction to Bidders for building construction jobs.
PROPOSAL
To City of Fife

1 Pursuant to and in compliance with your Advertisement for Bids and the other documents relating thereto, the undersigned Bidder, having familiarized himself with the terms of the project related to those items herein bid, being aware of the local conditions affecting the performance of a Contract covering the items bid, having knowledge of the cost of the work at the place where the work is to be done and having familiarized himself with the Contract Documents, hereby proposes and agrees to perform the work and/or to furnish the equipment, any or all of the labor, materials, tools, expendable equipment and all utility and transportation services necessary to perform a Contract covering any or all of those items herein bid and to complete in a workmanlike manner all work covered by said Contract in connection with the Owner's Interstate 5 Port of Tacoma Road Interchange - Phase 1, for the amounts stated below.

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item Description</th>
<th>Unit</th>
<th>Quantity</th>
<th>Unit Cost</th>
<th>Total Amount</th>
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City of Fife
Interstate 5 Port of Tacoma Road Interchange Phase 1 - Addendum No. 7

Fed Aid No. STPUL 9927(056)
28 March 2016
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<th>Item No</th>
<th>Item Description</th>
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City of Fife
Interstate 5 Port of Tacoma Road Interchange Phase 1 - Addendum No. 7

Fed Aid No. STPUL 9927(056) 28 March 2016

Page 5
Provided to Builders Exchange of WA, Inc. For usage Conditions Agreement see www.bxwa.com - Always Verify Scale
<table>
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City of Fife
Interstate 5 Port of Tacoma Road Interchange Phase 1 - Addendum No. 7
Fed Aid No. STPUL 9927(056)
28 March 2018

Page 8
Provided to Builders Exchange of WA, Inc. For usage Conditions Agreement see www.bxwa.com - Always Verify Scale
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TOTAL BID SCHEDULE A: $1,573,123.00
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<td>84,000</td>
<td>1,183,896</td>
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<td>B 63</td>
<td>JOB MIX COMPLIANCE PRICE ADJUSTMENT</td>
<td>CALC</td>
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<td>B 64</td>
<td>COMPACTION PRICE ADJUSTMENT</td>
<td>CALC</td>
<td>1</td>
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<td>B 65</td>
<td>ASPHALT COST PRICE ADJUSTMENT</td>
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<td>B 66</td>
<td>SAWCUTTING</td>
<td>L.F.</td>
<td>2,480</td>
<td>3,000</td>
<td>7,440.5</td>
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<td>B 67</td>
<td>TEMPORARY IRRIGATION SYSTEM</td>
<td>L.S.</td>
<td>1</td>
<td>28,000</td>
<td>28,000</td>
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<tr>
<td>B 68</td>
<td>SILT FENCE</td>
<td>L.F.</td>
<td>6,300</td>
<td>5,000</td>
<td>31,500</td>
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<tr>
<td>B 69</td>
<td>SEEDING, FERTILIZING, AND MULCHING</td>
<td>ACRE</td>
<td>8</td>
<td>3,760</td>
<td>29,680</td>
</tr>
<tr>
<td>B 70</td>
<td>COMPOST BLANKET</td>
<td>S.Y.</td>
<td>26</td>
<td>15,000</td>
<td>390</td>
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<td>B 71</td>
<td>CHECK DAM</td>
<td>L.F.</td>
<td>5</td>
<td>65,000</td>
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<td>B 72</td>
<td>PLASTIC COVERING</td>
<td>S.Y.</td>
<td>6,650</td>
<td>2,000</td>
<td>13,300</td>
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<td>B 73</td>
<td>STABILIZED CONSTRUCTION ENTRANCE</td>
<td>S.Y.</td>
<td>2,250</td>
<td>15,000</td>
<td>33,750</td>
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<td>B 74</td>
<td>INLET PROTECTION</td>
<td>EACH</td>
<td>10</td>
<td>65,000</td>
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</tr>
<tr>
<td>B 75</td>
<td>STREET CLEANING</td>
<td>HR</td>
<td>300</td>
<td>150,000</td>
<td>45,000</td>
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<td>B 76</td>
<td>TEMPORARY CURB</td>
<td>L.F.</td>
<td>65</td>
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<td>B 77</td>
<td>OUTLET PROTECTION</td>
<td>EACH</td>
<td>3</td>
<td>65,000</td>
<td>1,950</td>
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<td>B 78</td>
<td>WATTLE</td>
<td>L.F.</td>
<td>660</td>
<td>2,000</td>
<td>1,680</td>
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<td>B 79</td>
<td>MEDIUM COMPOST</td>
<td>ACRE</td>
<td>1.4</td>
<td>18,000</td>
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<td>B 80</td>
<td>EROSIONWATER POLLUTION CONTROL</td>
<td>EST.</td>
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<td>237,500</td>
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<td>B 81</td>
<td>TEMPORARY SEEDING</td>
<td>ACRE</td>
<td>9.4</td>
<td>340,000</td>
<td>3,196</td>
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<td>B 82</td>
<td>COMPOST SOCK</td>
<td>L.F.</td>
<td>4,887</td>
<td>5,000</td>
<td>24,435</td>
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<td>B 83</td>
<td>PSipe ACER CIRCINATUM, VINE MAPLE, 5 GAL.</td>
<td>EACH</td>
<td>54</td>
<td>41,000</td>
<td>2,242</td>
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<td>B 84</td>
<td>PSEPE ACER RUBRUM 'KARPICK', KARPICK RED MAPLE, 15 GAL</td>
<td>EACH</td>
<td>11</td>
<td>$2,650.00</td>
<td>$28,150.00</td>
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<td>B 85</td>
<td>PSEPE FRAXINUS LATIFOLIA, OREGON ASH, 15 GAL</td>
<td>EACH</td>
<td>21</td>
<td>$2,650.00</td>
<td>$55,500.00</td>
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<td>B 86</td>
<td>PSEPE MALUS FUSCA, OREGON CRABAPPLE, 5 GAL</td>
<td>EACH</td>
<td>7</td>
<td>$2,920.00</td>
<td>$20,440.00</td>
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<td>B 87</td>
<td>PSEPE PICEA SITCHENSIS, SITKA SPRUCE, 15 GAL</td>
<td>EACH</td>
<td>22</td>
<td>$2,800.00</td>
<td>$60,400.00</td>
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<td>B 88</td>
<td>PSEPE PINUS CONTORTA, SHORE PINE, 15 GAL</td>
<td>EACH</td>
<td>22</td>
<td>$2,800.00</td>
<td>$60,400.00</td>
</tr>
<tr>
<td>B 89</td>
<td>PSEPE PSEUDOTSUGA MENZIESII, DOUGLAS FIR, 15 GAL</td>
<td>EACH</td>
<td>22</td>
<td>$2,800.00</td>
<td>$60,400.00</td>
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<td>B 90</td>
<td>PSEPE RHAMNUS PURSHIANA, CASCARA, 5 GAL</td>
<td>EACH</td>
<td>22</td>
<td>$2,800.00</td>
<td>$61,600.00</td>
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<tr>
<td>B 91</td>
<td>PSEPE THUJA PLICATA, WESTER RED CEDAR, 5 GAL</td>
<td>EACH</td>
<td>22</td>
<td>$2,800.00</td>
<td>$61,600.00</td>
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<td>B 92</td>
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<td>L.F.</td>
<td>500</td>
<td>$2,000.00</td>
<td>$1,000,000.00</td>
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<td>B 93</td>
<td>HIGH VISIBILITY SILT FENCE</td>
<td>L.F.</td>
<td>13,000</td>
<td>$5,600.00</td>
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<td>B 94</td>
<td>TEMPORARY PIPE SLOPE DRAIN</td>
<td>L.F.</td>
<td>220</td>
<td>$6,600.00</td>
<td>$1,452,000.00</td>
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<td>B 95</td>
<td>TOPSOIL TYPE A</td>
<td>C.Y.</td>
<td>7,750</td>
<td>$29,600.00</td>
<td>$218,750.00</td>
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<td>B 96</td>
<td>TOPSOIL TYPE B</td>
<td>C.Y.</td>
<td>170</td>
<td>$5,250.00</td>
<td>$892,500.00</td>
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<td>B 97</td>
<td>CEMENT CONC. TRAFFIC CURB AND GUTTER</td>
<td>L.F.</td>
<td>500</td>
<td>$28,000.00</td>
<td>$14,000.00</td>
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<td>B 98</td>
<td>CEMENT CONC. PEDESTRIAN CURB</td>
<td>L.F.</td>
<td>32</td>
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<td>$288,000.00</td>
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<td>B 99</td>
<td>BEAM GUARDRAIL TYPE 31 NON-FLARED TERMINAL</td>
<td>EACH</td>
<td>2</td>
<td>$6,400.00</td>
<td>$12,800.00</td>
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<td>B 100</td>
<td>EXTRUDED CURB TYPE 3</td>
<td>L.F.</td>
<td>430</td>
<td>$4,730.00</td>
<td>$2,031,900.00</td>
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<td>B 101</td>
<td>EXTRUDED CURB TYPE 6</td>
<td>L.F.</td>
<td>770</td>
<td>$8,478.00</td>
<td>$6,539,000.00</td>
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<td>B 102</td>
<td>BEAM GUARDRAIL TYPE 31</td>
<td>L.F.</td>
<td>700</td>
<td>$23,400.00</td>
<td>$16,380,000.00</td>
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<td>B 103</td>
<td>SINGLE SLOPE CONCRETE BARRIER</td>
<td>L.F.</td>
<td>5,520</td>
<td>$384,400.00</td>
<td>$1,162,000.00</td>
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<td>B 104</td>
<td>SINGLE SLOPE CONC. BARRIER LIGHT STANDARD FOUNDATION</td>
<td>EACH</td>
<td>6</td>
<td>$89,100.00</td>
<td>$529,500.00</td>
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<td>B 105</td>
<td>PRECAST CONC. BARRIER TYPE 2</td>
<td>L.F.</td>
<td>1,620</td>
<td>$59,000.00</td>
<td>$95,400.00</td>
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<td>B 106</td>
<td>PAINT LINE</td>
<td>L.F.</td>
<td>33,000</td>
<td>$7,200.00</td>
<td>$237,600.00</td>
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<td>B 107</td>
<td>PROFILED PLASTIC LINE</td>
<td>L.F.</td>
<td>14,800</td>
<td>$39,900.00</td>
<td>$575,200.00</td>
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<td>B 108</td>
<td>PLASTIC CROSSHATCH MARKING</td>
<td>L.F.</td>
<td>100</td>
<td>$1,000.00</td>
<td>$100,000.00</td>
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<td>B 109</td>
<td>BARRIER DELINEATOR</td>
<td>EACH</td>
<td>143</td>
<td>$2,002.00</td>
<td>$288,266.00</td>
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<td>B 110</td>
<td>FLEXIBLE GUIDE POST</td>
<td>EACH</td>
<td>11</td>
<td>$880.00</td>
<td>$9,680.00</td>
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<td>B 111</td>
<td>PLASTIC TRAFFIC ARROW</td>
<td>EACH</td>
<td>29</td>
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<td>$126,150.00</td>
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<td>B 112</td>
<td>PROFILED PLASTIC WIDE LANE LINE</td>
<td>L.F.</td>
<td>1,577</td>
<td>$6.00</td>
<td>$9,462.00</td>
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<tr>
<td>B 113</td>
<td>PLASTIC STOP LINE</td>
<td>L.F.</td>
<td>146</td>
<td>$10.00</td>
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<td>B 114</td>
<td>RAISED PAVEMENT MARKER TYPE 2</td>
<td>HUND</td>
<td>2.26</td>
<td>$600.00</td>
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<td>B 115</td>
<td>PERMANENT SIGNING</td>
<td>L.S.</td>
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<td>$130,000</td>
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<td>B 116</td>
<td>TEMPORARY PAVEMENT MARKING-LONG DURATION</td>
<td>L.F.</td>
<td>26,088</td>
<td>$70.00</td>
<td>$1,820.00</td>
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<td>B 117</td>
<td>SIGN BRIDGE NO. 1</td>
<td>L.S.</td>
<td>1</td>
<td>$240,000</td>
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<td>B 118</td>
<td>CANTILEVER SIGN STRUCTURE NO. 1</td>
<td>L.S.</td>
<td>1</td>
<td>$98,000</td>
<td>$98,000.00</td>
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<td>B 119</td>
<td>ILLUMINATION SYSTEM</td>
<td>L.S.</td>
<td>1</td>
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<td>B 120</td>
<td>FLAGGERS</td>
<td>HR</td>
<td>10,500</td>
<td>$1,82,500</td>
<td>$1,82,500.00</td>
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<td>B 121</td>
<td>TRAFFIC SIGNAL SYSTEM COMPLETE, I-5 SOUTHBOUND ON-RAMP METER</td>
<td>L.S.</td>
<td>1</td>
<td>$72,000</td>
<td>$72,000.00</td>
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<td>B 122</td>
<td>TRAFFIC SIGNAL SYSTEM COMPLETE, I-5 SOUTHBOUND ON-RAMP / PORT OF TACOMA RD</td>
<td>L.S.</td>
<td>1</td>
<td>$260,000</td>
<td>$260,000.00</td>
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<tr>
<td>B 123</td>
<td>TRAFFIC SIGNAL SYSTEM COMPLETE, I-5 SOUTHBOUND OFF-RAMP / 34TH AVE E</td>
<td>L.S.</td>
<td>1</td>
<td>$100,000</td>
<td>$100,000.00</td>
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<td>B 124</td>
<td>SEQUENTIAL ARROW SIGN</td>
<td>HR</td>
<td>600</td>
<td>$660.00</td>
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<td>B 125</td>
<td>OTHER TEMPORARY TRAFFIC CONTROL</td>
<td>L.S.</td>
<td>1</td>
<td>$60,000</td>
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<td>B 126</td>
<td>TRAFFIC CONTROL SUPERVISOR</td>
<td>L.S.</td>
<td>1</td>
<td>$40,000</td>
<td>$40,000.00</td>
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<tr>
<td>B 127</td>
<td>CONSTRUCTION SIGNS CLASS A</td>
<td>S.F.</td>
<td>424</td>
<td>$58.00</td>
<td>$24,600.00</td>
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<td>B 128</td>
<td>OTHER TRAFFIC CONTROL LABOR</td>
<td>HR</td>
<td>225</td>
<td>$15,300</td>
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<td>B 129</td>
<td>PORTABLE CHANGEABLE MESSAGE SIGN</td>
<td>HR</td>
<td>17,500</td>
<td>$35,000</td>
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<tr>
<td>B 130</td>
<td>TEMPORARY IMPACT ATTENUATOR</td>
<td>EACH</td>
<td>6</td>
<td>$1,000</td>
<td>$6,000.00</td>
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<td>B 131</td>
<td>PERMANENT IMPACT ATTENUATOR</td>
<td>EACH</td>
<td>2</td>
<td>$3,000</td>
<td>$6,000.00</td>
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<td>B 132</td>
<td>RESETTING IMPACT ATTENUATOR</td>
<td>EACH</td>
<td>3</td>
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<td>TRAFFIC SIGNAL INTERCONNECT SYSTEM COMPLETE</td>
<td>L.S.</td>
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<td>TEMPORARY CONCRETE BARRIER</td>
<td>L.F.</td>
<td>1,649</td>
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<td>$24,735.00</td>
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<td>TEMPORARY CONC. BARRIER TYPE 2 WITH SCUPPER</td>
<td>L.F.</td>
<td>5,761</td>
<td>$15.00</td>
<td>$86,415.00</td>
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<td>B 136</td>
<td>RECESSED GROOVED PLASTIC LINE</td>
<td>L.F.</td>
<td>10,424</td>
<td>$2.50</td>
<td>$26,060.00</td>
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<td>B 137</td>
<td>OFF-DUTY UNIFORMED POLICE OFFICER</td>
<td>EST.</td>
<td>1</td>
<td>$5,000</td>
<td>$5,000</td>
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<td>B 138</td>
<td>LOCKING SOLID METAL COVER AND FRAME FOR CATCH BASIN</td>
<td>EACH</td>
<td>24</td>
<td>$750.00</td>
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<td>B 139</td>
<td>TYPE B PROGRESS SCHEDULE</td>
<td>L.S.</td>
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<td>B 140</td>
<td>STRUCTURE EXCAVATION CLASS B INCL. HAUL</td>
<td>C.Y.</td>
<td>8,150</td>
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<td>B 141</td>
<td>SHORING OR EXTRA EXCAVATION CLASS B</td>
<td>S.F.</td>
<td>23,884</td>
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<td>B 142</td>
<td>GRAVEL BACKFILL FOR DRAIN</td>
<td>C.Y.</td>
<td>123</td>
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<td>B 143</td>
<td>GRAVEL BACKFILL FOR PIPE ZONE BEDDING</td>
<td>C.Y.</td>
<td>470</td>
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<td>B 144</td>
<td>CEMENT CONC. CURB RAMP TYPE SINGLE DIRECTION A</td>
<td>EACH</td>
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<td>B 145</td>
<td>CABLE FENCE</td>
<td>L.F.</td>
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<td>B 146</td>
<td>CHAIN LINK FENCE TYPE 4</td>
<td>L.F.</td>
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<td>B 147</td>
<td>CLEANING EXISTING DRAINAGE STRUCTURE</td>
<td>L.S.</td>
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<td>B 148</td>
<td>TRAINING</td>
<td>HR</td>
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<td>B 149</td>
<td>CONSTRUCTION GEOTEXTILE FOR DITCH LINING</td>
<td>S.Y.</td>
<td>6,650</td>
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<td>GEOSYNTHETIC RETAINING WALL</td>
<td>S.F.</td>
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<td>B 151</td>
<td>GRAVEL BORROW FOR STRUCTURAL EARTH WALL INCL. HAUL</td>
<td>C.Y.</td>
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<td>MINOR CHANGE</td>
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<td>B 153</td>
<td>AGGREGATE COMPLIANCE PRICE ADJUSTMENT</td>
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<td>SPCC PLAN</td>
<td>L.S.</td>
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<td>B 155</td>
<td>FLOW SPLITTER</td>
<td>EACH</td>
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<td>B 156</td>
<td>MEDIA FILTER DRAIN</td>
<td>L.F.</td>
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<td>B 157</td>
<td>TEMPORARY GRAVITY BLOCK WALL</td>
<td>S.F.</td>
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<td>B 158</td>
<td>WELL INSTALLATION AND GROUNDWATER MONITORING</td>
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**TOTAL BID SCHEDULE E:**

$100,397.00
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<td>2,156</td>
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<td>LATERAL TRENCH</td>
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<td>SERVICE TRENCH</td>
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<td>F 6</td>
<td>INSTALL UTILITY VAULT 3648 - COMCAST PROVIDED</td>
<td>EACH</td>
<td>2</td>
<td>1,400.00</td>
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<tr>
<td>F 7</td>
<td>INSTALL UTILITY PEDESTAL 2436 - COMCAST PROVIDED</td>
<td>EACH</td>
<td>14</td>
<td>1,800.00</td>
<td>18,000.00</td>
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<td>F 8</td>
<td>INSTALL UTILITY PEDESTAL 12 IN. - COMCAST PROVIDED</td>
<td>EACH</td>
<td>1</td>
<td>320.00</td>
<td>320.00</td>
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<td>F 9</td>
<td>INSTALL UTILITY PEDESTAL - CENTURYLINK PROVIDED</td>
<td>EACH</td>
<td>2</td>
<td>320.00</td>
<td>640.00</td>
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<td>F 10</td>
<td>INSTALL UTILITY VAULT/HANDHOLE 264-TA - CENTURYLINK PROVIDED</td>
<td>EACH</td>
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<td>1,400.00</td>
<td>2,800.00</td>
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<td>F 11</td>
<td>FURNISH AND INSTALL UTILITY PEDESTAL - CENTURYLINK</td>
<td>EACH</td>
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<td>4,500.00</td>
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<td>F 12</td>
<td>FURNISH AND INSTALL UTILITY VAULT/HANDHOLE 467-TA - CENTURYLINK</td>
<td>EACH</td>
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<td>F 13</td>
<td>FURNISH AND INSTALL UTILITY VAULT/HANDHOLE 264-TA - CENTURYLINK</td>
<td>EACH</td>
<td>1</td>
<td>4,100.00</td>
<td>4,100.00</td>
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<td>F 14</td>
<td>FURNISH AND INSTALL UTILITY VAULT/HANDHOLE 264-TA - CLICK</td>
<td>EACH</td>
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<td>4,100.00</td>
<td>8,200.00</td>
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<td>F 15</td>
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<td>EACH</td>
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<td>3,200.00</td>
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<td>F 16</td>
<td>FURNISH AND INSTALL UTILITY VAULT/HANDHOLE 1730 - CLICK</td>
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<td>F 17</td>
<td>FURNISH AND INSTALL UTILITY VAULT/HANDHOLE 2436 - CLICK</td>
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<td>F 18</td>
<td>FURNISH AND INSTALL UTILITY VAULT/HANDHOLE SSB-SM__ - TPU</td>
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<td>1,000.00</td>
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<td>F 19</td>
<td>FURNISH AND INSTALL UTILITY VAULT/HANDHOLE SSB-LG__ - TPU</td>
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<td>6,000.00</td>
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<td>F 20</td>
<td>FURNISH AND INSTALL UTILITY VAULT/HANDHOLE 444T - TPU</td>
<td>EACH</td>
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<td>1,500.00</td>
<td>6,000.00</td>
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<td>F 21</td>
<td>FURNISH AND INSTALL UTILITY VAULT/HANDHOLE 544J - TPU</td>
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<tr>
<td>F 22</td>
<td>FURNISH AND INSTALL UTILITY VAULT/HANDHOLE 544T - TPU</td>
<td>EACH</td>
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<td>F 23</td>
<td>FURNISH AND INSTALL UTILITY VAULT/HANDHOLE 684 - TPU</td>
<td>EACH</td>
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<td>7,300.00</td>
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<td>F 24</td>
<td>FURNISH AND INSTALL UTILITY VAULT/HANDHOLE 810SWGR - TPU</td>
<td>EACH</td>
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<td>9,800.00</td>
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<td>F 25</td>
<td>FURNISH AND INSTALL UTILITY VAULT/HANDHOLE TYPE 1 J BOX- CITY</td>
<td>EACH</td>
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<td>1,500.00</td>
<td>15,000.00</td>
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<td>F 26</td>
<td>INSTALL CONDUIT PIPE 2 IN. DIAM. - CENTURYLINK</td>
<td>L.F.</td>
<td>84</td>
<td>8.00</td>
<td>672.00</td>
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<td>F 27</td>
<td>INSTALL CONDUIT PIPE 4 IN. DIAM. - CENTURYLINK</td>
<td>L.F.</td>
<td>1,960</td>
<td>17.00</td>
<td>33,220.00</td>
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<td>F 28</td>
<td>INSTALL CONDUIT PIPE 3 IN. DIAM. - COMCAST</td>
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<td>Unit Cost</td>
<td>Total Amount</td>
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<td>F 29</td>
<td>INSTALL CONDUIT PIPE 4 IN. DIAM. - COMCAST</td>
<td>L.F.</td>
<td>122</td>
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<td>F 30</td>
<td>FURNISH AND INSTALL CONDUIT PIPE 4 IN. DIAM. - CENTURYLINK</td>
<td>L.F.</td>
<td>2,625</td>
<td>18.00</td>
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<td>FURNISH AND INSTALL CONDUIT PIPE 4 IN. DIAM. - CITY</td>
<td>L.F.</td>
<td>3,048</td>
<td>19.00</td>
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<td>F 32</td>
<td>FURNISH AND INSTALL CONDUIT PIPE 2 IN. DIAM. - CLICK</td>
<td>L.F.</td>
<td>4,559</td>
<td>10.00</td>
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<td>F 33</td>
<td>FURNISH AND INSTALL CONDUIT PIPE 4 IN. DIAM. - CLICK</td>
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<td>F 34</td>
<td>FURNISH AND INSTALL CONDUIT PIPE 2.5 IN. DIAM. - TPU</td>
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<td>842</td>
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<td>L.F.</td>
<td>3,228</td>
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<td>F 36</td>
<td>FURNISH AND INSTALL CONDUIT PIPE 5 IN. DIAM. - TPU</td>
<td>L.F.</td>
<td>2,452</td>
<td>20.00</td>
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<td>F 37</td>
<td>INSTALL RISER PIPE 4 IN. DIAM. - COMCAST</td>
<td>L.F.</td>
<td>80</td>
<td>24.00</td>
<td>1,920.00</td>
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<td>28.00</td>
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<td>F 39</td>
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<td>L.F.</td>
<td>50</td>
<td>28.00</td>
<td>1,400.00</td>
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<td>FURNISH AND INSTALL RISER PIPE 4 IN. DIAM. - CLICK</td>
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<td>FURNISH AND INSTALL RISER PIPE 4 IN. DIAM. - TPU</td>
<td>L.F.</td>
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<td>50.00</td>
<td>2,500.00</td>
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<td>F 42</td>
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<td>L.F.</td>
<td>20</td>
<td>60.00</td>
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<td>F 43</td>
<td>RESOLUTION OF UTILITY CONFLICTS</td>
<td>EST.</td>
<td>1</td>
<td>23,800</td>
<td>$ 23,800</td>
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<td>F 44</td>
<td>BOLLARD TYPE 1</td>
<td>EACH</td>
<td>4</td>
<td>900.00</td>
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<td>F 45</td>
<td>GUARD POST</td>
<td>EACH</td>
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<td>F 46</td>
<td>ROADWAY SURVEYING</td>
<td>L.S.</td>
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<td>5,000.00</td>
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TOTAL BID SCHEDULE E: $1,053,363.50
# BID SUMMARY

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>TOTAL BID SCHEDULE A - CITY OF FIFE</td>
<td>$6,073,123.00</td>
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<tr>
<td>SUBTOTAL BID SCHEDULE B:</td>
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<tr>
<td>WSST - 9.9%</td>
<td>$15,403,984.10</td>
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<td>$1,524,994.43</td>
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<td>TOTAL BID SCHEDULE B - WSDOT:</td>
<td>$16,928,978.53</td>
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<td>TOTAL BID SCHEDULE C - CITY OF TACOMA:</td>
<td>$617,000.70</td>
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<td>SUBTOTAL BID SCHEDULE D - WATER MAIN - CITY OF FIFE:</td>
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<tr>
<td>WSST 9.9%</td>
<td>$452,197.90</td>
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<td>$44,767.50</td>
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<td>TOTAL BID SCHEDULE D:</td>
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<tr>
<td>SUBTOTAL BID SCHEDULE E - WATER MAIN - WSDOT:</td>
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<td>WSST 9.9%</td>
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<td>TOTAL BID SCHEDULE D:</td>
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<td>TOTAL BID SCHEDULE F - 3RD PARTY UTILITIES:</td>
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<tr>
<td>WSST 9.9%</td>
<td>$1,053,363.50</td>
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<td>$104,282.99</td>
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<td>TOTAL BID SCHEDULE E:</td>
<td>$1,157,646.49</td>
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<tr>
<td>BID TOTAL (TOTAL BID FOR ALL SCHEDULES):</td>
<td>$25,384,049.52</td>
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Bid Total *Total Bid for All Schedules) (In Words): Twenty-five million, three hundred eighty-four thousand, forty-nine dollars and fifty-two cents.

Bidder: Goodfellow Bros., Inc.
Local Agency Subcontractor List
Prepared in compliance with RCW 39.30.060 as amended

To Be Submitted with the Bid Proposal

Project Name: Interstate 5 Port of Tacoma Road Interchange - Phase 1

Failure to list subcontractors with whom the bidder, if awarded the contract, will directly subcontract for performance of the work of heating, ventilation and air conditioning, plumbing, as described in Chapter 18.106 RCW, and electrical, as described in Chapter 19.28 RCW or naming more than one subcontractor to perform the same work will result in your bid being non-responsive and therefore void.

Subcontractor(s) with whom the bidder will directly subcontract that are proposed to perform the work of heating, ventilation and air conditioning, plumbing, as described in Chapter 18.106 RCW, and electrical as described in Chapter 19.28 RCW must be listed below. The work to be performed is to be listed below the subcontractor(s) name.

To the extent the Project includes one or more categories of work referenced in RCW 39.30.060, and no subcontractor is listed below to perform such work, the bidder certifies that the work will either (i) be performed by the bidder itself, or (ii) be performed by a lower tier subcontractor who will not contract directly with the bidder.

<table>
<thead>
<tr>
<th>Subcontractor Name</th>
<th>Work to be Performed</th>
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</thead>
<tbody>
<tr>
<td>Totem Electric of Tacoma</td>
<td>ELECTRICAL</td>
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<table>
<thead>
<tr>
<th>Subcontractor Name</th>
<th>Work to be Performed</th>
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<tbody>
<tr>
<td>JLF</td>
<td>PLUMBING</td>
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</table>

<table>
<thead>
<tr>
<th>Subcontractor Name</th>
<th>Work to be Performed</th>
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</thead>
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<tr>
<td>N/A</td>
<td>HVAC</td>
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</table>

<table>
<thead>
<tr>
<th>Subcontractor Name</th>
<th>Work to be Performed</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>Subcontractor Name</th>
<th>Work to be Performed</th>
</tr>
</thead>
</table>

* Bidder’s are notified that is the opinion of the enforcement agency that PVC or metal conduit, junction boxes, etc, are considered electrical equipment and therefore considered part of electrical work, even if the installation is for future use and no wiring or electrical current is connected during the project.
Local Agency Proposal Bond

KNOW ALL MEN BY THESE PRESENTS, That we, Goodfellow Bros., Inc.
of Wenatchee, Washington as principal, and the Travelers Casualty and Surety Company of America a corporation duly organized under the laws of the state of Connecticut, and authorized to do business in the State of Washington, as surety, are held and firmly bound unto the State of Washington in the full and penal sum of five (5) percent of the total amount of the bid proposal of said principal for the work hereinafter described, for the payment of which, well and truly to be made, we bind our heirs, executors, administrators and assigns, and successors and assigns, firmly by these presents.

The condition of this bond is such, that whereas the principal herein is herewith submitting his or its sealed proposal for the following highway construction, to wit:

CITY OF FIFE PORT OF TACOMA ROAD 1-5 INTERCHANGE PHASE 1 PROJECT

said bid and proposal, by reference thereto, being made a part hereof.

NOW, THEREFORE, If the said proposal bid by said principal be accepted, and the contract be awarded to said principal, and if said principal shall duly make and enter into and execute said contract and shall furnish bond as required by the within a period of twenty (20) days from and after said award, exclusive of the day of such award, then this obligation shall be null and void, otherwise it shall remain and be in full force and effect.

IN TESTIMONY WHEREOF, The principal and surety have caused these presents to be signed and sealed this 28th day of February, 2018.

Goodfellow Bros., Inc.

(Principal)

Travelers Casualty and Surety Company of America

(Surety)

Brad Wagenaar (Attorney-in-Fact)
POWER OF ATTORNEY

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

Attorney-In Fact No. 231610
Certificate No. 007200050

KNOW ALL MEN BY THESE PRESENTS: That Farmington Casualty Company, St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company are corporations duly organized under the laws of the State of Connecticut, that Fidelity and Guaranty Insurance Company is a corporation duly organized under the laws of the State of Iowa, and that Fidelity and Guaranty Insurance Underwriters, Inc., is a corporation duly organized under the laws of the State of Wisconsin (herein collectively called the “Companies”), and that the Companies do hereby make, constitute and appoint

Paul R. Botts, Brad Wagenaar, Erica Li, and Paul C. Kennedy

of the City of Honolulu, State of Hawaii, their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 24th day of April, 2017.

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

State of Connecticut
City of Hartford ss.

By: ____________________________
Robert L. Raney, Senior Vice President

On this the 24th day of April, 2017, before me personally appeared Robert L. Raney, who acknowledged himself to be the Senior Vice President of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

In Witness Whereof, I hereunto set my hand and official seal. My Commission expires the 30th day of June, 2021.

Marie C. Tetreault, Notary Public

58440-5-16 Printed in U.S.A.
This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company’s name and seal with the Company’s seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognition, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognition, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company’s seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or undertaking to which it is attached.

I, Kevin E. Hughes, the undersigned, Assistant Secretary, of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 28th day of February, 2018.

[Signature]
Kevin E. Hughes, Assistant Secretary

To verify the authenticity of this Power of Attorney, call 1-800-421-3880 or contact us at www.travelersbond.com. Please refer to the Attorney-In-Fact number, the above-named individuals and the details of the bond to which the power is attached.
NON-COLLUSION DECLARATION

I, by signing the proposal, hereby declare, under penalty of perjury under the laws of the United States that the following statements are true and correct:

1. That the undersigned person(s), firm, association or corporation has (have) not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with the project for which this proposal is submitted.

2. That by signing the signature page of this proposal, I am deemed to have signed and to have agreed to the provisions of this declaration.

NOTICE TO ALL BIDDERS

To report rigging activities call:

1-800-424-9071

The U.S. Department of Transportation (USDOT) operates the above toll-free “hotline” Monday through Friday, 8:00 a.m. to 5:00 p.m., eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the “hotline” to report such activities.

The “hotline” is part of USDOT’s continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the USDOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.
Local Agency Certification for Federal-Aid Contracts

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

(1) 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.

(2) 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.

This certification is material representation of the 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 Section 1352, Title 31, U.S. Code. 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 failure.

The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such subrecipients shall certify and disclose accordingly.
To be eligible for Award of this Contract the Bidder shall fill out and submit, as a supplement to its sealed Bid Proposal, an Underutilized Disadvantaged Business Enterprise (UDBE) Utilization Certification. The Contracting Agency shall consider as non-responsive and shall reject any Bid Proposal that does not contain a UDBe Utilization Certification which properly demonstrates that the Bidder will meet the UDBe participation requirements in one of the manners provided for in the proposed Contract. Refer to the instructions on Page 2 when filling out this form or the Bid may be rejected. An example form has been provided on Page 3. The successful Bidder’s UDBe Utilization Certification shall be deemed a part of the resulting Contract.

Box 1: **Goodfellow Bros., Inc.** certifies that the UDBe firms listed below have been contacted regarding participation on this project. If this Bidder is successful on this project and is awarded the Contract, it shall assure that subcontracts or supply agreements are executed with named UDBeEs. (If necessary, use additional sheets.)

Box 2: **Interstate 5 Port of Tacoma Road Interchange - Phase 1**

<table>
<thead>
<tr>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 3</th>
<th>Column 4</th>
<th>Column 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of UDBe (See instructions)</td>
<td>Project Role (See instructions)</td>
<td>Description of Work (See instructions)</td>
<td>Amount Subcontracted to UDBe (See instructions)</td>
<td>Amount to be Applied Towards Goal (See instructions)</td>
</tr>
<tr>
<td>AAA Contractors - Sub Contractor</td>
<td>Earth retention systems</td>
<td>473,287.00</td>
<td>473,287.00</td>
<td></td>
</tr>
<tr>
<td>Subsurface Construction - Sub Contractor</td>
<td>Piling</td>
<td>1,739,178.00</td>
<td>1,739,178.00</td>
<td></td>
</tr>
</tbody>
</table>

5 □ By checking Box 5 the Bidder is stating that their attempts to solicit sufficient UDBe participation to meet the COA Contract goal has been unsuccessful and good faith effort will be submitted in accordance with Section 1-02.9 of the Contract.

Underutilized Disadvantaged Business Enterprise Condition of Award Contract Goal 2,039,724.00

Total UDBe Commitment 2,212,465.00

City of Fife
Interstate 5 Port of Tacoma Road Interchange Phase 1
Bid Documents

Provided to Builders Exchange of WA, Inc. For usage Conditions Agreement see www.bxwa.com - Always Verify Scale
Instructions for Underutilized Disadvantaged Business Enterprise Utilization Certification Form

Box 1: Name of Bidder (Proposal holder) submitting Bid.

Box 2: Name of the Project.

Column 1: Name of the Underutilized Disadvantaged Business Enterprise (UDBE). UDBE Firms can be found using the search tools under the Firm Certification section of the Diversity Management and Compliance System web page https://wsdot.diversitycompliance.com Repeat the name of the UDBE for each Project Role that will be performed.

Column 2: The Project Role that the UDBE will be performing as follows;
- Prime Contractor
- Subcontractor
- Subcontractor (Force Account)
  - Work sublet as Force Account must be listed separately.
- Manufacturer
- Regular Dealer
  - Work sublet to a Regular Dealer must be listed separately.
  - Regular Dealer status must be approved prior to Bid submittal by the Office of Equal Opportunity, Washington State Department of Transportation, on each Contract.
- Broker
  - Work sublet to a Broker must be listed separately.

List each project role to be performed by a single UDBE individually on a separate row(s). The role is used to determine what portion of the amount to be subcontracted (Column 4) may be applied toward meeting the goal (Column 5).

Column 3: Provide a description of the work to be performed by the UDBE. The work to be performed must be consistent with the Certified Business Description of the UDBE provided at the Diversity Management and Compliance System web page https://wsdot.diversitycompliance.com
- A Bidder subletting a portion of a bid item shall state “Partial” and describe the Work that is included.
  - For example, “Electrical (Partial) – Trenching”.
  - “Mobilization” will not be accepted as a description of Work.

Column 4: List the total amount to be subcontracted to each UDBE for each Project Role they are performing.

Column 5: This is the dollar amount for each line listed in the certification that the prime intends to apply towards meeting the COA Contract goal. It may be that only a portion of the amount subcontracted to a UDBE in Column 4 is eligible to be credited towards meeting the goal See Note 1, Note 2, Note 3. The Contracting Agency will utilize the sum of this column (Box 4) to determine whether or not the bidder has met the goal. In the event of an arithmetic error in summing column 5 or an error in making appropriate reductions in the amounts in column four, See Note 1, Note 2, Note 3, then the mathematics will be corrected and the total (Box 4) will be revised accordingly.

**Note 1:** For Work sublet as Force Account the bidder may only claim 50% of the amount subcontracted (Column 4) towards meeting the goal (Column 5). This information will be used to demonstrate that the UDBE contract goal is met at the time that the bidder submits their bid. For example, amount sublet as force account = $100,000 (Column 4) equals to ($100,000 X 50%) = $50,000 (Column 5) to be applied towards the goal.

**Note 2:** For Work sublet to a Regular Dealer the bidder may only claim 60% of the cost of the materials or supplies (Column 4) towards meeting the goal (Column 5). For example; Material cost = $100,000 (Column 4) equals to ($100,000 X 60%) = $60,000 (Column 5) to be applied towards the goal.

**Note 3:** For Work sublet to a Broker the bidder may only claim the fees paid to a Broker towards meeting the goal (Column 4). For example; amount sublet to a broker = $100,000 (Column 4) equals to ($100,000 X reasonable fee %) = $ (Column 5) to be applied towards the goal.

Box 3: Box 3 is the COA Contract goal which is the minimum required UDBE participation. The goal stated in the Contract will be in terms of a dollar amount or a percentage in the Contract. When expressed as a percentage you must multiply the percentage times the sum total of all bid items as submitted in the Bidder’s Proposal to determine the dollar goal and write it in Box 3. In the event of an error in this box, the Contracting Agency will revise the amount accordingly.

Box 4: Box 4 is the sum of the values in column 5. This value must equal or exceed the COA Contract goal amount written in Box 3 or;

Box 5: Check Box 5 if insufficient UDBE Participation has been achieved and a good faith effort is required. Refer to the subsection titled, Selection of Successful Bidder/Good Faith Efforts (GFE) in the Contract.

See the Disadvantaged Business Enterprise Participation specification in the Contract for more information.
Underutilized Disadvantaged Business Enterprise Utilization Certification

To be eligible for Award of this Contract the Bidder shall fill out and submit, as a supplement to its sealed Bid Proposal, an Underutilized Disadvantaged Business Enterprise (UDBE) Utilization Certification. The Contracting Agency shall consider non-responsive and shall reject any Bid Proposal that does not contain a UDBE Utilization Certification which properly demonstrates that the Bidder will meet the UDBE participation requirements in one of the manners provided for in the proposed Contract. Refer to the instructions on Page 2 when filling out this form or the Bid may be rejected. An example form has been provided on Page 3. The successful Bidder’s UDBE Utilization Certification shall be deemed a part of the resulting Contract.

Box 1: A Plus Construction Company certifies that the UDBE firms listed below have been contacted regarding participation on this project. If this Bidder is successful on this project and is awarded the Contract, it shall assure that subcontracts or supply agreements are executed with named UDBEs. (If necessary, use additional sheets.)

Box 2: US 395, Spokane City Limits to Stevens County Line - Paving and Safety

<table>
<thead>
<tr>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 3</th>
<th>Column 4</th>
<th>Column 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of UDBE (See instructions)</td>
<td>Project Role (See instructions)</td>
<td>Description of Work (See instructions)</td>
<td>Amount Subcontracted to UDBE (See instructions)</td>
<td>Amount to be Applied Towards Goal (See instructions)</td>
</tr>
<tr>
<td>A Plus Construction Company</td>
<td>Prime</td>
<td>Asphalt and concrete paving, asphalt milling, preleveling and pavement repair</td>
<td>N/A</td>
<td>900,000</td>
</tr>
<tr>
<td>In the Line Services, Inc.</td>
<td>Subcontractor (Force Account)</td>
<td>Crack sealing</td>
<td>20,000</td>
<td>10,000</td>
</tr>
<tr>
<td>In the Line Services, Inc.</td>
<td>Subcontractor</td>
<td>Guideposts, joint seal, pavement markers, temporary signage, construction sign installation</td>
<td>200,000</td>
<td>200,000</td>
</tr>
<tr>
<td>The Everything Guys, LLC</td>
<td>Regular Dealer</td>
<td>Rental and sales of highway construction and related equipment and materials</td>
<td>100,000</td>
<td>60,000</td>
</tr>
<tr>
<td>Optimus Prime Trucking, Inc.</td>
<td>Subcontractor</td>
<td>Dump Trucking</td>
<td>50,000</td>
<td>50,000</td>
</tr>
<tr>
<td>Metalheads, Inc.</td>
<td>Manufacturer</td>
<td>Dowel Bars</td>
<td>75,000</td>
<td>75,000</td>
</tr>
<tr>
<td>Erosion Under Control Co.</td>
<td>Broker</td>
<td>Erosion control blankets, straw bales and wattles, sand bags</td>
<td>15,000</td>
<td>250</td>
</tr>
</tbody>
</table>

EXAMPLE

Underutilized Disadvantaged Business Enterprise Condition of Award Contract Goal 356,968.16 Box 3 Total UDBE Commitment 1,295,250 Box 4

5 ☐ By checking Box 5 the Bidder is stating that their attempts to solicit sufficient UDBE participation to meet the COA Contract goal has been unsuccessful and good faith effort will be submitted in accordance with Section 1-02.9 of the Contract
Proposal for Incorporating Recycled Materials into the Project

In compliance with a new law that went into effect January 1, 2016 (SHB1695), the Bidder shall propose below, the total percent of construction aggregate and concrete materials to be incorporated into the Project that are recycled materials. Calculated percentages must be within the amounts allowed in Section 9-03.21(1)E, Table on Maximum Allowable Percent (By Weight) of Recycled Material, of the Standard Specifications.

Proposed total percentage: \( \frac{1}{2} \) percent.

Note: Use of recycled materials is highly encouraged within the limits shown above, but does not constitute a Bidder Preference, and will not affect the determination of award, unless two or more lowest responsive Bid totals are exactly equal, in which case proposed recycling percentages will be used as a tie-breaker, per the APWA GSP in Section 1-03.1 of the Special Provisions. Regardless, the Bidder's stated proposed percentages will become a goal the Contractor should do its best to accomplish. Bidders will be required to report on recycled materials actually incorporated into the Project, in accordance with the APWA GSP in Section 1-06.6 of the Special Provisions.

Bidder: Goodfellow Bros., Inc.

Signature of Authorized Official: [Signature]

Date: Lane N. Shinnick, Regional Manager, 03/23/2018
CORPORATE DESIGNATION OF AUTHORITY

OF

GOODFELLOW BROS., INC.

The Undersigned, President and Secretary of Goodfellow Bros., Inc., a Washington Corporation, pursuant to their authority of corporate officers hereby adopt the following designation of corporate authority.

That the following are authorized on behalf of the Company to Execute for and on behalf of the Company any and all construction contracts with Owners of projects, any and all Subcontracts with Subcontractors for the construction projects, Equipment Leases, Bid Documents, Bid Bonds, Payment and Performance Bonds, City and County Licenses & Permits.

This authorization shall be effective through 31st day of January 2019.

Senior Estimator/Business Development  
Vice President Operations-Hawaii  
Director of Contracting  
Corporate Counsel  
Vice President of HR, Safety, Risk  
Equipment Superintendent  
Regional Manager-Maui  
Regional Manager-Oahu  
Regional Manager-Oregon  
Regional Manager-Washington  
Regional Manager-Hawaii  

Gregory A. Peterson  
Edward B. Brown  
Kenneth F. Gift  
Robert T. Takamatsu  
Ben A. Northey  
Shepherd A. Nelson  
B. Bo McQuin  
Matthew L. Heahlke  
Joseph R. Correy  
Lane N. Shinnick  
John W. Makoff

DATED: 03/23/2018

Chad S. Goodfellow  
President

Cynthia K. Beattie  
Secretary
Disadvantaged Business Enterprise Participation

THIS FORM SHALL ONLY BE SUBMITTED TO A UDBE THAT IS LISTED ON THE CONTRACTOR’S UNDERUTILIZED DISADVANTAGED BUSINESS ENTERPRISE UTILIZATION CERTIFICATION.

THE CONTRACTOR SHALL COMPLETE PART A PRIOR TO SENDING TO THE UDBE.

PART A: To be completed by the bidder

The entries below shall be consistent with what is shown on the Bidder’s Underutilized Disadvantaged Business Enterprise Utilization Certification. Failure to do so will result in Bid rejection.

Contract Title: Interstate 5 Port of Tacoma Road Interchange Phase 1; City of Fife, WA

Bidder’s Business Name: Goodfellow Bros., Inc.

UDBE’s Business Name: AAA Contractors Inc.

Description of UDBE’s Work: Earth Retention Systems

Amount to be Applied Towards UDBE Goal: $473,287.00

Amount to be Subcontracted to UDBE*: $473,287.00

*Optional Field

PART B: To be completed by the Underutilized Disadvantaged Business Enterprise

As an authorized representative of the Underutilized Disadvantaged Business Enterprise, I confirm that we have been contacted by the Bidder with regard to the referenced project for the purpose of performing the Work described above. If the Bidder is awarded the Contract, we will enter into an agreement with the Bidder to participate in the project consistent with the information provided in the Bidder’s Underutilized Disadvantaged Business Enterprise Utilization Certification.

Name (printed): Pavitarpal Purwal

Signature: [Signature]

President

Title:

Address: 24816 Pacific Hwy South
Kent, WA 98032

Date: 4/3/18
Disadvantaged Business Enterprise Participation

THIS FORM SHALL ONLY BE SUBMITTED TO A UDBE THAT IS LISTED ON THE CONTRACTOR’S UNDERUTILIZED DISADVANTAGED BUSINESS ENTERPRISE UTILIZATION CERTIFICATION.

THE CONTRACTOR SHALL COMPLETE PART A PRIOR TO SENDING TO THE UDBE.

PART A: To be completed by the bidder:
The entries below shall be consistent with what is shown on the Bidder’s Underutilized Disadvantaged Business Enterprise Utilization Certification. Failure to do so will result in Bid rejection.

Contract Title: STPUL-9927(056) INTERSTATE 5 PORT OF TACOMA ROAD INTERCHANGE PHASE 1

Bidder’s Business Name: Goodfellow Bros., Inc.

UDBE’s Business Name: SUBSURFACE CONSTRUCTION

Description of UDBE’s Work: Piling

Amount to be Applied Towards UDBE Goal: 1,739,178.00

Amount to be Subcontracted to UDBE*: 1,739,178.00

*Optional Field

PART B: To be completed by the Underutilized Disadvantaged Business Enterprise

As an authorized representative of the Underutilized Disadvantaged Business Enterprise, I confirm that we have been contacted by the Bidder with regard to the referenced project for the purpose of performing the Work described above. If the Bidder is awarded the Contract, we will enter into an agreement with the Bidder to participate in the project consistent with the information provided in the Bidder’s Underutilized Disadvantaged Business Enterprise Utilization Certification.

Name (printed): BRIAN FUJII

Signature: 

Title: PRESIDENT

Address: 9716 237TH PL SW
EDMONDS, WA 98020

Date: 4/3/2018
ADDENDUM #1

To the Construction Contract Specifications and Bid Documents for

CITY OF FIFE

Interstate 5 Port of Tacoma Road Interchange – Phase 1
Federal Aid No. STPUL-9927(056)

To the attention of all bidders for the above project:

The following additions, revisions, and/or modifications are made to the Construction Contract Specifications and Bid Documents for this project.

**Item No. 1 – Bid Documents – Pages 8 through 26**
Replace the Item Proposal Bid Sheet on pages 8 through 26 with the revised Item Proposal Bid Sheet attached to this addendum. The following Bid Items have been added to the Bid Proposal:

- A157     ROADWAY SURVEYING, 1 L.S.
- A158     STRUCTURE SURVEYING, 1 L.S.
- B165     ADA FEATURES SURVEYING, 1 L.S.
- B166     ROADWAY SURVEYING, 1 L.S.
- B166     STRUCTURE SURVEYING, 1 L.S.
- C44      ADA FEATURES SURVEYING, 1 L.S.
- C45      ROADWAY SURVEYING, 1 L.S.
- D24      ROADWAY SURVEYING, 1 L.S.
- E6       ROADWAY SURVEYING, 1 L.S.
- F46      ROADWAY SURVEYING, 1 L.S.

**Item No. 2 – Special Provisions to the Standard Specification Section 1-05.14 – Pages 25**
Add the following project to the list contained in “Other Contracts Or Other Work”:

- Pacific Highway Puyallup River Bridge Replacement (SR 99 or Puyallup Ave., will be closed for approximately twelve months starting June 1, 2018).

**Item No. 3 – Special Provisions to the Standard Specification Section 1-07.11 – Pages 48**
Revise the fill in for the UDBE COA Goal to 8%.

**Item No. 4 – Special Provisions to the Standard Specification Section 6-13 – Pages 126 to 131**
Replace Section 6-13 with the attached new General Special Provisions from January 2, 2018.
This ADDENDUM is to be considered as much a part of the construction contract specifications and bid documents as if it were included in the original construction contract specifications and bid documents. All bidders shall acknowledge receipt of this ADDENDUM on the proposal form prior to bid opening.

James S. Guarre, P.E, S.E.
Berger ABAM
33301 9th Ave. South, Suite 300
Federal Way, WA 98003
ADDENDUM #2

To the Construction Contract Specifications and Bid Documents for

CITY OF FIFE

Interstate 5 Port of Tacoma Road Interchange – Phase 1
Federal Aid No. STPUL-9927(056)

To the attention of all bidders for the above project:

The following additions, revisions, and/or modifications are made to the Construction Contract Specifications and Bid Documents for this project.

Item No. 1 – Bid Documents – Pages 1 and 2
Replace the Notice to Contractors with the revised Notice to Contractors attached to this addendum. The following text has been added to the third paragraph:

- Bidder inquiries will be received up to 12:00 p.m. on March 20th, 2018.

Item No. 2 – Bid Documents – Pages 8 through 26
Replace the Item Proposal Bid Sheet on pages 8 through 26 with the revised Item Proposal Bid Sheet attached to this addendum, Pages 8 through 28.

- The following Bid Items have been added to the Bid Proposal:
  A159  FIELD OFFICE BUILDING, 1 L.S.
  C46  REMOVING AND RESETTING BEAM GUARDRAIL, 216 L.F.
  D25  SHORING OR EXTRA EXCAVATION CLASS B, 8,667 S.F.
  E7  SHORING OR EXTRA EXCAVATION CLASS B, 3,437 S.F.

- Remove the following Bid Items from the Bid Proposal:
  B30  ST. REINF. BAR FOR END WALL
  B31  CONC. CLASS 4000 FOR END WALL
  C16  PLANING BITUMINOUS PAVEMENT

- Replace the Bid Item, A55 PERMEABLE BALLAST with A55 ROADWAY BALLAST

- Replace the Bid Item, C13 PERMEABLE BALLAST with C13 ROADWAY BALLAST and revise quantity to 772 TONS.

- The Total Amount for the Force Account Bid Item A18 has been revised to $95,000

- Unit Costs and Total Amounts were added for the following Bid Items:
  A62  ASPHALT COST PRICE ADJUSTMENT
  A149  MINOR CHANGE
  B63  JOB MIX COMPLIANCE PRICE ADJUSTMENT
  B64  COMPACTION PRICE ADJUSTMENT

Addendum No. 2  Page 1 of 4  13 March 2018
B65    ASPHALT COST PRICE ADJUSTMENT
B152   MINOR CHANGE
B153   AGGREGATE COMPLIANCE PRICE ADJUSTMENT

- Units were revised for the following Bid Items:
  C4    REMOVING CEMENT CONC. SIDEWALK, 215 S.Y.
  C5    REMOVING ASPHALT CONC. PAVEMENT, 550 S.Y.
  C14   CRUSHED SURFACING BASE COURSE, 315 TON
  C15   CRUSHED SURFACING TOP COURSE, 27 TON
  C17   HMA CL. 1/2 IN. PG 58v-22, 385 TONS
  C18   HMA SAWCUT AND SEAL, 470 TONS
  C21   CEMENT CONC. TRAFFIC CURB AND GUTTER, 310 L.F.
  C22   CEMENT CONC. PEDESTRIAN CURB, 135 L.F.
  C39   DETECTABLE WARNING SURFACE, 98 S.F.
  C40   CEMENT CONC. SIDEWALK, 115 S.Y.

**Item No. 3 – Bid Documents – Page 35**
Remove page 35 “Proposal for Incorporating Recycled Materials into the Project” from the Bid Documents.

**Item No. 4 – Special Provisions to the Standard Specs, Page 9**
- Remove Section 1-02.6(1) Recycled Materials Proposal from Special Provisions.

**Item No. 5 – Special Provisions to the Standard Specs, Page 13**
- Remove Section 1-03.1(1) Identical Bid Totals from Special Provisions.

**Item No. 6 – Special Provisions to the Standard Specs, Page 103**
- Replace Section 2-08.1 Description with the attached revised Section 2-08.1 Description.

**Item No. 7 – Special Provisions to the Standard Specs, Page 114**
- Add Section 4-04.4 Measurement attached to this addendum
- Replace Section 4-04.5 Payment with the attachment to this addendum

**Item No. 8 – Special Provisions to the Standard Specs, Page 141**
- Add Section 7-09.2 attached to this addendum
- Supplement Section 7-09.4 with the attachment to this addendum
- Supplement Section 7-09.5 with the attachment to this addendum

**Item No. 9 – Special Provisions to the Standard Specs, Page 216**
- Replace Section 9-03.9 with the Section 9-03.9 Aggregates for Ballast and Crushed Surfacing attached to this addendum.

**Item No. 10 – Special Provisions to the Standard Specs, Page 216**
- Replace Table 9-03.21(1)E Table on Maximum Allowable percent (By Weight) of Recycled Material with the attached table.

**Item No. 11 – Special Provisions to the Standard Specs, Appendix H**
Replace the following pages in Appendix H with the revised sheets attached to this addendum:

Figure 1. Sites of Concern

Cover Sheet to Appendix A. Site Map/Plans

EC01  TESC Plan – AREA 1, STAGE 1-3, Sheet 148 of 466
EC02  TESC PLAN – AREA 1, STAGE 1-3, Sheet 149 of 466
EC03  TESC PLAN – AREA 1, STAGE 1-3, Sheet 150 of 466
EC04  TESC PLAN – AREA 1, STAGE 1-3, Sheet 151 of 466
EC05  TESC PLAN AREA 1, STAGE 4, Sheet 152 of 466
EC06  TESC PLAN AREA 1, STAGE 4, Sheet 153 of 466
EC07  TESC PLAN AREA 1, STAGE 4, Sheet 154 of 466
EC08  TESC PLAN AREA 1, STAGE 5, Sheet 155 of 466
EC09  TESC PLAN AREA 1, STAGE 5, Sheet 156 of 466
EC10  TESC PLAN AREA 1, STAGE 6, Sheet 157 of 466
EC11  TESC PLAN AREA 2, STAGE 1, Sheet 158 of 466
EC12  TESC PLAN AREA 2, STAGE 2, Sheet 159 of 466
EC13  TESC PLAN AREA 3, STAGE 1-4, Sheet 160 of 466

Cover Sheet to Appendix E. Hazardous Waste Management Plan

Cover Sheet to Hazardous Waste Management Plan

Pages 1 through 8 of the Hazardous Waste Management Plan

**Item No. 11 – Plan Sheets**

Replace the following Plan Sheets in the Plan Set:

- IN02  SHEET INDEX, Sheet 3 of 466
- SQ01  SUMMARY OF QUANTITIES, Sheet 8 of 466
- SQ02  SUMMARY OF QUANTITIES, Sheet 9 of 466
- SQ03  SUMMARY OF QUANTITIES, Sheet 10 of 466
- SQ04  SUMMARY OF QUANTITIES, Sheet 11 of 466
- SR01  SURCHARGE SECTIONS, Sheet 41 of 466
- SR02  SURCHARGE SECTIONS, Sheet 42 of 466
- SR03  SURCHARGE SECTIONS, Sheet 43 of 466
- GR04  GRADING PLAN, Sheet 47 of 466
- SU30  PLAN – AREA 2 STAGE 1 UTILITIES, Sheet 83 of 466
- SU33  PLAN – AREA 2 STAGE 2 UTILITIES, Sheet 86 of 466
- AL04  ALIGNMENT AND RIGHT OF WAY PLAN, Sheet 95 of 466
- SP04  SITE PREPARATION PLAN, Sheet 106 of 466
- EU04  EXISTING UTILITIES PLAN, Sheet 116 of 466
- IN05  SHEET INDEX, Sheet 146 of 466
- DR04  DRAINAGE PLAN, Sheet 185 of 466
- WTL01  LEGEND AND NOTES, Sheet 217 of 466
- IP03  INTERSECTION PLAN, Sheet 278 of 466
- IP03A PEDESTRIAN RAMP DETAILS, Sheet 278A of 466
- IP03B  PEDESTRIAN RAMP DETAILS, Sheet 278B of 466
- PV02  PAVING PLAN, Sheet 282 of 466
- PV03  PAVING PLAN, Sheet 283 of 466
- PV04  PAVING PLAN, Sheet 284 of 466
- PM04  PAVEMENT MARKING PLAN, Sheet 296 of 466

Addendum No. 2  Page 3 of 4  13 March 2018
This ADDENDUM is to be considered as much a part of the construction contract specifications and bid documents as if it were included in the original construction contract specifications and bid documents. All bidders shall acknowledge receipt of this ADDENDUM on the proposal form prior to bid opening.

James S. Guarre, P.E., S.E.
BergerABAM
33301 9th Ave. South, Suite 300
Federal Way, WA 98003
ADDENDUM #3

To the Construction Contract Specifications and Bid Documents for

CITY OF FIFE

Interstate 5 Port of Tacoma Road Interchange – Phase 1
Federal Aid No. STPUL-9927(056)

To the attention of all bidders for the above project:

The following additions, revisions, and/or modifications are made to the Construction Contract Specifications and Bid Documents for this project.

**Item No. 1 – Bid Documents – Pages 1 and 2**
Revise the first sentence with the following:
- Notice is hereby given that sealed bids will be received by the City of Fife City Hall up to the hour of 10:00 a.m. PST on Tuesday, March 27th, 2018, for the **City of Fife Interstate 5 and Port of Tacoma Road Interchange Phase 1 Project** and will then be opened and publicly read.

**Item No. 2 – Bid Documents – Pages 8 through 26**
Replace the Item Proposal Bid Sheet on pages 8 through 26 with the revised Item Proposal Bid Sheet attached to this addendum, Pages 8 through 28.
- Replace the following Bid Items:
  - A63  HMA SAWCUT AND SEAL with A63 SAWCUTTING
  - B66  HMA SAWCUT AND SEAL with B66 SAWCUTTING
  - C18  HMA SAWCUT AND SEAL with C18 SAWCUTTING

- Replace the Bid Item C 16 NOT USED with the Bid Item C16 PLANING BITUMINOUS PAVEMENT with a quantity of 2,160 S.Y.

- Quantities were revised for the following Bid Items:
  - C17  HMA CL. ½ IN. PG 58v-22, 632 TON

**Item No. 3 – Special Provisions to the Standard Specs, Page 80**
Supplement Special Provisions Section 1-07.23(1) with the City of Tacoma Lane Closure Restrictions attached to this addendum.

**Item No. 4 – Special Provisions to the Standard Specs, Pages 95 and 96**
Replace Special Provision subsections in Section 2-02.3, Contaminated Soil and Hazardous Material and Contaminated Water with the subsections attached to this addendum.

**Item No. 5 – Special Provisions to the Standard Specs, Pages 96 and 97**
- Replace Special Provision for Section 2-02.3(3) Removal of Pavement, Sidewalks, Curbs, and Gutters attached to this addendum.
- Replace Section 2-02.4 Measurement, attached to this addendum.
- Replace Section 2-02.5 Payment, attached to this addendum.
Item No. 6 – Special Provisions to the Standard Specs, Page 99
Replace Special Provision Section 2-03.5 Payment, attached to this addendum.

Item No. 7 – Special Provisions to the Standard Specs, Page 100
Replace Special Provision Section 2-05.3(1) Embankment and Surcharge Construction Requirements, attached to this addendum.

Item No. 8 – Special Provisions to the Standard Specs, Page 102
Replace Special Provision Section 2-05.5 Payment for Construction Access Stabilization, attached to this addendum.

Item No. 9 – Special Provisions to the Standard Specs, Page 108
Replace Special Provision Section 2-09.5 Payment, attached to this addendum.

Item No. 10 – Special Provisions to the Standard Specs, Page 124
Replace Special Provision Section 6-02.5 Payment, attached to this addendum.

Item No. 11 – Special Provisions to the Standard Specs, Page 133
Replace Special Provision Section 7-01.5 Payment, attached to this addendum.

Item No. 12 – Special Provisions to the Standard Specs, Page 135
Supplement Section 7-02.5 Payment for “Precast Reinf. Conc. Three Sided Structure No. 1” attached to this addendum.

Item No. 13 – Special Provisions to the Standard Specs, Page 137
Replace Special Provision Section 7-04.5 Payment for Welded Steel Storm Sewer Pipe ___ - inch Diameter, attached to this addendum.

Item No. 14 – Special Provisions to the Standard Specs, Pages 138 and 139
Replace Special Provision Section 7-05.5 Payment for the following bid items, attached to this addendum:
Flow Splitter
Level Spreader
Connection to Drainage Structure

Item No. 15 – Special Provisions to the Standard Specs, Page 141
Replace Special Provision Section 7-08.5 Payment for Sanitary Sewer Crossing at Storm Sewer Catch Basin, attached to this addendum.

Item No. 16 – Special Provisions to the Standard Specs, Page 144
Replace Special Provision Section 7-09.5 Payment for Restraining Glands, attached to this addendum.

Item No. 17 – Special Provisions to the Standard Specs, Page 146
Replace Special Provision Section 7-15.5 Payment, attached to this addendum.

Item No. 18 – Special Provisions to the Standard Specs, Page 160
Add Special Provision Section 8-17 Impact Attenuator Systems, attached to this addendum.
Item No. 19 – Special Provisions to the Standard Specs, Pages 171 and 172
Replace Special Provision Tacoma GSP Section 8-20.5 Payment, attached to this addendum.

Item No. 20 – Special Provisions to the Standard Specs, Page 188
Replace the first paragraph in the Special Provisions Section 8-20.5 Payment, attached to this addendum.

Item No. 21 – Special Provisions to the Standard Specs, Page 196
Replace the first paragraph in the Special Provisions Section 8-21.5 Payment, attached to this addendum.

Item No. 22 – Special Provisions to the Standard Specs, Page 214
Replace the first paragraph in the Special Provisions Section 8-33.5 Payment, attached to this addendum.

Item No. 23 – Plan Sheets
Replace the following Plan Sheets in the Plan Set:

SQ01    SUMMARY OF QUANTITIES, Sheet 8 of 466
SQ02    SUMMARY OF QUANTITIES, Sheet 9 of 466
SQ03    SUMMARY OF QUANTITIES, Sheet 10 of 466
SU29    PLAN – AREA 2 STAGE 1, Sheet 82 of 466
SU32    PLAN – AREA 2 STAGE 2, Sheet 85 of 466
SP04    SITE PREPARATION PLAN, Sheet 106 of 466
BC02    BOX CULVERT DETAILS SHEET 1, Sheet 215 of 466
PV04    PAVING PLAN, Sheet 284 of 466

This ADDENDUM is to be considered as much a part of the construction contract specifications and bid documents as if it were included in the original construction contract specifications and bid documents. All bidders shall acknowledge receipt of this ADDENDUM on the proposal form prior to bid opening.

James S. Guarre, P.E, S.E.
BergerABAM
33301 9th Ave. South, Suite 300
Federal Way, WA 98003
ADDENDUM #4

To the Construction Contract Specifications and Bid Documents for

CITY OF FIFE

Interstate 5 Port of Tacoma Road Interchange – Phase 1
Federal Aid No. STPUL-9927(056)

To the attention of all bidders for the above project:

The following additions, revisions, and/or modifications are made to the Construction Contract Specifications and Bid Documents for this project.

**Item No. 1 – Special Provisions to the Standard Specs, Page 69**
Replace the subsections for Comcast (CC) – Telecommunications and CLICK Networks on page 69 in the Special Provisions Section 1-07.17 Utilities and Similar Facilities, attached to this addendum.

**Item No. 2 – Special Provisions to the Standard Specs, Page 71**
Replace the paragraph on line 24 on page 71 in the Special Provisions Section 1-07.17 Utilities and Similar Facilities, attached to this addendum.

**Item No. 3 – Special Provisions to the Standard Specs, Page 131**
Add new section 6-16.3(8) after line 48 on page 131 in the Special Provisions, attached to this addendum.

**Item No. 4 – Special Provisions to the Standard Specs, Page 152**
Add new section 8-01.3(2)B Seeding and Fertilizing after line 21 on page 152 in the Special Provisions, attached to this addendum.

**Item No. 5 – Special Provisions to the Standard Specs, Page 204**
Insert space on line 36 on page 204 in the Special Provisions Section 8-33.1, Underground Facilities for the City of Fife

Replace the paragraph on line 41 on page 204 of the Special Provisions Section 8-33.1, Underground Facilities for the City of Fife, attached to this addendum.

**Item No. 6 – Special Provisions to the Standard Specs, Page 207**
Replace the subsection in the Special Provisions Section 8-33.2, Trace Wire, attached to this addendum.

**Item No. 7 – Special Provisions to the Standard Specs, Page 211**
Replace the paragraph on line 43 on page 211 of the Special Provisions Section 8-33.3(4) Conduit, attached to this addendum.

**Item No. 8 – Special Provisions to the Standard Specs, Page 213**
Replace the paragraphs on lines 35 and 39 on page 213 of the Special Provisions Section 8-33.4 Measurement, attached to this addendum.
Item No. 9 – Special Provisions to the Standard Specs, Page 214
Replace the paragraph on line 28 on page 214 of the Special Provisions Section 8-33.4 Measurement, attached to this addendum.

Item No. 10 – Special Provisions to the Standard Specs, Page 217
Add new section 9-09.3(1) General Requirements after line 27 on page 217 in the Special Provisions, attached to this addendum.

Item No. 11 – Plan Sheets
Replace the following Plan Sheets in the Plan Set:

IN03      SHEET INDEX, Sheet 4 of 446
IN06      SHEET INDEX, Sheet 147 of 466
WTL01     LEGEND AND NOTES, Sheet 217 of 466
WTO4      WATER PLAN, Sheet 221 of 466
IN09      SHEET INDEX, Sheet 307 of 466
SG303     TEMPORARY SIGNAL PLAN, Sheet 320 of 466
ILN101    ILLUMINATION NOTES, Sheet 329 of 466
ILN102    ILLUMINATION NOTES, Sheet 330 of 466
IL106     ILLUMINATION PLAN, Sheet 336 of 466
ILD103    ILLUMINATION DETAILS, Sheet 343 of 466
WL01      WALL LAYOUT & NOTES, Sheet 444 of 466
WA06      WALL D ALIGNMENT AND PROFILE, Sheet 451 of 466
WAD10     ARCHITECTUAL FASCIA – SHEET 1, Sheet 466A of 466
WAD11     ARCHITECTUAL FASCIA – SHEET 2, Sheet 466B of 466

This ADDENDUM is to be considered as much a part of the construction contract specifications and bid documents as if it were included in the original construction contract specifications and bid documents. All bidders shall acknowledge receipt of this ADDENDUM on the proposal form prior to bid opening.

James S. Guarre, P.E., S.E.
BergerABAM
33301 9th Ave. South, Suite 300
Federal Way, WA 98003

Addendum No. 4     Page 2 of 2     21 March 2018
ADDENDUM #5

To the Construction Contract Specifications and Bid Documents for

CITY OF FIFE

Interstate 5 Port of Tacoma Road Interchange – Phase 1
Federal Aid No. STPUL-9927(056)

To the attention of all bidders for the above project:

The following additions, revisions, and/or modifications are made to the Construction Contract Specifications and Bid Documents for this project.

Item No. 1 – Bid Documents, Pages 1 and 2
Revise the first sentence with the following:

- Notice is hereby given that sealed bids will be received by the City of Fife City Hall up to the hour of 10:00 a.m. PST on Thursday, March 29th, 2018, for the City of Fife Interstate 5 and Port of Tacoma Road Interchange Phase 1 Project and will then be opened and publicly read.

This ADDENDUM is to be considered as much a part of the construction contract specifications and bid documents as if it were included in the original construction contract specifications and bid documents. All bidders shall acknowledge receipt of this ADDENDUM on the proposal form prior to bid opening.

James S. Guarre, P.E., S.E.
BergerABAM
33301 9th Ave. South, Suite 300
Federal Way, WA 98003
ADDENDUM #6

To the Construction Contract Specifications and Bid Documents for

CITY OF FIFE

Interstate 5 Port of Tacoma Road Interchange – Phase 1
Federal Aid No. STPUL-9927(056)

To the attention of all bidders for the above project:

The following additions, revisions, and/or modifications are made to the Construction Contract Specifications and Bid Documents for this project.

Item No. 1 – Bid Documents, Pages 1 and 2
Revise the first sentence with the following:

- Notice is hereby given that sealed bids will be received by the City of Fife City Hall up to the hour of 10:00 a.m. PST on Tuesday, April 3rd, 2018, for the City of Fife Interstate 5 and Port of Tacoma Road Interchange Phase 1 Project and will then be opened and publicly read.

Revise paragraph 4 and 5 with the following:

- The official repository for Plans, specifications, addenda, bidders list and plan holders list for this project is through the City of Fife’s on-line plan room with the Builders Exchange of Washington. Free of Charge access is provided to Prime Bidders, Subcontractors, and Vendors by going to: "www.bxwa.com" and clicking on "Posted Projects"; “Public Works”; “City of Fife”; and “Projects Bidding”. Bidders are encouraged to "Register“ in order to receive automatic email notification of future addenda and to be placed on the “Bidders List”. Contact Builders Exchange of Washington at 425.258.1303 should you require assistance with access or registration. A courtesy copy is also available on Fife’s website.

The contact is Russ Blount, PE Public Works Director at (253) 896-8677 rblount@CityofFife.org or Bryon Agan, PE Interim Assistant Public Works Director at (253) 896-8203 bagan@CityofFife.org.

This ADDENDUM is to be considered as much a part of the construction contract specifications and bid documents as if it were included in the original construction contract specifications and bid documents. All bidders shall acknowledge receipt of this ADDENDUM on the proposal form prior to bid opening.

James S. Guarre, P.E, S.E.
BergerABAM
33301 9th Ave, South, Suite 300
Federal Way, WA 98003

Addendum No. 6  Page 1 of 1  28 March 2018
ADDENDUM #7

To the Construction Contract Specifications and Bid Documents for

CITY OF FIFE

Interstate 5 Port of Tacoma Road Interchange – Phase 1
Federal Aid No. STPUL-9927(056)

To the attention of all bidders for the above project:

The following additions, revisions, and/or modifications are made to the Construction Contract Specifications and Bid Documents for this project.

Item No. 1 – Bid Documents – Pages 8 through 26
Replace the Item Proposal Bid Sheet on pages 8 through 26 with the revised Item Proposal Bid Sheet attached to this addendum, Pages 8 through 28.

• The following Bid Items have been added to the Bid Proposal:
  A160  TEMPORARY PAINTED TRAFFIC ARROW, 30 EACH
  B168  TEMPORARY PAINTED TRAFFIC ARROW, 20 EACH
  C47  TEMPORARY PAINTED TRAFFIC ARROW, 2 EACH

• Quantities were revised for the following Bid Items:
  A10  REMOVING PAINT LINE, 15,500 L.F.
  A90  PAINT LINE, 16,000 L.F.
  A100  RAISED PAVEMENT MARKER TYPE 2, 1.52 HUND
  A106  SEQUENTIAL ARROW SIGN, 320 EACH
  A143  TRAINING, 800 HR
  B7  REMOVING PAINT LINE, 45,000 L.F.
  B9  REMOVING RAISED PAVEMENT MARKER, 1.6 HUND
  B106  PAINT LINE, 33,000 L.F.
  B107  PROFILED PLASTIC LINE, 14,800 L.F.
  B112  PROFILED PLASTIC WIDE LANE LINE, 1,577 L.F.
  B114  RAISED PAVEMENT MARKER TYPE 2, 2.26 HUND
  B124  SEQUENTIAL ARROW SIGN, 600 HR
  C7  REMOVING PAINT LINE, 1100 L.F.
  C24  PAINT LINE, 760 L.F.

• Total Amount was revised for the following Bid Item:
  A18  CONTAMINATED DEWATERING TREATMENT AND DISCHARGE, $95,000

• Unit Costs and Total Amount were revised for the following Bid Item:
  A149  MINOR CHANGE, $28,500

Item No. 2 – Special Provisions to the Standard Specs, Page 25
Add an additional bullet to the fill-in on line 24 on page 25 of the Special Provisions Section 1-05.14 Cooperation With Other Contractors, attached to this addendum.
Item No. 3 – Special Provisions to the Standard Specs, Page 197
Delete the sentence on line 28 on page 197 in the Special Provisions Section 8-22.1 Description.

Replace the paragraph on line 31 on page 197 in the Special Provisions Section 8-22.1 Description.

Replace the sentence on line 50 on page 197 in the Special Provisions Section 8-22.3 Construction Requirements, attached to this addendum.

Item No. 4 – Special Provisions to the Standard Specs, Page 198
Replace the sentence that starts on line 9 on page 198 in the Special Provisions Section 8-22.4 Measurement.

Remove the sentence on line 23 on page 198 in the Special Provisions Section 8-22.5 Payment, attached to this addendum.

Item No. 5 – Plan Sheets
Replace the following Plan Sheets in the Plan Set:
   SQ01  SUMMARY OF QUANTITIES, Sheet 8 of 466
   SQ02  SUMMARY OF QUANTITIES, Sheet 9 of 466
   SQ03  SUMMARY OF QUANTITIES, Sheet 10 of 466
   SQ04  SUMMARY OF QUANTITIES, Sheet 11 of 466
   BC01  BOX CULVERT PLAN AND ELEVATION 214 of 466
   BC02  BOX CULVERT DETAILS SHEET 1, Sheet 215 of 466
   PM08  PAVEMENT MARKING PLAN, Sheet 300 of 466
   PM09  PAVEMENT MARKING PLAN, Sheet 301 of 466
   PM10  PAVEMENT MARKING PLAN, Sheet 302 of 466
   PM11  PAVEMENT MARKING PLAN, Sheet 303 of 466

This ADDENDUM is to be considered as much a part of the construction contract specifications and bid documents as if it were included in the original construction contract specifications and bid documents. All bidders shall acknowledge receipt of this ADDENDUM on the proposal form prior to bid opening.

James S. Guarre, P.E., S.E.
BergerABAM
33301 9th Ave. South, Suite 300
Federal Way, WA 98003

Addendum No. 7 Page 2 of 2 28 March 2018
The following forms have been provided for information and are not required to be submitted with the bid.
Local Agency Contract

THIS AGREEMENT, made and entered into this day of ,
between the , and the
______________________________ under and by virtue of Title 47 RCW, as amended and
hereinafter called the Contractor.

WITNESSETH:

That in consideration of the terms and conditions contained herein and attached and made a part of this agreement, the parties hereto covenant and agree as follows:

I. The Contractor shall do all work and furnish all tools, materials, and equipment for:
in accordance with and as described in the attached plans and specifications, and the standard specifications of the which are by this reference incorporated herein and made part hereof and, shall perform any changes in the work in accord with the Contract Documents.

The Contractor shall provide and bear the expense of all equipment, work and labor, of any sort whatsoever that may be required for the transfer of materials and for constructing and completing the work provided for in these Contract Documents except those items mentioned therein to be furnished by .

II. hereby promises and agrees with the Contractor to employ, and does employ the Contractor to provide the materials and to do and cause to be done the above described work and to complete and finish the same in accord with the attached plans and specifications and the terms and conditions herein contained and hereby contracts to pay for the same according to the attached specifications and the schedule of unit or itemized prices at the time and in the manner and upon the conditions provided for in this contract.
III. The Contractor for himself/herself, and for his/her heirs, executors, administrators, successors, and assigns, does hereby agree to full performance of all covenants required of the Contractor in the contract.

IV. It is further provided that no liability shall attach to the State by reason of entering into this contract, except as provided herein.

IN WITNESS WHEREOF, the Contractor has executed this instrument, on the day and year first below written and has caused this instrument to be executed by and in the name of the day and year first above written.

Executed by the Contractor ____________________________ , ________.  

__________________________________________  

__________________________________________  

__________________________________________  

__________________________________________ (Contractor)

Local Agency: ________________________________

Title: ________________________________

By: ________________________________

Date: ________________________________ , ________
PERFORMANCE BOND

to [City of ___________ or ___________ County], WA

Bond No. ________________

The [City of ___________ or ___________ County], Washington ([City or County]) has awarded to
(Principal), a contract for the construction of the project designated as Project
No. ________________, in [location], Washington (Contract), and said Principal is required to furnish a bond for performance of all
obligations under the Contract.

The Principal, and ______________________ (Surety), a corporation, organized under the laws of the State of
and licensed to do business in the State of Washington as surety and named in the current list of “Surety Companies Acceptable in
Federal Bonds” as published in the Federal Register by the Audit Staff Bureau of Accounts, U.S. Treasury Dept., are jointly and
severally held and firmly bound to the [City or County], in the sum of US
Dollars ($ ________________ ) Total Contract Amount, subject to the provisions herein.

This statutory performance bond shall become null and void, if and when the Principal, its heirs, executors, administrators,
successors, or assigns shall well and faithfully perform all of the Principal's obligations under the Contract and fulfill all terms and
conditions of all duly authorized modifications, additions, and changes to said Contract that may hereafter be made, at the time and in
the manner therein specified; and if such performance obligations have not been fulfilled, this bond shall remain in force and effect.

The Surety for value received agrees that no change, extension of time, alteration or addition to the terms of the Contract, the
specifications accompanying the Contract, or to the work to be performed under the Contract shall in any way affect its obligation on
this bond, and waives notice of any change, extension of time, alteration or addition to the terms of the Contract or the work
performed. The Surety agrees that modifications and changes to the terms and conditions of the Contract that increase the total
amount to be paid the Principal shall automatically increase the obligation of the Surety on this bond and notice to Surety is not
required for such increased obligation.

This bond may be executed in two (2) original counterparts, and shall be signed by the parties’ duly authorized officers. This bond will
only be accepted if it is accompanied by a fully executed and original power of attorney for the office executing on behalf of the surety.

PRINCIPAL

Principal Signature Date

Printed Name Date

SURETY

Surety Signature Date

Printed Name Date

Title

Title

Name, address, and telephone of local office/agent of Surety Company is:

Approved as to form:

[City or County] Attorney, [City of ___________ or ___________] County] Date
PUBLIC WORKS PAYMENT BOND

to [City of __________________ or __________________ County], WA

Bond No. __________________

The [City of __________________ or __________________ County], Washington ([City or County]) has awarded to ________________________________, (Principal), a contract for the construction of the project designated as ________________________________, Project No. ________________________________, in [location], Washington (Contract), and said Principal is required under the terms of that Contract to furnish a payment bond in accord with Title 39.08 Revised Code of Washington (RCW) and (where applicable) 60.28 RCW.

The Principal, and ________________________________, (Surety), a corporation organized under the laws of the State of ________________________________, and licensed to do business in the State of Washington as surety and named in the current list of “Surety Companies Acceptable in Federal Bonds” as published in the Federal Register by the Audit Staff Bureau of Accounts, U.S. Treasury Dept., are jointly and severally held and firmly bound to the [City or County], in the sum of ________________________________, US Dollars ($ ________________________________ ) Total Contract Amount, subject to the provisions herein.

This statutory payment bond shall become null and void, if and when the Principal, its heirs, executors, administrators, successors, or assigns shall pay all persons in accordance with RCW 39.08, 39.12, and 60.28 including all workers, laborers, mechanics, subcontractors, and materialmen, and all person who shall supply such contractor or subcontractor with provisions and supplies for the carrying on of such work, and all taxes incurred on said Contract under Titles 50 and 51 RCW and all taxes imposed on the Principal under Title 82 RCW; and if such payment obligations have not been fulfilled, this bond shall remain in full force and effect.

The Surety for value received agrees that no change, extension of time, alteration or addition to the terms of the Contract, the specifications accompanying the Contract, or to the work to be performed under the Contract shall in any way affect its obligation on this bond, and waives notice of any changes, extension of time, alteration or addition to the terms of the Contract or the work performed. The Surety agrees that modifications and changes to the terms and conditions of the Contract that increase the total amount to be paid the Principal shall automatically increase the obligation of the Surety on this bond and notice to Surety is not required for such increased obligation.

This bond may be executed in two (2) original counterparts, and shall be signed by the parties’ duly authorized officers. This bond will only be accepted if it is accompanied by a fully executed and original power of attorney for the office executing on behalf of the surety.

PRINCIPAL

Principal Signature ____________________________ Date ____________________________

Printed Name ____________________________ Date ____________________________

Title ____________________________

SURETY

Surety Signature ____________________________ Date ____________________________

Printed Name ____________________________ Date ____________________________

Title ____________________________

Name, address, and telephone of local office/agent of Surety Company is:

Approved as to form:

[City or County] Attorney, [City of __________________ or __________________ County] ____________________________ Date ____________________________

DOT Form 272-003A EF 08/2012

City of Fife
Interstate 5 Port of Tacoma Road Interchange Phase 1
Bid Documents

Fed Aid No. STPUL 9927(056)
February 2018

40
# ACORD CERTIFICATE OF LIABILITY INSURANCE

**PRODUCER**

Hurley, Atkins & Stewart, Inc.
1800 Ninth Ave., #1500
Seattle WA 98101
Phone: 206-682-5656

**INSCRIBER**

INSURER A
INSURER B
INSURER C
INSURER D
INSURER E

**COVERAGES**

THE POLICY HAVING BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

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<td>CLAIMS MADE</td>
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<td>WORKERS COMPENSATION AND EMPLOYERS LIABILITY</td>
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<td>WA STATUTORY LIMITS</td>
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<td>OTHER</td>
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<td>E.L. EACH ACCIDENT</td>
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<td>E.L. DISEASE - EA EMPLOYEE</td>
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<td>E.L. DISEASE - POLICY LIMIT</td>
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<tr>
<td></td>
<td>OTHER</td>
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</tr>
</tbody>
</table>

**DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/EXCLUSIONS ADDED BY ENDORSEMENT/SPECIAL PROVISIONS**

**CERTIFICATE HOLDER**

N. ADDITIONAL INSURED; INSURER LETTER:

---

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT. BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

ACORD 25-S (7/97) ©ACORD CORPORATION 1988

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**Fed Aid No. STPUL 9927(056)**

February 2018

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*City of Fife*

*Interstate 5 Port of Tacoma Road Interchange Phase 1 Bid Documents*
STATEMENT OF INTENT TO PAY PREVAILING WAGES
(Public Works Contract)

RCW 39.12.040

Statement of intent to pay prevailing wages, affidavit of wages paid — Duty of public agencies to require
— Approval — Prerequisite to payment — Alternative procedure.

(1) Except as provided in subsection (2) of this section, before payment is made by or on behalf of the
state, or any county, municipality, or political subdivision created by its laws, of any sum or sums due
on account of a public works contract, it shall be the duty of the officer or person charged with the
custody and disbursement of public funds to require the contractor and each and every subcontractor
from the contractor or a subcontractor to submit to such officer a “Statement of Intent to Pay Prevailing
Wages.” For a contract in excess of ten thousand dollars, the statement of intent to pay prevailing wages
shall include:

(a) The contractor’s registration certificate number; and

(b) The prevailing rate of wage for each classification of workers entitled to prevailing wages under
RCW 39.12.020 and the estimated number of workers in each classification.

Each statement of intent to pay prevailing wages must be approved by the industrial statistician of the
department of labor and industries before it is submitted to said officer. Unless otherwise authorized by
the department of labor and industries, each voucher claim submitted by a contractor for payment on a
project estimate shall state that the prevailing wages have been paid in accordance with the prefilled
statement or statements of intent to pay prevailing wages on file with the public agency. Following the
final acceptance of a public works project, it shall be the duty of the officer charged with the
disbursement of public funds, to require the contractor and each and every subcontractor from the
contractor or a subcontractor to submit to such officer an “Affidavit of Wages Paid” before the funds
retained according to the provisions of RCW 60.28.010 are released to the contractor. Each affidavit of
wages paid must be certified by the industrial statistician of the department of labor and industries
before it is submitted to said officer.

(2) As an alternate to the procedures provided for in subsection (1) of this section, for public works projects
of two thousand five hundred dollars or less:

(a) An awarding agency may authorize the contractor or subcontractor to submit the statement of intent
to pay prevailing wages directly to the officer or person charged with the custody or disbursement
of public funds in the awarding agency without approval by the industrial statistician of the
department of labor and industries. The awarding agency shall retain such statement of intent to
pay prevailing wages for a period of not less than three years.

(b) Upon final acceptance of the public works project, the awarding agency shall require the contractor
or subcontractor to submit an affidavit of wages paid. Upon receipt of the affidavit of wages paid,
the awarding agency may pay the contractor or subcontractor in full, including funds that would
otherwise be retained according to the provisions of RCW 60.28.010. Within thirty days of receipt
of the affidavit of wages paid, the awarding agency shall submit the affidavit of wages paid to the
industrial statistician of the department of labor and industries for approval.
(c) A statement of intent to pay prevailing wages and an affidavit of wages paid shall be on forms approved by the department of labor and industries.

(d) In the event of a wage claim and a finding for the claimant by the department of labor and industries where the awarding agency has used the alternative process provided for in subsection (2) of this section, the awarding agency shall pay the wages due directly to the claimant. If the contractor or subcontractor did not pay the wages stated in the affidavit of wages paid, the awarding agency may take action at law to seek reimbursement from the contractor or subcontractor of wages paid to the claimant, and may prohibit the contractor or subcontractor from bidding on any public works contract of the awarding agency for up to one year.

(e) Nothing in this section shall be interpreted to allow an awarding agency to subdivide any public works project of more than two thousand five hundred dollars for the purpose of circumventing the procedures required by RCW 39.12.040(1).
# STATEMENT OF INTENT TO PAY PREVAILING WAGES

## Sample Form

### City of Fife

**Interstate 5 Port of Tacoma Road Interchange Phase 1**

**Bid Documents**

Fed Aid No. STPUL 9927(056) | February 2018

---

## Awarding Agency Information

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Contract Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

## Your Company Information

<table>
<thead>
<tr>
<th>Your Company Name</th>
<th></th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>Your Address</th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>City</th>
<th>State</th>
<th>Zip+4</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Your Contractor Registration Number</th>
<th>Your UBI Number</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Your Industrial Insurance Account Number</th>
<th>Your Phone Number</th>
</tr>
</thead>
</table>

## Additional Details

<table>
<thead>
<tr>
<th>Your Expected Job Start Date (mm/dd/yyyy)</th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Your Site Address/Directions</th>
<th></th>
</tr>
</thead>
</table>

## ARRA Funds

- Does this project utilize American Recovery and Reinvestment Act (ARRA) funds? [ ] Yes [ ] No

## Prime Contractor’s Company Information

<table>
<thead>
<tr>
<th>Prime Contractor’s Company Name</th>
<th>Prime Contractor’s UBI Number</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Prime Contractor’s Registration Number</th>
<th>Prime Contractor’s UBI Number</th>
</tr>
</thead>
</table>

## Employment Information

- Do you intend to use ANX subcontractors? [ ] Yes [ ] No
- Will all work be subcontracted? [ ] Yes [ ] No
- Number of Owner/Operators who own at least 30% of the company who will perform work on this project: [ ] None (0) [ ] One (1) [ ] Two (2) [ ] Three (3)

## Crafts/Trades/Occupations

<table>
<thead>
<tr>
<th>Crafts/Trades/Occupations</th>
<th>Number of Workers</th>
<th>Rate of Hourly Pay</th>
<th>Rate of Hourly</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

## Signature Block

I hereby certify that I have read and understand the instructions to complete this form and that the information, including any addenda, are correct and that all workers I employ on this Public Works Project will be paid no less than the Prevailing Wage Rate(s) as determined by the Industrial Statistician of the Department of Labor and Industries.

**Print Name:**

**Print Title:**

**Signature:**

**Date:**

For I&I Use Only

---

**NOTICE:** If the prime contract is at a cost of over one million dollars ($1,000,000.00), RCW 39.04.270 requires you to complete the EHJ 2805 (RCW 39.04.270) Addendum and attach it to your Affidavit of Wages Paid when your work on the project concludes. This is only a notice. The EHJ 2805 Addendum is not submitted with this Intent.

T10-025-000 Statement of Intent to Pay Prevailing Wages 03-2011

---

City of Fife

Interstate 5 Port of Tacoma Road Interchange Phase 1

Bid Documents
## AFFIDAVIT OF WAGES PAID

**Public Works Contract**  
$40.00 Filing Fee Required

**Affidavit ID # (Assigned by L&I):**

### Your Company Information

<table>
<thead>
<tr>
<th>Field</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your Company Name</td>
<td></td>
</tr>
<tr>
<td>Your Company Address</td>
<td></td>
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<tr>
<td>City</td>
<td></td>
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<tr>
<td>State</td>
<td></td>
</tr>
<tr>
<td>Zip+4</td>
<td></td>
</tr>
<tr>
<td>Your Contractor Registration Number</td>
<td></td>
</tr>
<tr>
<td>Your UBI Number</td>
<td></td>
</tr>
<tr>
<td>Your Industrial Insurance Account Number</td>
<td></td>
</tr>
<tr>
<td>Your Email Address (required for notification of approval)</td>
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</tr>
<tr>
<td>Your Phone Number</td>
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</tr>
</tbody>
</table>

### Awarding Agency Information

<table>
<thead>
<tr>
<th>Field</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Awarding Agency</td>
<td></td>
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<tr>
<td>Awarding Agency Address</td>
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<tr>
<td>City</td>
<td></td>
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<tr>
<td>State</td>
<td></td>
</tr>
<tr>
<td>Zip+4</td>
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<tr>
<td>Your Approved Intent ID #</td>
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</table>

### Additional Details

<table>
<thead>
<tr>
<th>Field</th>
<th>Information</th>
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<tbody>
<tr>
<td>Job Start Date (mm/dd/yyyy)</td>
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<tr>
<td>Job End Date (mm/dd/yyyy)</td>
<td></td>
</tr>
<tr>
<td>Job Site Address/Directions</td>
<td></td>
</tr>
<tr>
<td>Your Contract Address</td>
<td></td>
</tr>
<tr>
<td>Your Phone Number</td>
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</tbody>
</table>

### Contract Details

<table>
<thead>
<tr>
<th>Field</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bid Date (Prime Contractor’s)</td>
<td></td>
</tr>
<tr>
<td>Award Date (Prime Contractor’s)</td>
<td></td>
</tr>
<tr>
<td>Total Dollar Amount of Your Contract</td>
<td></td>
</tr>
<tr>
<td>(Including Subcontract)</td>
<td></td>
</tr>
</tbody>
</table>

### EBH 2005 (RCW 39.04.370)

- **Is the Prime Contractor’s contract at a cost of over one million dollars ($1,000,000)?**
  - Yes
  - No
- **Was the project utilized American Recovery and Reinvestment Act (ARRA) funds?**
  - Yes
  - No
- **Was the project utilized any weatherization or energy efficiency upgrade funds (ARRA) otherwise?**
  - Yes
  - No

### Prime Contractor’s Company Information

<table>
<thead>
<tr>
<th>Field</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prime Contractor’s Name</td>
<td></td>
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<tr>
<td>Prime Contractor’s UBI Number</td>
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</tbody>
</table>

### Hiring Contractor’s Company Information

<table>
<thead>
<tr>
<th>Field</th>
<th>Information</th>
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</thead>
<tbody>
<tr>
<td>Hiring Contractor’s Name</td>
<td></td>
</tr>
<tr>
<td>Hiring Contractor’s UBI Number</td>
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</table>

### Employment Information

<table>
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<tr>
<th>Field</th>
<th>Information</th>
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<tr>
<td>Did you use ANY subcontractors?</td>
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<tr>
<td>Yes (Addendum D is Required)</td>
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<tr>
<td>No</td>
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<tr>
<td>Did employees perform work on this project?</td>
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<tr>
<td>Yes</td>
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<tr>
<td>No</td>
<td></td>
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<tr>
<td>Did you use subcontracts?</td>
<td></td>
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<tr>
<td>Yes (Addendum D is Required)</td>
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<tr>
<td>No</td>
<td></td>
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<tr>
<td>Did you use apprentice employees?</td>
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<tr>
<td>Yes</td>
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<tr>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Number of Owner/Operator(s)</td>
<td></td>
</tr>
<tr>
<td>Who conducted 100% of the work you performed on this project?</td>
<td></td>
</tr>
<tr>
<td>Number of Workers</td>
<td></td>
</tr>
<tr>
<td>Total # of Hours Worked</td>
<td></td>
</tr>
<tr>
<td>Rate of Hourly Pay</td>
<td></td>
</tr>
<tr>
<td>Rate of Hourly Pay, Flexible (Fringe)</td>
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</tr>
</tbody>
</table>

### List of Craft/Trades/Occupations

- For Heavy Level Workers you must provide all of the information below. Owner/Operators must provide the first and last name to other information required.
- **Apprentices are not recorded. You must use Addendum D to list Apprentices.**

### Signature Block

I, [Surname], declare that I have read and understood the instructions to complete this form and that the information on this form and any addenda is correct and that all workers I employed on this Public Work Project were paid no less than the prevailing wage rate(s) as determined by the Industrial Statistician of the Department of Labor and Industries.

**Print Name:**

**Print Title:**

**Signature:**

**Date:**

---

**City of Fife**  
**Interstate 5 Port of Tacoma Road Interchange Phase 1**  
**Bid Documents**

---

**Fed Aid No. STPUL 9927(056)**

**February 2018**
REQUEST FOR RELEASE

Department of Labor and Industries
General Administration Building
Olympia, WA  98504

The undersigned contractor requests that the property owner/general contractor be notified of their release from liability for industrial insurance premiums on the following work:

<table>
<thead>
<tr>
<th>Name of Project</th>
<th>Contract No.</th>
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</table>

<table>
<thead>
<tr>
<th>Location of Project</th>
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</table>

<table>
<thead>
<tr>
<th>Description of Work</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>Amount of Contract</th>
<th>Date Work Started</th>
<th>Date Work Completed</th>
<th>Property Owner/General Contractor</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Address of Property Owner/General Contractor</th>
</tr>
</thead>
</table>

Were Subcontractors Used?

Yes ☐  No ☐

IF YES, ATTACH A LIST SHOWING NAME, ADDRESS, CURRENT CONTRACTOR REGISTRATION NO., INDUSTRIAL INSURANCE ACCOUNT NO., NATURE OF WORK PERFORMED, AND COMPLETION DATE. SUPPLIERS FOR MATERIALS ONLY ARE NOT TO BE INCLUDED.

This Request Submitted by

<table>
<thead>
<tr>
<th>General Contractor</th>
<th>Date</th>
<th>Industrial Insurance Account #</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Subcontractor</td>
<td></td>
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</table>

Name of Firm

Signed

Address

Title

ALL WORKER HOURS THROUGH THE COMPLETION DATE OF THIS PROJECT MUST HAVE BEEN REPORTED AND PREMIUM PAID THEREON BEFORE A RELEASE WILL BE ISSUED.

THIS FORM MUST BE COMPLETED AND ALL INFORMATION FURNISHED BY PARTY REQUESTING RELEASE. SEND TO DEPARTMENT OF LABOR AND INDUSTRIES, INDUSTRIAL INSURANCE DIVISION, CONTRACT COMPLIANCE UNIT, OLYMPIA, WA 98504.
I. General
II. Nondiscrimination
III. Nonsegregated 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. Compliance with Governmentwide Suspension and Debarment Requirements
XI. Certification Regarding Use of Contract Funds for Lobbying

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 (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).

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.

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). 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 bid proposal or request for proposal 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).

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

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

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

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 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 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, 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 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, 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 230, 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 (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 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 35 and 29 CFR 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.

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, 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 who 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.

   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, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure 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. 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, 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, 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 there under. 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, 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 and 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. Assurance Required by 49 CFR 26.13(b):

   a. The requirements of 49 CFR Part 26 and the State DOT’s U.S. DOT-approved DBE program are incorporated by reference.

   b. The contractor 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 contracting agency deems appropriate.

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 $10,000 or more.

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, 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). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

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

   a. All laborers and mechanics employed or working upon the site of the work, 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 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.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. 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 shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). 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 classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH–1321) shall 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. (1) The contracting officer shall 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 shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore 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 utilized 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) 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 shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. 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.

(3) 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 shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour 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.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall 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.
c. 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 shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. 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, 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.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, 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.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, 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 section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) 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 section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall 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. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.
b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee’s social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency.

(2) Each payroll submitted shall be accompanied by a “Statement of Compliance,” signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

   (i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

   (ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed 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 Regulations, 29 CFR part 3;

   (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 of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 shall satisfy the requirement for submission of the “Statement of Compliance” required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may,
after written notice to the contractor, the contracting agency or the State DOT, 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 may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed 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 Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall 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 the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall 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, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and
individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. 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. 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 journeymen 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.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 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.

9. **Disputes concerning labor standards.** 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 he or she) 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 section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

   b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).


V. **CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**

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 watchmen 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.

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. 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 watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of $10 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.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or 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, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

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

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” 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:

      (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.

2. 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. 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.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

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 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.

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 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).
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 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 1, 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

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.
By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

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.

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.

   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.

   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.

   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 and 1200. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or
“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 grantee or subgrantee 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.

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.

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. 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 Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

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. 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) 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;

(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; 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.

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

2. 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)

a. By signing and submitting this proposal, the prospective lower tier 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.

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 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 grantee or subgrantee 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 grantee or subgrantee 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.

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.

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 Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

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.

* * * *

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

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall 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 20).

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.
ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS

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.
AMENDMENT
REQUIRED CONTRACT PROVISIONS
(Exclusive of Appalachian Contracts)

FEDERAL-AID CONSTRUCTION CONTRACTS

The Federal–Aid provisions are supplemented with the following:

XII. Cargo Preference Act

1. U.S. Department of Transportation Federal Highway Administration memorandum dated December 11, 2015 requires that all federal-aid highway programs awarded after February 15, 2016 must comply with the Cargo Preference Act and its regulation of 46 CFR 381.7 (a)-(b).
INTRO.AP1
INTRODUCTION

The following Amendments and Special Provisions shall be used in conjunction with the 2016 Standard Specifications for Road, Bridge, and Municipal Construction.

AMENDMENTS TO THE STANDARD SPECIFICATIONS

The following Amendments to the Standard Specifications are made a part of this contract and supersede any conflicting provisions of the Standard Specifications. For informational purposes, the date following each Amendment title indicates the implementation date of the Amendment or the latest date of revision.

Each Amendment contains all current revisions to the applicable section of the Standard Specifications and may include references which do not apply to this particular project.

1-01.AP1
Section 1-01, Definitions and Terms
August 1, 2016

1-01.3 Definitions
The following new term and definition is inserted after the eighth paragraph:

Cold Weather Protection Period – A period of time 7 days from the day of concrete placement or the duration of the cure period, whichever is longer.

1-02.AP1
Section 1-02, Bid Procedures and Conditions
June 1, 2017

1-02.4(1) General
The first sentence of the last paragraph is revised to read:

Any prospective Bidder desiring an explanation or interpretation of the Bid Documents, shall request the explanation or interpretation in writing by close of business on the Thursday preceding the bid opening to allow a written reply to reach all prospective Bidders before the submission of their Bids.

1-02.6 Preparation of Proposal
In this section, “Disadvantaged Business Enterprise” is revised to read “Underutilized Disadvantaged Business Enterprise”, and “DBE” is revised to read “UDBE”.

1-02.9 Delivery of Proposal
The last sentence of the third paragraph is revised to read:

The Contracting Agency will not open or consider any Proposal when the Proposal or Bid deposit is received after the time specified for receipt of Proposals or received in a location other than that specified for receipt of Proposals unless an emergency or unanticipated event interrupts normal work processes of the Contracting Agency so that Proposals cannot be received.
The following new paragraph is inserted before the last paragraph:

If an emergency or unanticipated event interrupts normal work processes of the Contracting Agency so that Proposals cannot be received at the office designated for receipt of bids as specified in Section 1-02.12 the time specified for receipt of the Proposal will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which the normal work processes of the Contracting Agency resume.

1-02.12 Public Opening of Proposals
This section is supplemented with the following new paragraph:

If an emergency or unanticipated event interrupts normal work processes of the Contracting Agency so that Proposals cannot be opened at the time indicated in the call for Bids the time specified for opening of Proposals will be deemed to be extended to the same time of day on the first work day on which the normal work processes of the Contracting Agency resume.

1-02.13 Irregular Proposals
In this section, “Disadvantaged Business Enterprise” is revised to read “Underutilized Disadvantaged Business Enterprise”, and “DBE” is revised to read “UDBE”.

1-04.AP1
Section 1-04, Scope of the Work
June 1, 2017

1-04.2 Coordination of Contract Documents, Plans, Special Provisions, Specifications, and Addenda
The following new paragraph is inserted before the second to last paragraph:

Whenever reference is made in these Specifications or the Special Provisions to codes, rules, specifications, and standards, the reference shall be construed to mean the code, rule, specification, or standard that is in effect on the Bid advertisement date, unless otherwise stated or as required by law.

1-04.3 Reference Information
This section is supplemented with the following new sentence:

If a document that is provided as reference information contains material also included as a part of the Contract, that portion of the document shall be considered a part of the Contract and not as Reference Information.

1-04.4(2)A General
Item number 4 in the third paragraph is revised to read:

4. Provide substitution for deleted or reduced Condition of Award Work, Apprentice Utilization and Training.
Section 1-06, Control of Material
August 7, 2017

This section is supplemented with the following new section and subsections:

1-06.6 Recycled Materials
The Contractor shall make their best effort to utilize recycled materials in the construction of the project; the use of recycled concrete aggregate as specified in Section 1-06.6(1)A is a requirement of the Contract.

The Contractor shall submit a Recycled Material Utilization Plan as a Type 1 Working Drawing within 30 calendar days after the Contract is executed. The plan shall provide the Contractor’s anticipated usage of recycled materials for meeting the requirements of these Specifications. The quantity of recycled materials will be provided in tons and as a percentage of the Plan quantity for each material listed in Section 9-03.21(1)E Table on Maximum Allowable Percent (By Weight) of Recycled Material. When a Contract does not include Work that requires the use of a material that is included in the requirements for using materials the Contractor may state in their plan that no recycled materials are proposed for use.

Prior to Physical Completion the Contractor shall report the quantity of recycled materials that were utilized in the construction of the project for each of the items listed in Section 9-03.21. The report shall include hot mix asphalt, recycled concrete aggregate, recycled glass, steel furnace slag and other recycled materials (e.g. utilization of on-site material and aggregates from concrete returned to the supplier). The Contractor's report shall be provided on DOT Form 350-075 Recycled Materials Reporting.

1-06.6(1) Recycling of Aggregate and Concrete Materials
1-06.6(1)A General
The minimum quantity of recycled concrete aggregate shall be 25 percent of the total quantity of aggregate that is incorporated into the Contract for those items listed in Section 9-03.21(1)E Table on Maximum Allowable Percent (By Weight) of Recycled Material that allow the use of recycled concrete aggregate. The percentage of recycled material incorporated into the project for meeting the required percentage will be calculated in tons based on the quantity of recycled concrete used on the entire Contract and not as individual items.

If the Contractor’s total cost for Work with recycled concrete aggregate is greater than without the Contractor may choose to not use recycled concrete aggregate. If the Recycled Material Utilization Plan does not indicate the minimum usage of recycled concrete aggregate required above, or if completed project quantities do not meet the minimum usage required, the Contractor shall develop the following:

1. A cost estimate for each material listed in Section 9-03.21(1)E that is utilized on the Contract. The cost estimate shall include the following:

   a. The estimated costs for the Work for each material with 25 percent recycled concrete aggregate. The cost estimate shall include for
each material a copy of the price quote from the supplier with the lowest total cost for the Work.

b. The estimated costs for the Work for each material without recycled concrete aggregate.

The Contractor’s cost estimates shall be submitted as an attachment to the Recycled Material Utilization Plan, or with the Reporting form.

1-07.AP1
Section 1-07, Legal Relations and Responsibilities to the Public
August 7, 2017

1-07.1 Laws to be Observed
The second paragraph is deleted.

In the second to last sentence of the third paragraph, “WSDOT” is revised to read “Contracting Agency”.

1-07.2(2) State Sales Tax: WAC 458-20-170 – Retail Sales Tax
The last three sentences of the first paragraph are deleted and replaced with the following new sentence:

The Contractor (Prime or Subcontractor) shall include sales or use tax on the purchase or rental of tools, machinery, equipment, or consumable supplies not integrated into the project, in the unit bid prices.

1-07.3(1) Forest Fire Prevention
This section is supplemented with the following new subsections:

1-07.3(1)A Fire Prevention Control and Countermeasures Plan
The Contractor shall prepare and implement a project-specific fire prevention, control, and countermeasures plan (FPCC Plan) for the duration of the project. The Contractor shall submit a Type 2 Working Drawing no later than the date of the preconstruction conference.

1-07.3(1)A1 FPCC Plan Implementation Requirements
The Contractor’s FPCC Plan shall be fully implemented at all times. The Contractor shall update the FPCC Plan throughout project construction so that the plan reflects actual site conditions and practices. The Contractor shall update the FPCC Plan at least annually and maintain a copy of the updated FPCC Plan that is available for inspection on the project site. Revisions to the FPCC Plan and the Industrial Fire Precaution Level (IFPL) shall be discussed at the weekly project safety meetings.

1-07.3(1)A2 FPCC Plan Element Requirements
The FPCC Plan shall include the following:

1. The names, titles, and contact information for the personnel responsible for implementing and updating the plan.
2. The names and telephone numbers of the Federal, State, and local agencies the Contractor shall notify in the event of a fire.

3. All potential fire causing activities such as welding, cutting of metal, blasting, fueling operations, etc.

4. The location of fire extinguishers, water, shovels, and other firefighting equipment.

5. The response procedures the Contractor shall follow in the event of a fire.

Most of Washington State is covered under the IFPL system which, by law, is managed by the Department of Natural Resources (DNR). It is the Contractor’s responsibility to be familiar with the DNR requirements and to verify whether or not IFPL applies to the specific project.

If the Contractor wishes to continue a work activity that is prohibited under an industrial fire precaution level, the Contractor shall obtain a waiver from the DNR and provide a copy to the Engineer prior to continuation of work on the project.

If the IFPL requirements prohibit the Contractor from performing Work the Contractor may be eligible for an unworkable day in accordance with Section 1-08.5.

The Contractor shall comply with the requirements of these provisions at no additional cost to the Contracting Agency.

1-07.8 High-Visibility Apparel

The last paragraph is revised to read:

High-visibility garments shall be labeled as, and in a condition compliant with the ANSI/ISEA 107 (2004 or later version) and shall be used in accordance with manufacturer recommendations.

1-07.8(1) Traffic Control Personnel

In this section, references to “ANSI/ISEA 107-2004” are revised to read “ANSI/ISEA 107”.

1-07.8(2) Non-Traffic Control Personnel

In this section, the reference to “ANSI/ISEA 107-2004” is revised to read “ANSI/ISEA 107”.

1-07.9(2) Posting Notices

Items 1 and 2 are revised to read:


Items 5, 6 and 7 are revised to read:

5. WHD 1420 (revised 02/13) – Employee Rights and Responsibilities Under The Family And Medical Leave Act published by US Department of Labor. Post on all projects.

6. WHD 1462 (revised 01/16) – Employee Polygraph Protection Act published by US Department of Labor. Post on all projects.


Items 9 and 10 are revised to read:


1-07.15(1) Spill Prevention, Control, and Countermeasures Plan

The second sentence of the first paragraph is deleted.

The first sentence of the second paragraph is revised to read:

The SPCC Plan shall address all fuels, petroleum products, hazardous materials, and other materials defined in Chapter 447 of the WSDOT Environmental Manual M 31-11.

Item number four of the fourth paragraph (up until the colon) is revised to read:

4. Potential Spill Sources – Describe each of the following for all potentially hazardous materials brought or generated on-site, including but not limited to materials used for equipment operation, refueling, maintenance, or cleaning:

The first sentence of item 7e of the fourth paragraph is revised to read:

BMP methods and locations where they are used to prevent discharges to ground or water during mixing and transfer of hazardous materials and fuel.

The last paragraph is deleted.

1-08.AP1

Section 1-08, Prosecution and Progress

June 1, 2017

1-08.1 Subcontracting

The eighth and ninth paragraphs are revised to read:
On all projects, the Contractor shall certify to the actual amounts paid to all firms that were used as Subcontractors, lower tier subcontractors, manufacturers, regular dealers, or service providers on the Contract. This includes all Disadvantaged, Minority, Small, Veteran or Women’s Business Enterprise firms. This Certification shall be submitted to the Engineer on a monthly basis each month between Execution of the Contract and Physical Completion of the Contract using the application available at: https://wsdot.diversitycompliance.com. A monthly report shall be submitted for every month between Execution of the Contract and Physical Completion regardless of whether payments were made or work occurred.

The Contractor shall comply with the requirements of RCW 39.04.250, 39.76.011, 39.76.020, and 39.76.040, in particular regarding prompt payment to Subcontractors. Whenever the Contractor withholds payment to a Subcontractor for any reason including disputed amounts, the Contractor shall provide notice within 10 calendar days to the Subcontractor with a copy to the Contracting Agency identifying the reason for the withholding and a clear description of what the Subcontractor must do to have the withholding released. Retainage withheld by the Contractor prior to completion of the Subcontractors work is exempt from reporting as a payment withheld and is not included in the withheld amount. The Contracting Agency’s copy of the notice to Subcontractor for deferred payments shall be submitted to the Engineer concurrently with notification to the Subcontractor.

1-08.1(1) Prompt Payment, Subcontract Completion and Return of Retainage Withheld

In item number 5 of the first paragraph, “WSDOT” is revised to read “Contracting Agency”.

The last sentence in item number 11 of the first paragraph is revised to read:

The Contractor may also require any documentation from the Subcontractor that is required by the subcontract or by the Contract between the Contractor and Contracting Agency or by law such as affidavits of wages paid, and material acceptance certifications to the extent that they relate to the Subcontractor’s Work.

Item number 12 of the first paragraph is revised to read:

12. If the Contractor fails to comply with the requirements of the Specification and the Subcontractor’s retainage or retainage bond is wrongfully withheld, the Contractor will be subject to the actions described in No. 7 listed above. The Subcontractor may also seek recovery against the Contractor under applicable prompt pay statutes in addition to any other remedies provided for by the subcontract or by law.

1-08.5 Time for Completion

In item 2c of the last paragraph, “Quarterly Reports” is revised to read “Monthly Reports”.

1-09.AP1  Section 1-09, Measurement and Payment  April 4, 2016

1-09.6 Force Account
The second sentence of item number 4 is revised to read:
A “specialized service” is a work operation that is not typically done by worker classifications as defined by the Washington State Department of Labor and Industries and by the Davis Bacon Act, and therefore bills by invoice for work in road, bridge and municipal construction.

1-10.AP1  Section 1-10, Temporary Traffic Control  January 3, 2017

1-10.1(2) Description
The first paragraph is revised to read:
The Contractor shall provide flaggers and all other personnel required for labor for traffic control activities that are not otherwise specified as being furnished by the Contracting Agency.

In the third paragraph, “Project Engineer” is revised to read “Engineer”.

The following new paragraph is inserted after the third paragraph:
The Contractor shall keep lanes, on-ramps, and off-ramps, open to traffic at all times except when Work requires closures. Ramps shall not be closed on consecutive interchanges at the same time, unless approved by the Engineer. Lanes and ramps shall be closed for the minimum time required to complete the Work. When paving hot mix asphalt the Contractor may apply water to the pavement to shorten the time required before reopening to traffic.

1-10.3(2)C Lane Closure Setup/Takedown
The following new paragraph is inserted before the last paragraph:
Channelization devices shall not be moved by traffic control personnel across an open lane of traffic. If an existing setup or staging of traffic control devices require crossing an open lane of traffic, the traffic control devices shall be taken down completely and then set up in the new configuration.

2-02.AP2  Section 2-02, Removal of Structures and Obstructions  August 7, 2017

2-02.3(2)A Bridge Removal
This section’s title is revised to read:
Bridge and Structure Removal

2-03.AP2

Section 2-03, Roadway Excavation and Embankment

August 1, 2016

2-03.3(7)C Contractor-Provided Disposal Site

The second paragraph is revised to read:

The Contractor shall acquire all permits and approvals required for the use of the disposal sites before any waste is hauled off the project. The Contractor shall submit a Type 1 Working Drawing consisting of copies of the permits and approvals for any disposal sites to be used. The cost of any such permits and approvals shall be included in the Bid prices for other Work.

The third paragraph is deleted.

2-06.AP2

Section 2-06, Subgrade Preparation

January 3, 2017

2-06.3(2) Subgrade for Pavement

The second sentence in the first paragraph is revised to read:

The Contractor shall compact the Subgrade to a depth of 6 inches to 95 percent of maximum density as determined by the compaction control tests for granular materials.

3-04.AP3

Section 3-04, Acceptance of Aggregate

January 3, 2017

3-04.5 Payment

In Table 1, the Contingent Unit Price Per Ton value for the item HMA Aggregate is revised to read "$15.00".

4-04.AP4

Section 4-04, Ballast and Crush Surfacing

January 3, 2017

4-04.3(5) Shaping and Compaction

The first sentence is revised to read:

Immediately following spreading and final shaping, each layer of surfacing shall be compacted to at least 95 percent of maximum density determined by the requirements of Section 2-03.3(14)D before the next succeeding layer of surfacing or pavement is placed.
Section 5-01, Cement Concrete Pavement Rehabilitation
January 3, 2017

In this section, “portland cement” is revised to read “cement”.

5-01.2 Materials
In the first paragraph, the following item is inserted after the item “Joint Sealants”:

Closed Cell Foam Backer Rod 9-04.2(3)A

5-01.3(1)A Concrete Mix Designs
This section, including title, is revised to read:

5-01.3(1)A Mix Designs
The Contractor shall use either concrete patching materials or cement concrete for the rehabilitation of cement concrete pavement. Concrete patching materials shall be used for spall repair and dowel bar retrofitting and cement concrete shall be used for concrete panel replacement.

5-01.3(1)A1 Concrete Patching Materials
Item number 1 is revised to read:

1. Materials – The prepackaged concrete patching material and the aggregate extender shall conform to Section 9-20.

5-01.3(1)A2 Portland Cement Concrete
This section, including title, is revised to read:

5-01.3(1)A2 Cement Concrete for Panel Replacement
Cement concrete for panel replacement shall meet the requirements of Sections 5-05.3(1) and 5-05.3(2) and be air entrained with a design air content of 5.5 percent. Cement concrete for panel replacement may use rapid hardening hydraulic cement meeting the requirements of Section 9-01.2(2). Rapid hardening hydraulic cement will be considered a cementitious material for the purpose of calculating the water/cementitious materials ratio and the minimum cementitious materials requirement.

5-01.3(1)B Equipment
This section’s title is revised to read:

Equipment for Panel Replacement

5-01.3(2)B Portland Cement Concrete
This section’s title is revised to read:

Cement Concrete for Panel Replacement

This section is supplemented with the following new subsection:
5-01.3(2)B1 Conformance to Mix Design
Acceptance of cement concrete pavement for panel replacement shall be in accordance with Section 5-01.3(2)B. The cement, coarse, and fine aggregate weights shall be within the tolerances of the mix design in accordance with Section 5-05.3(1).

5-01.3(2)B1 Rejection of Concrete
This section is renumbered as follows:

5-01.3(2)B2 Rejection of Concrete

5-01.3(4) Replace Portland Cement Concrete Panel
This section’s title is revised to read:

Replace Cement Concrete Panel

5-01.3(8) Sealing Existing Transverse and Longitudinal Joints
This section’s title is revised to read:

Sealing Existing Longitudinal and Transverse Joint

The first paragraph is revised to read:

The Contractor shall clean and seal existing longitudinal and transverse joints where shown in the Plans or as marked by the Engineer.

The first sentence of the second paragraph is revised to read:

Old sealant and incompressible material shall be completely removed from the joint to the depth of the new reservoir with a diamond blade saw in accordance with the detail shown in the Standard Plans.

The fifth paragraph is revised to read:

Immediately prior to sealing, the cracks shall be blown clean with dry oil-free compressed air. If shown in the Plans, a backer rod shall be placed at the base of the sawn reservoir. The joints shall be completely dry before the sealing installation may begin. Immediately following the air blowing and backer rod placement, if required, the sealant material shall be installed in conformance to manufacturer’s recommendations and in accordance with Section 5-05.3(8)B.

5-01.3(9) Portland Cement Concrete Pavement Grinding
This section’s title is revised to read:

Cement Concrete Pavement Grinding

5-01.3(11) Concrete Slurry and Grinding Residue
The last sentence of the first paragraph is revised to read:

Slurry shall not be allowed to drain into an area open to traffic, off of the paved surface, into any drainage structure, water of the state, or wetlands.
The following new sentence is inserted at the end of the second paragraph:

The Contractor shall submit copies of all disposal tickets to the Engineer within 5 calendar days.

5-01.4 Measurement

The fourth paragraph is revised to read:

Sealing existing longitudinal and transverse joint will be measured by the linear foot, measured along the line of the completed joint.

5-01.5 Payment

The Bid item “Sealing Transverse and Longitudinal Joints”, per linear foot and the paragraph following Bid item are revised to read:

“Sealing Existing Longitudinal and Transverse Joint”, per linear foot.

The unit Contract price per linear foot for “Sealing Existing Longitudinal and Transverse Joint”, shall be full payment for all costs to complete the Work as specified, including removing incompressible material, preparing and sealing existing transverse and longitudinal joints where existing transverse and longitudinal joints are cleaned and for all incidentals required to complete the Work as specified.

5-02.AP5

Section 5-02, Bituminous Surface Treatment

April 4, 2016

5-02.3(2) Preparation of Roadway Surface

This section is supplemented with the following new subsection:

5-02.3(2)E Crack Sealing

Where shown in the Plans, seal cracks and joints in the pavement in accordance with Section 5-04.3(4)A1 and the following:

1. Cracks ¼ inch to 1 inch in width - fill with hot poured sealant.

2. Cracks greater than 1 inch in width – fill with sand slurry.

5-04.AP5

Section 5-04, Hot Mix Asphalt

April 3, 2017

This section (and all subsections) is revised to read:

This Section 5-04 is written in a style which, unless otherwise indicated, shall be interpreted as direction to the Contractor.
5-04.1 Description
This Work consists of providing and placing one or more layers of plant-mixed hot mix asphalt (HMA) on a prepared foundation or base, in accordance with these Specifications and the lines, grades, thicknesses, and typical cross-sections shown in the Plans. The manufacture of HMA may include warm mix asphalt (WMA) processes in accordance with these Specifications.

HMA shall be composed of asphalt binder and mineral materials as required, and may include reclaimed asphalt pavement (RAP) or reclaimed asphalt shingles (RAS), mixed in the proportions specified to provide a homogeneous, stable, and workable mix.

5-04.2 Materials
Provide materials as specified in these sections:

- Asphalt Binder 9-02.1(4)
- Cationic Emulsified Asphalt 9-02.1(6)
- Anti-Stripping Additive 9-02.4
- Warm Mix Asphalt Additive 9-02.5
- Aggregates 9-03.8
- Reclaimed Asphalt Pavement (RAP) 9-03.8(3)B
- Reclaimed Asphalt Shingles (RAS) 9-03.8(3)B
- Mineral Filler 9-03.8(5)
- Recycled Material 9-03.21
- Joint Sealants 9-04.2
- Closed Cell Foam Backer Rod 9-04.2(3)A

5-04.2(1) How to Get an HMA Mix Design on the QPL
Comply with each of the following:

- Develop the mix design in accordance with WSDOT SOP 732.
- Develop a mix design that complies with Sections 9-03.8(2) and 9-03.8(6).
- Develop a mix design no more than 6 months prior to submitting it for QPL evaluation.
- Submit mix designs to the WSDOT State Materials Laboratory in Tumwater, including WSDOT Form 350-042.
- Include representative samples of the materials that are to be used in the HMA production as part of the mix design submittal.
- Identify the brand, type, and percentage of anti-stripping additive in the mix design submittal.
- Include with the mix design submittal a certification from the asphalt binder supplier that the anti-stripping additive is compatible with the crude source and the formulation of asphalt binder proposed for use in the mix design.
• Do not include warm mix asphalt (WMA) additives when developing a mix
design or submitting a mix design for QPL evaluation. The use of warm
mix asphalt (WMA) additives is not part of the process for obtaining
approval for listing a mix design on the QPL. Refer to Section 5-
04.2(2)B.

The Contracting Agency’s basis for approving, testing, and evaluating HMA mix
designs for approval on the QPL is dependent on the contractual basis for
acceptance of the HMA mixture, as shown in Table 1.

| Basis for Contracting Agency Evaluation of HMA Mix Designs for Approval on the QPL |
|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|
| Contractual Basis for Acceptance of HMA Mixture (see Section 5-04.3(9)) | Basis for Contracting Agency Approval of Mix Design for Placement on QPL | Contracting Agency Materials Testing for Evaluation of the Mix Design |
| Statistical Evaluation | WSDOT Standard Practice QC-8 | The Contracting Agency will test the mix design materials for compliance with Sections 9-03.8(2) and 9-03.8(6). |
| Visual Evaluation | Review of Form 350-042 for compliance with Sections 9-03.8(2) and 9-03.8(6) | The Contracting Agency may elect to test the mix design materials, or evaluate in accordance with WSDOT Standard Practice QC-8, at its sole discretion. |

If the Contracting Agency approves the mix design, it will be listed on the QPL for
12 consecutive months. The Contracting Agency may extend the 12 month listing
provided the Contractor submits a certification letter to the Qualified Products
Engineer verifying that the aggregate source and job mix formula (JMF) gradation,
and asphalt binder crude source and formulation have not changed. The
Contractor may submit the certification no sooner than three months prior to
expiration of the initial 12 month mix design approval. Within 7 calendar days of
receipt of the Contractor’s certification, the Contracting Agency will update the
QPL. The maximum duration for approval of a mix design and listing on the QPL
will be 24 months from the date of initial approval or as approved by the Engineer.

5-04.2(1)A Mix Designs Containing RAP and/or RAS
Mix designs are classified by the RAP and/or RAS content as shown in Table 2.

<p>| Table 2 |
|-------------------------------------------------|-------------------------------------------------|
| Mix Design Classification Based on RAP/RAS Content |
| RAP/RAS Classification | RAP/RAS Content |
| Low RAP/No RAS | 0% ≤ RAP% ≤ 20% and RAS% = 0% |</p>
<table>
<thead>
<tr>
<th>High RAP/Any RAS</th>
<th>20% &lt; RAP% ≤ Maximum Allowable RAP(^2) and/or 0% &lt; RAS% ≤ Maximum Allowable RAS(^2)</th>
</tr>
</thead>
</table>

\(^1\)Percentages in this table are by total weight of HMA
\(^2\)See Table 4 to determine the limits on the maximum amount RAP and/or RAS.

5-04.2(1)A1 Low RAP/No RAS – Mix Design Submittals for Placement on QPL

For Low RAP/No RAS mix designs, comply with the following additional requirements:

1. Develop the mix design with or without the inclusion of RAP.
2. The asphalt binder grade shall be the grade indicated in the Bid item name or as otherwise required by the Contract.
3. Submit samples of RAP if used in development of the mix design.
4. Testing RAP or RAS stockpiles is not required for obtaining approval for placing these mix designs on the QPL.

5-04.2(1)A2 High RAP/Any RAS - Mix Design Submittals for Placement on QPL

For High RAP/Any RAS mix designs, comply with the following additional requirements:

1. For mix designs with any RAS, test the RAS stockpile (and RAP stockpile if any RAP is in the mix design) in accordance with Table 3.
2. For High RAP mix designs with no RAS, test the RAP stockpile in accordance with Table 3.
3. For mix designs with High RAP/Any RAS, construct a single stockpile for RAP and a single stockpile for RAS and isolate (sequester) these stockpiles from further stockpiling before beginning development of the mix design. Test the RAP and RAS during stockpile construction as required by item 1 and 2 above. Use the test data in developing the mix design, and report the test data to the Contracting Agency on WSDOT Form 350-042 as part of the mix design submittal for approval on the QPL. Account for the reduction in asphalt binder contributed from RAS in accordance with AASHTO PP 78. Do not add to these stockpiles after starting the mix design process.

Table 3
Test Frequency of RAP/RAS During RAP/RAS Stockpile Construction For Approving a High RAP/Any RAS Mix Design for Placement on the QPL

<table>
<thead>
<tr>
<th>Test Frequency</th>
<th>Test for</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 1/1000 tons of RAP (minimum of 10 per mix design) and • 1/100 tons of RAS (minimum of 10 per mix design)</td>
<td>Asphalt Binder Content and Sieve Analysis of Fine and Coarse Aggregate</td>
<td>FOP for AASHTO T 308 and FOP for WAQTC T 27/T 11</td>
</tr>
</tbody>
</table>

1“tons”, in this table, refers to tons of the reclaimed material before being incorporated into HMA.

4. Limit the amount of RAP and/or RAS used in a High RAP/Any RAS mix design by the amount of binder contributed by the RAP and/or RAS, in accordance with Table 4.

Table 4

<table>
<thead>
<tr>
<th>Maximum Amount of RAP and/or RAS in HMA Mixture</th>
<th>Maximum Amount of Binder Contributed from:</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAP</td>
<td>RAS</td>
</tr>
<tr>
<td>40%(^1) minus contribution of binder from RAS</td>
<td>20%(^2)</td>
</tr>
</tbody>
</table>

\(^1\)Calculated as the weight of asphalt binder contributed from the RAP as a percentage of the total weight of asphalt binder in the mixture.

\(^2\)Calculated as the weight of asphalt binder contributed from the RAS as a percentage of the total weight of asphalt binder in the mixture.

5. Develop the mix design including RAP, RAS, recycling agent, and new binder.

6. Extract, recover, and test the asphalt residue from the RAP and RAS stockpiles to determine the percent of recycling agent and/or grade of new asphalt binder needed to meet but not exceed the performance grade (PG) of asphalt binder required by the Contract.
   a. Perform the asphalt extraction in accordance with AASHTO T 164 or ASTM D 2172 using reagent grade solvent.
   b. Perform the asphalt recovery in accordance with AASHTO R 59 or ASTM D 1856.
   c. Test the recovered asphalt residue in accordance with AASHTO R 29 to determine the asphalt binder grade in accordance with Section 9-02.1(4).
d. After determining the recovered asphalt binder grade, determine the percent of recycling agent and/or grade of new asphalt binder in accordance with ASTM D 4887.

e. Test the final blend of recycling agent, binder recovered from the RAP and RAS, and new asphalt binder in accordance with AASHTO R 29. The final blended binder shall meet but not exceed the performance grade of asphalt binder required by the Contract and comply with the requirements of Section 9-02.1(4).

7. Include the following test data with the mix design submittal:

   a. All test data from RAP and RAS stockpile construction.

   b. All data from testing the recovered and blended asphalt binder.

8. Include representative samples of the following with the mix design submittal:

   a. RAP and RAS.

   b. 150 grams of recovered asphalt residue from the RAP and RAS that are to be used in the HMA production.

5-04.2(1)B Commercial HMA - Mix Design Submittal for Placement on QPL

For HMA used in the Bid item Commercial HMA, in addition to the requirements of 5-04.2(1) identify the following in the submittal:

1. Commercial HMA

2. Class of HMA

3. Performance grade of binder

4. Equivalent Single Axle Load (ESAL)

The Contracting Agency may elect to approve Commercial HMA mix designs without evaluation.

5-04.2(1)C Mix Design Resubmittal for QPL Approval

Develop a new mix design and resubmit for approval on the QPL when any of the following changes occur. When these occur, discontinue using the mix design until after it is reapproved on the QPL.

1. Change in the source of crude petroleum used in the asphalt binder.

2. Changes in the asphalt binder refining process.
3. Changes in additives or modifiers in the asphalt binder.

4. Changes in the anti-strip additive, brand, type or quantity.

5. Changes to the source of material for aggregate.

6. Changes to the job mix formula that exceed the amounts as described in item 2 of Section 9-03.8(7), unless otherwise approved by the Engineer.

7. Changes in the percentage of material from a stockpile, when such changes exceed 5% of the total aggregate weight.

   a. For Low RAP/No RAS mix designs developed without RAP, changes to the percentage of material from a stockpile will be calculated based on the total aggregate weight not including the weight of RAP.

   b. For Low RAP/No RAS mix designs developed with RAP, changes to the percentage of material from a stockpile will be calculated based on the total aggregate weight including the weight of RAP.

   c. For High RAP/Any RAS mix designs, changes in the percentage of material from a stockpile will be based on total aggregate weight including the weight of RAP (and/or RAS when included in the mixture).

Prior to making any change in the amount of RAS in an approved mix design, notify the Engineer for determination of whether a new mix design is required, and obtain the Engineer’s approval prior to implementing such changes.

5-04.2(2) Mix Design – Obtaining Project Approval

Use only mix designs listed on the Qualified Products List (QPL). Submit WSDOT Form 350-041 to the Engineer to request approval to use a mix design from the QPL. Changes to the job mix formula (JMF) that have been approved on other contracts may be included. The Engineer may reject a request to use a mix design if production of HMA using that mix design on any contract is not in compliance with Section 5-04.3(11)D, E, F, and G for mixture or compaction.

5-04.2(2)A Changes to the Job Mix Formula

The approved mix design obtained from the QPL will be considered the starting job mix formula (JMF) and shall be used as the initial basis for acceptance of HMA mixture, as detailed in Section 5-04.3(9).

During production the Contractor may request to adjust the JMF. Any adjustments to the JMF will require approval of the Engineer and shall be made in accordance with item 2 of Section 9-03.8(7). After approval by the Engineer, such adjusted JMF’s shall constitute the basis for acceptance of the HMA mixture.
5-04.2(2)B Using Warm Mix Asphalt Processes
The Contractor may, at the Contractor’s discretion, elect to use warm mix asphalt (WMA) processes for producing HMA. WMA processes include organic additives, chemical additives, and foaming. The use of WMA is subject to the following:

- Do not use WMA processes in the production of High RAP/Any RAS mixtures.
- Before using WMA processes, obtain the Engineer’s approval using WSDOT Form 350-076 to describe the proposed WMA process.

5-04.3 Construction Requirements
5-04.3(1) Weather Limitations
Do not place HMA for wearing course on any Traveled Way beginning October 1st through March 31st of the following year, without written concurrence from the Engineer.

Do not place HMA on any wet surface, or when the average surface temperatures are less than those specified in Table 5, or when weather conditions otherwise prevent the proper handling or finishing of the HMA.

Table 5
Minimum Surface Temperature for Paving

<table>
<thead>
<tr>
<th>Compacted Thickness (Feet)</th>
<th>Wearing Course</th>
<th>Other Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 0.10</td>
<td>55°F</td>
<td>45°F</td>
</tr>
<tr>
<td>0.10 to 0.20</td>
<td>45°F</td>
<td>35°F</td>
</tr>
<tr>
<td>More than 0.20</td>
<td>35°F</td>
<td>35°F</td>
</tr>
</tbody>
</table>

5-04.3(2) Paving Under Traffic
These requirements apply when the Roadway being paved is open to traffic.

In hot weather, the Engineer may require the application of water to the pavement to accelerate the finish rolling of the pavement and to shorten the time required before reopening to traffic.

During paving operations, maintain temporary pavement markings throughout the project. Install temporary pavement markings on the Roadway prior to opening to traffic. Temporary pavement markings shall comply with Section 8-23.

5-04.3(3) Equipment
5-04.3(3)A Mixing Plant
Equip mixing plants as follows.

1. **Use tanks for storage and preparation of asphalt binder which:**
   - Heat the contents by means that do not allow flame to contact the contents or the tank, such as by steam or electricity.
• Heat and hold contents at the required temperatures.

• Continuously circulate contents to provide uniform temperature and consistency during the operating period.

• Provide an asphalt binder sampling valve, in either the storage tank or the supply line to the mixer.

2. **Provide thermometric equipment:**

• In the asphalt binder feed line near the charging valve at the mixer unit, capable of detecting temperature ranges expected in the HMA and in a location convenient and safe for access by Inspectors.

• At the discharge chute of the drier to automatically register or indicate the temperature of the heated aggregates, and situated in full view of the plant operator.

3. **When heating asphalt binder:**

• Do not exceed the maximum temperature of the asphalt binder recommended by the asphalt binder supplier.

• Avoid local variations in heating.

• Provide a continuous supply of asphalt binder to the mixer at a uniform average temperature with no individual variations exceeding $25^\circ F$.

4. **Provide a mechanical sampler for sampling mineral materials that:**

• Meets the crushing or screening requirements of Section 1-05.6.

5. **Provide HMA sampling equipment that complies with WSDOT T168.**

• Use a mechanical sampling device installed between the discharge of the silo and the truck transport, approved by the Engineer, or

• Platforms or devices to enable sampling from the truck transport without entering the truck transport for sampling HMA.

6. **Provide for setup and operation of the Contracting Agency’s field testing:**

• As required in Section 3-01.2(2).

7. **Provide screens or a lump breaker:**
• When using any RAP or any RAS, to eliminate oversize RAP or RAS particles from entering the pug mill or drum mixer.

5-04.3(3)B Hauling Equipment
Provide HMA hauling equipment with tight, clean, smooth metal beds and a cover of canvas or other suitable material of sufficient size to protect the HMA from adverse weather. Securely attach the cover to protect the HMA whenever the weather conditions during the work shift include, or are forecast to include, precipitation or an air temperature less than 45°F.

Prevent HMA from adhering to the hauling equipment. Spray metal beds with an environmentally benign release agent. Drain excess release agent prior to filling hauling equipment with HMA. Do not use petroleum derivatives or other coating material that contaminate or alter the characteristics of the HMA. For hopper trucks, operate the conveyer during the process of applying the release agent.

5-04.3(3)C Pavers
Use self-contained, power-propelled pavers provided with an internally heated vibratory screed that is capable of spreading and finishing courses of HMA in lane widths required by the paving section shown in the Plans.

When requested by the Engineer, provide written certification that the paver is equipped with the most current equipment available from the manufacturer for the prevention of segregation of the coarse aggregate particles. The certification shall list the make, model, and year of the paver and any equipment that has been retrofitted to the paver.

Operate the screed in accordance with the manufacturer’s recommendations and in a manner to produce a finished surface of the required evenness and texture without tearing, shoving, segregating, or gouging the mixture. Provide a copy of the manufacturer’s recommendations upon request by the Contracting Agency. Extensions to the screed will be allowed provided they produce the same results, including ride, density, and surface texture as obtained by the primary screed. In the Travelled Way do not use extensions without both augers and an internally heated vibratory screed.

Equip the paver with automatic screed controls and sensors for either or both sides of the paver. The controls shall be capable of sensing grade from an outside reference line, sensing the transverse slope of the screed, and providing automatic signals that operate the screed to maintain the desired grade and transverse slope. Construct the sensor so it will operate from a reference line or a mat referencing device. The transverse slope controller shall be capable of maintaining the screed at the desired slope within plus or minus 0.1 percent.

Equip the paver with automatic feeder controls, properly adjusted to maintain a uniform depth of material ahead of the screed.
Manual operation of the screed is permitted in the construction of irregularly shaped and minor areas. These areas include, but are not limited to, gore areas, road approaches, tapers and left-turn channelizations.

When specified in the Contract, provide reference lines for vertical control. Place reference lines on both outer edges of the Traveled Way of each Roadway. Horizontal control utilizing the reference line is permitted.

Automatically control the grade and slope of intermediate lanes by means of reference lines or a mat referencing device and a slope control device. When the finish of the grade prepared for paving is superior to the established tolerances and when, in the opinion of the Engineer, further improvement to the line, grade, cross-section, and smoothness can best be achieved without the use of the reference line, a mat referencing device may be substituted for the reference line. Substitution of the device will be subject to the continued approval of the Engineer. A joint matcher may be used subject to the approval of the Engineer. The reference line may be removed after completion of the first course of HMA when approved by the Engineer. Whenever the Engineer determines that any of these methods are failing to provide the necessary vertical control, the reference lines will be reinstalled by the Contractor.

Furnish and install all pins, brackets, tensioning devices, wire, and accessories necessary for satisfactory operation of the automatic control equipment.

If the paving machine in use is not providing the required finish, the Engineer may suspend Work as allowed by Section 1-08.6.

5-04.3(3)D Material Transfer Device or Material Transfer Vehicle

Use a material transfer device (MTD) or material transfer vehicle (MTV) to deliver the HMA from the hauling equipment to the paving machine for any lift in (or partially in) the top 0.30 feet of the pavement section used in traffic lanes. However, an MTD/V is not required for HMA placed in irregularly shaped and minor areas such as tapers and turn lanes, or for HMA mixture that is accepted by Visual Evaluation. At the Contractor’s request the Engineer may approve paving without an MTD/V; the Engineer will determine if an equitable adjustment in cost or time is due. If a windrow elevator is used, the Engineer may limit the length of the windrow in urban areas or through intersections.

To be approved for use, an MTV:

1. Shall be a self-propelled vehicle, separate from the hauling vehicle or paver.
2. Shall not connected to the hauling vehicle or paver.
3. May accept HMA directly from the haul vehicle or pick up HMA from a windrow.
4. Shall mix the HMA after delivery by the hauling equipment and prior to placement into the paving machine.
5. Shall mix the HMA sufficiently to obtain a uniform temperature throughout the mixture.

To be approved for use, an MTD:

1. Shall be positively connected to the paver.

2. May accept HMA directly from the haul vehicle or pick up HMA from a windrow.

3. Shall mix the HMA after delivery by the hauling equipment and prior to placement into the paving machine.

4. Shall mix the HMA sufficiently to obtain a uniform temperature throughout the mixture.

5-04.3(3)E Rollers
Operate rollers in accordance with the manufacturer’s recommendations. When requested by the Engineer, provide a Type 1 Working Drawing of the manufacturer’s recommendation for the use of any roller planned for use on the project. Do not use rollers that crush aggregate, produce pickup or washboard, unevenly compact the surface, displace the mix, or produce other undesirable results.

5-04.3(4) Preparation of Existing Paved Surfaces
Before constructing HMA on an existing paved surface, the entire surface of the pavement shall be clean. Entirely remove all fatty asphalt patches, grease drippings, and other deleterious substances from the existing pavement to the satisfaction of the Engineer. Thoroughly clean all pavements or bituminous surfaces of dust, soil, pavement grindings, and other foreign matter. Thoroughly remove any cleaning or solvent type liquids used to clean equipment spilled on the pavement before paving proceeds. Fill all holes and small depressions with an appropriate class of HMA. Level and thoroughly compact the surface of the patched area.

Apply a uniform coat of asphalt (tack coat) to all paved surfaces on which any course of HMA is to be placed or abutted. Apply tack coat to cover the cleaned existing pavement with a thin film of residual asphalt free of streaks and bare spots. Apply a heavy application of tack coat to all joints. For Roadways open to traffic, limit the application of tack coat to surfaces that will be paved during the same working shift. Equip the spreading equipment with a thermometer to indicate the temperature of the tack coat material.

Do not operate equipment on tacked surfaces until the tack has broken and cured. Repair tack coat damaged by the Contractor’s operation, prior to placement of the HMA.

Unless otherwise approved by the Engineer, use cationic emulsified asphalt CSS-1, CSS-1h, STE-1, or Performance Graded (PG) asphalt for tack coat. The CSS-1 and CSS-1h may be diluted with water at a rate not to exceed one part water to
one part emulsified asphalt. Do not allow the tack coat material to exceed the maximum temperature recommended by the asphalt supplier.

When shown in the Plans, prelevel uneven or broken surfaces over which HMA is to be placed by using an asphalt paver, a motor patrol grader, or by hand raking, as approved by the Engineer.

5-04.3(4)A Crack Sealing
5-04.3(4)A1 General
When the Proposal includes a pay item for crack sealing, seal all cracks ¼ inch in width and greater.

Cleaning: Ensure that cracks are thoroughly clean, dry and free of all loose and foreign material when filling with crack sealant material. Use a hot compressed air lance to dry and warm the pavement surfaces within the crack immediately prior to filling a crack with the sealant material. Do not overheat pavement. Do not use direct flame dryers. Routing cracks is not required.

Sand Slurry: For cracks that are to be filled with sand slurry, thoroughly mix the components and pour the mixture into the cracks until full. Add additional CSS-1 cationic emulsified asphalt to the sand slurry as needed for workability to ensure the mixture will completely fill the crack. Strike off the sand slurry flush with the existing pavement surface and allow the mixture to cure. Top off cracks that were not completely filled with additional sand slurry. Do not place the HMA overlay until the slurry has fully cured.

Hot Poured Sealant: For cracks that are to be filled with hot poured sealant, apply the material in accordance with these requirements and the manufacturer's recommendations. Furnish a Type 1 Working Drawing of the manufacturer's product information and recommendations to the Engineer prior to the start of work, including the manufacturer's recommended heating time and temperatures, allowable storage time and temperatures after initial heating, allowable reheating criteria, and application temperature range. Confine hot poured sealant material within the crack. Clean any overflow of sealant from the pavement surface. If, in the opinion of the Engineer, the Contractor's method of sealing the cracks with hot poured sealant results in an excessive amount of material on the pavement surface, stop and correct the operation to eliminate the excess material.

5-04.3(4)A2 Crack Sealing Areas Prior to Paving
In areas where HMA will be placed, use sand slurry to fill the cracks.

5-04.3(4)A3 Crack Sealing Areas Not to be Paved
In areas where HMA will not be placed, fill the cracks as follows:

1. Cracks ¼ inch to 1 inch in width - fill with hot poured sealant.
2. Cracks greater than 1 inch in width – fill with sand slurry.
5-04.3(4)B Soil Residual Herbicide
Where shown in the Plans, apply one application of an approved soil residual herbicide. Comply with Section 8-02.3(3)B. Complete paving within 48 hours of applying the herbicide.

Use herbicide registered with the Washington State Department of Agriculture for use under pavement. Before use, obtain the Engineer’s approval of the herbicide and the proposed rate of application. Include the following information in the request for approval of the material:

1. Brand Name of the Material,
2. Manufacturer,
3. Environmental Protection Agency (EPA) Registration Number,
4. Material Safety Data Sheet, and
5. Proposed Rate of Application.

5-04.3(4)C Pavement Repair
Excavate pavement repair areas and backfill these with HMA in accordance with the details shown in the Plans and as staked. Conduct the excavation operations in a manner that will protect the pavement that is to remain. Repair pavement not designated to be removed that is damaged as a result of the Contractor’s operations to the satisfaction of the Engineer at no cost to the Contracting Agency. Excavate only within one lane at a time unless approved otherwise by the Engineer. Do not excavate more area than can be completely backfilled and compacted during the same shift.

Unless otherwise shown in the Plans or determined by the Engineer, excavate to a depth of 1.0 feet. The Engineer will make the final determination of the excavation depth required.

The minimum width of any pavement repair area shall be 40 inches unless shown otherwise in the Plans. Before any excavation, sawcut the perimeter of the pavement area to be removed unless the pavement in the pavement repair area is to be removed by a pavement grinder.

Excavated materials shall be the property of the Contractor and shall be disposed of in a Contractor-provided site off the Right of Way or used in accordance with Sections 2-02.3(3) or 9-03.21.

Apply a heavy application of tack coat to all surfaces of existing pavement in the pavement repair area, in accordance with Section 5-04.3(4).

Place the HMA backfill in lifts not to exceed 0.35-foot compacted depth. Thoroughly compact each lift by a mechanical tamper or a roller.
5-04.3(5) Producing/Stockpiling Aggregates, RAP, & RAS

Produce aggregate in compliance with Section 3-01. Comply with Section 3-02 for preparing stockpile sites, stockpiling, and removing from stockpile each of the following: aggregates, RAP, and RAS. Provide sufficient storage space for each size of aggregate, RAP and RAS. Fine aggregate or RAP may be uniformly blended with the RAS as a method of preventing the agglomeration of RAS particles. Remove the aggregates, RAP and RAS from stockpile(s) in a manner that ensures minimal segregation when being moved to the HMA plant for processing into the final mixture. Keep different aggregate sizes separated until they have been delivered to the HMA plant.

5-04.3(5)A Stockpiling RAP or RAS for High RAP/Any RAS Mixes

Do not place any RAP or RAS into a stockpile which has been sequestered for a High RAP/Any RAS mix design. Do not incorporate any RAP or RAS into a High RAP/Any RAS mixture from any source other than the stockpile which was sequestered for approval of that particular High RAP/Any RAS mix design.

RAP that is used in a Low RAP/No RAS mix is not required to come from a sequestered stockpile.

5-04.3(6) Mixing

The asphalt supplier shall introduce anti-stripping additive, in the amount designated on the QPL for the mix design, into the asphalt binder prior to shipment to the asphalt mixing plant.

Anti-strip is not required for temporary work that will be removed prior to Physical Completion.

Use asphalt binder of the grade, and from the supplier, in the approved mix design.

Prior to introducing reclaimed materials into the asphalt plant, remove wire, nails, and other foreign material. Discontinue use of the reclaimed material if the Engineer, in their sole discretion, determines the wire, nails, or other foreign material to be excessive.

Size RAP and RAS prior to entering the mixer to provide uniform and thoroughly mixed HMA. If there is evidence of the RAP or RAS not breaking down during the heating and mixing of the HMA, immediately suspend the use of the RAP or RAS until changes have been approved by the Engineer.

After the required amount of mineral materials, RAP, RAS, new asphalt binder and recycling agent have been introduced into the mixer, mix the HMA until complete and uniform coating of the particles and thorough distribution of the asphalt binder throughout the mineral materials, RAP and RAS is ensured.

Upon discharge from the mixer, ensure that the temperature of the HMA does not exceed the optimum mixing temperature shown on the approved Mix Design Report by more than 25°F, or as approved by the Engineer. When a WMA additive is included in the manufacture of HMA, do not heat the WMA.
additive (at any stage of production including in binder storage tanks) to a

temperature higher than the maximum recommended by the manufacturer of

the WMA additive.

A maximum water content of 2 percent in the mix, at discharge, will be

allowed providing the water causes no problems with handling, stripping, or

flushing. If the water in the HMA causes any of these problems, reduce the

moisture content.

During the daily operation, HMA may be temporarily held in approved storage

facilities. Do not incorporate HMA into the Work that has been held for more

than 24 hours after mixing. Provide an easily readable, low bin-level indicator

on the storage facility that indicates the amount of material in storage. Waste

the HMA in storage when the top level of HMA drops below the top of the

cone of the storage facility, except as the storage facility is being emptied at

the end of the working shift. Dispose of rejected or waste HMA at no expense
to the Contracting Agency.

5-04.3(7) Spreading and Finishing

Do not exceed the maximum nominal compacted depth of any layer in any

course, as shown in Table 6, unless approved by the Engineer:

<table>
<thead>
<tr>
<th>HMA Class</th>
<th>Wearing Course</th>
<th>Other than Wearing Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 inch</td>
<td>0.35 feet</td>
<td>0.35 feet</td>
</tr>
<tr>
<td>¾ and ½ inch</td>
<td>0.30 feet</td>
<td>0.35 feet</td>
</tr>
<tr>
<td>⅞ inch</td>
<td>0.15 feet</td>
<td>0.15 feet</td>
</tr>
</tbody>
</table>

Use HMA pavers complying with Section 5-04.3(3) to distribute the mix. On

areas where irregularities or unavoidable obstacles make the use of

mechanical spreading and finishing equipment impractical, the paving may be
done with other equipment or by hand.

When more than one JMF is being utilized to produce HMA, place the

material produced for each JMF with separate spreading and compacting

equipment. Do not intermingle HMA produced from more than one JMF. Each

strip of HMA placed during a work shift shall conform to a single JMF

established for the class of HMA specified unless there is a need to make an

adjustment in the JMF.

5-04.3(8) Aggregate Acceptance Prior to Incorporation in HMA

Sample aggregate for meeting the requirements of Section 3-04 prior to being

incorporated into HMA. (The acceptance data generated for the Section 3-04

acceptance analysis will not be commingled with the acceptance data
generated for the Section 5-04.3(9) acceptance analysis.) Aggregate

acceptance samples shall be taken as described in Section 3-04. Aggregate

acceptance testing will be performed by the Contracting Agency. Aggregate

contributed from RAP and/or RAS will not be evaluated under Section 3-04.
For aggregate that will be used in HMA mixture which will be accepted by Statistical Evaluation, the Contracting Agency’s acceptance of the aggregate will be based on:

1. Samples taken prior to mixing with asphalt binder, RAP, or RAS;
2. Testing for the materials properties of fracture, uncompacted void content, and sand equivalent;
3. Evaluation by the Contracting Agency in accordance with Section 3-04, including price adjustments as described therein.

For aggregate that will be used in HMA which will be accepted by Visual Evaluation, evaluation in accordance with items 1, 2, and 3 above is at the discretion of the Engineer.

5-04.3(9) HMA Mixture Acceptance
The Contracting Agency will evaluate HMA mixture for acceptance by one of two methods as determined from the criteria in Table 7.

<table>
<thead>
<tr>
<th>Table 7</th>
<th>Basis of Acceptance for HMA Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Visual Evaluation</td>
</tr>
<tr>
<td>Criteria for Selecting the Evaluation Method</td>
<td>• Commercial HMA placed at any location</td>
</tr>
<tr>
<td></td>
<td>• Any HMA placed in:</td>
</tr>
<tr>
<td></td>
<td>o sidewalks</td>
</tr>
<tr>
<td></td>
<td>o road approaches</td>
</tr>
<tr>
<td></td>
<td>o ditches</td>
</tr>
<tr>
<td></td>
<td>o slopes</td>
</tr>
<tr>
<td></td>
<td>o paths</td>
</tr>
<tr>
<td></td>
<td>o trails</td>
</tr>
<tr>
<td></td>
<td>o gores</td>
</tr>
<tr>
<td></td>
<td>o prelevel</td>
</tr>
<tr>
<td></td>
<td>o temporary pavement(^1)</td>
</tr>
<tr>
<td></td>
<td>o pavement repair</td>
</tr>
<tr>
<td></td>
<td>• Other nonstructural applications of HMA as approved by the Engineer</td>
</tr>
</tbody>
</table>

\(^1\) Temporary pavement is HMA that will be removed before Physical Completion of the Contract.

5-04.3(9)A Test Sections
This Section applies to HMA mixture accepted by Statistical Evaluation. A test section is not allowed for HMA accepted by Visual Evaluation.
The purpose of a test section is to determine whether or not the Contractor’s mix design and production processes will produce HMA meeting the Contract requirements related to mixture. Construct HMA mixture test sections at the beginning of paving, using at least 600 tons and a maximum of 1,000 tons or as specified by the Engineer. Each test section shall be constructed in one continuous operation.

5-04.3(9)A1 Test Section – When Required, When to Stop
Use Tables 8 and 9 to determine when a test section is required, optional, or not allowed, and to determine when performing test sections may end. Each mix design will be evaluated independently for the test section requirements. If more than one test section is required, each test section shall be evaluated separately by the criteria in table 8 and 9.

<table>
<thead>
<tr>
<th>Criteria for Conducting and Evaluating HMA Mixture Test Sections</th>
<th>High RAP/Any RAS</th>
<th>Low RAP/No RAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is Mixture Test Section Optional or Mandatory?</td>
<td>Mandatory¹</td>
<td>At Contractor’s Option</td>
</tr>
<tr>
<td>Waiting period after paving the test section.</td>
<td>4 calendar days²</td>
<td>4 calendar days²</td>
</tr>
<tr>
<td>What Must Happen to Stop Performing Test Sections?</td>
<td>Meet “Results Required to Stop Performing Test Sections” in Table 9 for High RAP/Any RAS.</td>
<td>Provide samples and respond to WSDOT test results required by Table 9 for Low RAP/No RAS.</td>
</tr>
</tbody>
</table>

¹If a mix design has produced an acceptable test section on a previous contract (paved in the same calendar year, from the same plant, using the same JMF) the test section may be waived if approved by the Engineer.

²This is to provide time needed by the Contracting Agency to complete testing and the Contractor to adjust the mixture in response to those test results. Paving may resume when this is done.

<table>
<thead>
<tr>
<th>Results Required to Stop Performing HMA Mixture Test Sections¹</th>
<th>Type of HMA</th>
<th>Test Property</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High RAP/Any RAS</td>
<td>Low RAP/No RAS</td>
</tr>
</tbody>
</table>

¹If a mix design has produced an acceptable test section on a previous contract (paved in the same calendar year, from the same plant, using the same JMF) the test section may be waived if approved by the Engineer.
<table>
<thead>
<tr>
<th>Gradation</th>
<th>Minimum PF, of 0.95 based on the criteria in Section 5-04.3(9)B4(^2)</th>
<th>None(^4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt Binder</td>
<td>Minimum PF, of 0.95 based on the criteria in Section 5-04.3(9)B4(^2)</td>
<td>None(^4)</td>
</tr>
<tr>
<td>Va</td>
<td>Minimum PF, of 0.95 based on the criteria in Section 5-04.3(9)B4(^2)</td>
<td>None(^4)</td>
</tr>
<tr>
<td>Hamburg Wheel Track Indirect Tensile Strength</td>
<td>Meet requirements of Section 9-03.8(2).(^3)</td>
<td>These tests will not be done as part of Test Section.</td>
</tr>
<tr>
<td>Aggregates Sand Equivalent Uncompacted Void Content Fracture</td>
<td>Nonstatistical Evaluation in accordance with the requirements of Section 3-04(^3)</td>
<td>None(^3)</td>
</tr>
</tbody>
</table>

1. In addition to the requirements of this table, acceptance of the HMA mixture used in each test section is subject to the acceptance criteria and price adjustments for Statistical Evaluation (see Table 9a).
2. Divide the test section lot into three sublots, approximately equal in size. Take one sample from each sublot, and test each sample for the property in the first column.
3. Take one sample for each test section lot. Test the sample for the properties in the first column.
4. Divide the test section lot into three sublots, approximately equal in size. Take one sample from each sublot, and test each sample for the property in the first column. There are no criteria for discontinuing test sections for these mixes; however, the contractor must comply with Section 5-04.3(11)F before resuming paving.

5-04.3(9)A2 Test Section – Evaluating the HMA Mixture in a Test Section
The Engineer will evaluate the HMA mixture in each test section for rejection, acceptance, and price adjustments based on the criteria in Table 9a using the data generated from the testing required by Table 9. Each test section shall be considered a separate lot.

Table 9a
Acceptance Criteria for HMA Mixture Placed in a Test Section (For HMA Mixture Accepted by Statistical Evaluation)

<table>
<thead>
<tr>
<th>Test Property</th>
<th>Type of HMA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1
2
3
4
5
6
7
8
<table>
<thead>
<tr>
<th>Gradation Asphalt Binder $V_a$</th>
<th>High RAP/Any RAS</th>
<th>Low RAP/No RAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statistical Evaluation</td>
<td>Statistical Evaluation</td>
<td></td>
</tr>
<tr>
<td>Hamburg Wheel Track Indirect Tensile Strength</td>
<td>Pass/Fail for the requirements of Section 9-03.8(2)$^1$</td>
<td>N/A</td>
</tr>
<tr>
<td>HMA Aggregate Sand Equivalent Uncompacted Void Content</td>
<td>Nonstatistical Evaluation in accordance with the requirements of Section 3-04</td>
<td>Nonstatistical Evaluation in accordance with the requirements of Section 3-04</td>
</tr>
</tbody>
</table>

$^1$Failure to meet the specifications for Hamburg and/or IDT will cause the mixture in the test section to be rejected. Refer to Section 5-04.3(11).

5-04.3(9)B Mixture Acceptance – Statistical Evaluation

5-04.3(9)B1 Mixture Statistical Evaluation – Lots and Sublots

HMA mixture which is accepted by Statistical Evaluation will be evaluated by the Contracting Agency dividing that HMA tonnage into mixture lots, and each mixture lot will be evaluated using stratified random sampling by the Contracting Agency sub-dividing each mixture lot into mixture sublots. All mixture in a mixture lot shall be of the same mix design. The mixture sublots will be numbered in the order in which the mixture (of a particular mix design) is paved.

Each mixture lot comprises a maximum of 15 mixture sublots, except:

- The final mixture lot of each mix design on the Contract will comprise a maximum of 25 sublots.
- A mixture lot for a test section will consist of three sublots.

Each mixture subplot shall be approximately uniform in size with the maximum mixture subplot size as specified in Table 10. The quantity of material represented by the final mixture subplot of the project, for each mix design on the project, may be increased to a maximum of two times the mixture subplot quantity calculated.

Table 10

| Maximum HMA Mixture Sublot Size For HMA Accepted by Statistical Evaluation |
|--------------------------------|------------------|----------------|
| HMA Original Plan Quantity (tons)$^1$ | Maximum Sublot Size (tons)$^2$ |
|< 20,000 | 1,000 |
|20,000 to 30,000 | 1,500 |
|>30,000 | 2,000 |

City of Fife
Port of Tacoma Road Interchange – Phase 1
Amendments to Standard Specs
“Plan quantity” means the plan quantity of all HMA of the same class and binder grade which is accepted by Statistical Evaluation.

The maximum sublot size for each combination of HMA class and binder grade shall be calculated separately.

- For a mixture lot in progress with a mixture CPF less than 0.75, a new mixture lot will begin at the Contractor’s request after the Engineer is satisfied that material conforming to the Specifications can be produced. See also Section 5-04.3(11)F.

- If, before completing a mixture lot, the Contractor requests a change to the JMF which is approved by the Engineer, the mixture produced in that lot after the approved change will be evaluated on the basis of the changed JMF, and the mixture produced in that lot before the approved change will be evaluated on the basis of the unchanged JMF; however, the mixture before and after the change will be evaluated in the same lot. Acceptance of subsequent mixture lots will be evaluated on the basis of the changed JMF.

5-04.3(9)B2 Mixture Statistical Evaluation – Sampling
Comply with Section 1-06.2(1).

Samples of HMA mixture which is accepted by Statistical Evaluation will be randomly selected from within each sublot, with one sample per sublot. The Engineer will determine the random sample location using WSDOT Test Method T 716. The Contractor shall obtain the sample when ordered by the Engineer. The Contractor shall sample the HMA mixture in the presence of the Engineer and in accordance with FOP for WAQTC T 168.

5-04.3(9)B3 Mixture Statistical Evaluation – Acceptance Testing
Comply with Section 1-06.2(1).

The Contracting Agency will test the mixture sample from each sublot (including sublots in a test section) for the properties shown in Table 11.

Table 11

<table>
<thead>
<tr>
<th>Testing Required for each HMA Mixture Sublot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>V_a</td>
</tr>
<tr>
<td>Asphalt Binder Content</td>
</tr>
</tbody>
</table>
1

The mixture samples and tests taken for the purpose of determining
acceptance of the test section (as described in Section 5-04.3(9)A)
shall also be used as the test results for acceptance of the mixture
described in 5-04.3(9)B3, 5-04.3(9)B4, 5-04.3(9)B5, and 5-
04.3(9)B6.

5-04.3(9)B4 Mixture Statistical Evaluation – Pay Factors
Comply with Section 1-06.2(2).

The Contracting Agency will determine a pay factor (PFi) for each of
the properties in Table 11, for each mixture lot, using the quality level
analysis in Section 1-06.2(2)D. For Gradation, a pay factor will be
calculated for each of the sieve sizes listed in Table 11 which is
equal to or smaller than the maximum allowable aggregate size (100
percent passing sieve) of the HMA mixture. The USL and LSL shall
be calculated using the Job Mix Formula Tolerances (for Statistical
Evaluation) in Section 9-03.8(7).

If a constituent is not measured in accordance with these
Specifications, its individual pay factor will be considered 1.00 in
calculating the Composite Pay Factor (CPF).

5-04.3(9)B5 Mixture Statistical Evaluation – Composite Pay
Factors (CPF)
Comply with Section 1-06.2(2).

In accordance with Section 1-06.2(2)D4, the Contracting Agency will
determine a Composite Pay Factor (CPF) for each mixture lot from
the pay factors calculated in Section 5-04.3(9)B4, using the price
adjustment factors in Table 12. Unless otherwise specified, the
maximum CPF for HMA mixture shall be 1.05.

<table>
<thead>
<tr>
<th>Constituent</th>
<th>Factor “f”</th>
</tr>
</thead>
<tbody>
<tr>
<td>All aggregate passing: 1½&quot;, 1&quot;, ¾&quot;, ½&quot;, ⅜&quot;, No. 4, No. 8, No. 200</td>
<td></td>
</tr>
<tr>
<td>FOP for WAQTC T 27/T 11</td>
<td></td>
</tr>
<tr>
<td>Engineer</td>
<td></td>
</tr>
</tbody>
</table>

Table 12

5-04.3(9)B6 Mixture Statistical Evaluation – Price Adjustments
For each HMA mixture lot, a Job Mix Compliance Price Adjustment
will be determined and applied, as follows:

<table>
<thead>
<tr>
<th>Constituent</th>
<th>Factor “f”</th>
</tr>
</thead>
<tbody>
<tr>
<td>All aggregate passing No. 8 sieve</td>
<td>15</td>
</tr>
<tr>
<td>All aggregate passing No. 200 sieve</td>
<td>20</td>
</tr>
<tr>
<td>Asphalt binder</td>
<td>40</td>
</tr>
<tr>
<td>Air Voids (Va)</td>
<td>20</td>
</tr>
</tbody>
</table>
JMCPA = [0.60 x (CPF – 1.00)] x Q x UP

Where

JMCPA = Job Mix Compliance Price Adjustment for a given lot of mixture ($)

CPF = Composite Pay factor for a given lot of mixture (maximum is 1.05)

Q = Quantity in a given lot of mixture (tons)

UP = Unit price of the HMA in a given lot of mixture ($/ton)

5-04.3(9)B7 Mixture Statistical Evaluation – Retests
The Contractor may request that a mixture sublot be retested. To request a retest, submit a written request to the Contracting Agency within 7 calendar days after the specific test results have been posted to the website or emailed to the Contractor, whichever occurs first. The Contracting Agency will send a split of the original acceptance sample for testing by the Contracting Agency to either the Region Materials Laboratory or the State Materials Laboratory as determined by the Engineer. The Contracting Agency will not test the split of the sample with the same equipment or by the same tester that ran the original acceptance test. The sample will be tested for a complete gradation analysis, asphalt binder content, and $V_a$, and the results of the retest will be used for the acceptance of the HMA mixture in place of the original mixture sublot sample test results. The cost of testing will be deducted from any monies due or that may come due the Contractor under the Contract at the rate of $250 per sample.

5-04.3(9)C Vacant

5-04.3(9)D Mixture Acceptance – Visual Evaluation
Visual Evaluation of HMA mixture will be by visual inspection by the Engineer or, in the sole discretion of the Engineer, the Engineer may sample and test the mixture.

5-04.3(9)D1 Mixture Visual Evaluation – Lots, Sampling, Testing, Price Adjustments
HMA mixture accepted by Visual Evaluation will not be broken into lots unless the Engineer determines that testing is required. When that occurs, the Engineer will identify the limits of the questionable HMA mixture, and that questionable HMA mixture shall constitute a lot. Then, the Contractor will take samples from the truck, or the Engineer will take core samples from the roadway at a minimum of three random locations from within the lot, selected in accordance with WSDOT Test Method T 716, taken from the roadway in accordance with WSDOT SOP 734, and tested in accordance with WSDOT SOP 737. The Engineer will test one of the samples for all constituents in Section 5-04.3(9)B3. If all constituents from that test fall within the Job Mix Formula Tolerances (for Visual Evaluation) in
Section 9-03.8(7), the lot will be accepted at the unit Contract price with no further evaluation.

When one or more constituents fall outside those tolerance limits, the other samples will be tested for all constituents in Section 5-04.3(9)B3, and a Job Mix Compliance Price Adjustment will be calculated in accordance with Table 13.

### Table 13  
**Visual Evaluation – Out of Tolerance Procedures**

<table>
<thead>
<tr>
<th>Pay Factors(^1)</th>
<th>Section 5-04.3(9)B4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composite Pay Factors(^2)</td>
<td>Section 5-04.3(9)B5</td>
</tr>
<tr>
<td>Price Adjustments</td>
<td>Section 5-04.3(9)B6</td>
</tr>
</tbody>
</table>

\(^1\)The Visual Evaluation tolerance limits in Section 9-03.8(7) will be used in the calculation of the PF\(_i\).

\(^2\)The maximum CPF shall be 1.00.

### 5-04.3(9)E Mixture Acceptance – Notification of Acceptance Test Results

The results of all mixture acceptance testing and the Composite Pay Factor (CPF) of the lot after three sublots have been tested will be available to the Contractor through The Contracting Agency’s website.

The Contracting Agency will endeavor to provide written notification (via email to the Contractor’s designee) of acceptance test results through its web-based materials testing system Statistical Analysis of Materials (SAM) within 24 hours of the sample being made available to the Contracting Agency. However, the Contractor agrees:

1. Quality control, defined as the system used by the Contractor to monitor, assess, and adjust its production processes to ensure that the final HMA mixture will meet the specified level of quality, is the sole responsibility of the Contractor.

2. The Contractor has no right to rely on any testing performed by the Contracting Agency, nor does the Contractor have any right to rely on timely notification by the Contracting Agency of the Contracting Agency’s test results (or statistical analysis thereof), for any part of quality control and/or for making changes or correction to any aspect of the HMA mixture.

3. The Contractor shall make no claim for untimely notification by the Contracting Agency of the Contracting Agency’s test results or statistical analysis.

### 5-04.3(10) HMA Compaction Acceptance

For all HMA, the Contractor shall comply with the General Compaction Requirements in Section 5-04.3(10)A. The Contracting Agency will evaluate all HMA for compaction compliance with one of the following - Statistical...
Evaluation, Visual Evaluation, or Test Point Evaluation - determined by the criteria in Table 14:

<table>
<thead>
<tr>
<th>Criteria for Determining Method of Evaluation for HMA Compaction¹</th>
<th>Statistical Evaluation of HMA Compaction is Required For:</th>
<th>Visual Evaluation of HMA Compaction is Required For:</th>
<th>Test Point Evaluation of HMA Compaction is Required For:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Any HMA for which the specified course thickness is greater than 0.10 feet, and the HMA is in:</td>
<td></td>
<td>• “HMA for Preleveling…”</td>
<td>• Any HMA not meeting the criteria for Statistical Evaluation or Visual Evaluation</td>
</tr>
<tr>
<td>o traffic lanes, including but not limited to:</td>
<td></td>
<td>• “HMA for Pavement Repair…”</td>
<td></td>
</tr>
<tr>
<td>• ramp lanes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• truck climbing lanes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• weaving lanes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• speed change lanes</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹This table applies to all HMA, and shall be the sole basis for determining the acceptance method for compaction.

The Contracting Agency may, at its sole discretion, evaluate any HMA for compliance with the Cyclic Density requirements of Section 5-04.3(10)B.

5-04.3(10)A HMA Compaction – General Compaction Requirements

Immediately after the HMA has been spread and struck off, and after surface irregularities have been adjusted, thoroughly and uniformly compact the mix. The completed course shall be free from ridges, ruts, humps, depressions, objectionable marks, and irregularities and shall conform to the line, grade, and cross-section shown in the Plans. If necessary, alter the JMF in accordance with Section 9-03.8(7) to achieve desired results.

Compact the mix when it is in the proper condition so that no undue displacement, cracking, or shoving occurs. Compact areas inaccessible to large compaction equipment by mechanical or hand tampers. Remove HMA that becomes loose, broken, contaminated, shows an excess or deficiency of asphalt, or is in any way defective. Replace the removed material with new HMA, and compact it immediately to conform to the surrounding area.

The type of rollers to be used and their relative position in the compaction sequence shall generally be the Contractor’s option, provided the specified densities are attained. An exception shall be that pneumatic...
tired rollers shall be used for compaction of the wearing course beginning October 1st of any year through March 31st of the following year. Coverage with a steel wheel roller may precede pneumatic tired rolling. Unless otherwise approved by the Engineer, operate rollers in the static mode when the internal temperature of the mix is less than 175°F. Regardless of mix temperature, do not operate a roller in a mode that results in checking or cracking of the mat.

On bridge decks and on the five feet of roadway approach immediately adjacent to the end of bridge/back of pavement seat, operate rollers in static mode only.

5-04.3(10)B HMA Compaction – Cyclic Density
Low cyclic density areas are defined as spots or streaks in the pavement that are less than 90 percent of the theoretical maximum density. At the Engineer’s discretion, the Engineer may evaluate the HMA pavement for low cyclic density, and when doing so will follow WSDOT SOP 733. A $500 Cyclic Density Price Adjustment will be assessed for any 500-foot section with two or more density readings below 90 percent of the theoretical maximum density.

5-04.3(10)C HMA Compaction Acceptance – Statistical Evaluation
HMA compaction which is accepted by Statistical Evaluation will be based on acceptance testing performed by the Contracting Agency, and statistical analysis of those acceptance tests results. This will result in a Compaction Price Adjustment.

5-04.3(10)C1 HMA Compaction Statistical Evaluation – Lots and Sublots
HMA compaction which is accepted by Statistical Evaluation will be evaluated by the Contracting Agency dividing the project into compaction lots, and each compaction lot will be evaluated using stratified random sampling by the Contracting Agency sub-dividing each compaction lot into compaction sublots. All mixture in any individual compaction lot shall be of the same mix design. The compaction sublots will be numbered in the order in which the mixture (of a particular mix design) is paved.

Each compaction lot comprises a maximum of 15 compaction sublots, except for the final compaction lot of each mix design on the Contract, which comprises a maximum of 25 sublots.

Each compaction subplot shall be uniform in size as shown in Table 15, except that the last compaction subplot of each day may be increased to a maximum of two times the compaction subplot quantity calculated. Minor variations in the size of any subplot shall not be cause to invalidate the associated test result.

<table>
<thead>
<tr>
<th>HMA Compaction Sublot Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

Table 15

City of Fife
Port of Tacoma Road Interchange – Phase 1
Amendments to Standard Specs
Fed Aid No.STPUL-9927(056)
February 2018
Page 37
<table>
<thead>
<tr>
<th>HMA Original Plan Quantity (tons)(^1)</th>
<th>Compaction Sublot Size (tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;20,000</td>
<td>100</td>
</tr>
<tr>
<td>20,000 to 30,000</td>
<td>150</td>
</tr>
<tr>
<td>&gt;30,000</td>
<td>200</td>
</tr>
</tbody>
</table>

\(^1\) In determining the plan quantity tonnage, do not include any tons accepted by test point evaluation.

The following will cause one compaction lot to end prematurely and a new compaction lot to begin:

- For a compaction lot in progress with a compaction CPF less than 0.75, a new compaction lot will begin at the Contractor's request after the Engineer is satisfied that material conforming to the Specifications can be produced. See also Section 5-04.3(11)F.

All HMA which is paved on a bridge and accepted for compaction by Statistical Evaluation will compose a bridge compaction lot. If the contract includes such HMA on more than one bridge, compaction will be evaluated on each bridge individually, as separate bridge compaction lots.

Bridge compaction sublots will be determined by the Engineer subject to the following:

- All sublots on a given bridge will be approximately the same size.
- Sublots will be stratified from the lot.
- In no case will there be less than 3 sublots in each bridge compaction lot.
- No sublot will exceed 50 tons.
- Compaction test locations will be determined by the Engineer in accordance with WSDOT FOP for AASHTO T716.

**5-04.3(10)C2 HMA Compaction Statistical Evaluation – Acceptance Testing**

Comply with Section 1-06.2(1).

The location of HMA compaction acceptance tests will be randomly selected by the Contracting Agency from within each sublot, with one test per sublot. The Contracting Agency will determine the random sample location using WSDOT Test Method T 716.

Use Table 16 to determine compaction acceptance test procedures and to allocate compaction acceptance sampling and testing.
HMA cores shall be taken or nuclear density testing shall occur after completion of the finish rolling, prior to opening to traffic, and on the same day that the mix is placed.

Table 16

<table>
<thead>
<tr>
<th>HMA Compaction Acceptance Testing Procedures and Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>When Contract Includes Bid Item “HMA Core – Roadway” or “HMA Core – Bridge”</strong></td>
</tr>
<tr>
<td>Basis for Test:</td>
</tr>
<tr>
<td><strong>In-Place Density Determined by:</strong></td>
</tr>
<tr>
<td><strong>Contracting Agency will determine core density using FOP for AASHTO T 166</strong></td>
</tr>
<tr>
<td><strong>Theoretical Maximum Density Determined by:</strong></td>
</tr>
<tr>
<td><strong>Rolling Average of Theoretical Maximum Densities Determined by:</strong></td>
</tr>
<tr>
<td><strong>Percent Compaction in Each Sublot Determined by:</strong></td>
</tr>
</tbody>
</table>

\(^1\)The core diameter shall be 4-inches unless otherwise approved by the Engineer.

\(^2\)The Contractor shall take the core samples in the presence of the Engineer, at locations designated by the Engineer, and deliver the core samples to the Contracting Agency.

\(^3\)The Contracting Agency will determine, in its sole discretion, whether it will take cores or use the nuclear density gauge to determine in-
place density. Exclusive reliance on cores for density acceptance is generally intended for small paving projects and is not intended as a replacement for nuclear gauge density testing on typical projects.

*The basis for test of all compaction sublots in a bridge compaction lot shall be cores. These cores shall be taken by the Contractor when the Proposal includes the bid item “HMA Cores – Bridge”. When there is no bid item for “HMA Cores – Bridge”, the Engineer will be responsible for taking HMA cores for all compaction sublots in a bridge compaction lot. In either case, the Engineer will determine core location, in-place density of the core, theoretical maximum density, rolling average of theoretical maximum density, and percent compaction using the procedure called for in this Section.

When using the nuclear density gauge for acceptance testing of pavement density, the Engineer will follow WSDOT SOP 730 for correlating the nuclear gauge with HMA cores. When cores are required for the correlation, coring and testing will be by the Contracting Agency. When a core is taken for gauge correlation at the location of a sublot, the relative density of the core will be used for the sublot test result and is exempt from retesting.

**5-04.3(10)C3 HMA Statistical Compaction – Price Adjustments**

For each HMA compaction lot (that is accepted by Statistical Evaluation) which has less than three compaction sublots, for which all compaction sublots attain a minimum of 91 percent compaction determined in accordance with WSDOT FOP for AASHTO T 355 (or WSDOT SOP 736 when provided by the Contract), the HMA will be accepted at the unit Contract price with no further evaluation.

For each HMA compaction lot (that is accepted by Statistical Evaluation) which does not meet the criteria in the preceding paragraph, the compaction lot shall be evaluated in accordance with Section 1-06.2(2) to determine the appropriate Compaction Price Adjustment (CPA). All of the test results obtained from the acceptance samples from a given compaction lot shall be evaluated collectively. Additional testing by either a nuclear density gauge or cores will be completed as required to provide a minimum of three tests for evaluation.

For the statistical analysis in Section 1-06.2, use the following values:

\[ x = \text{Percent compaction of each sublot} \]
\[ \text{USL} = 100 \]
\[ \text{LSL} = 91 \]

Each CPA will be determined as follows:

\[ \text{CPA} = \left[ 0.40 \times (\text{CPF} - 1.00) \right] \times Q \times UP \]

Where
5-04.3(10)C4  HMA Statistical Compaction – Requests for Retesting

For a compaction sublot that has been tested with a nuclear density gauge that did not meet the minimum of 91 percent of the theoretical maximum density in a compaction lot with a CPF below 1.00 and thus subject to a price reduction or rejection, the Contractor may request that a core, taken at the same location as the nuclear density test, be used for determination of the relative density of the compaction sublot. The relative density of the core will replace the relative density determined by the nuclear density gauge for the compaction sublot and will be used for calculation of the CPF and acceptance of HMA compaction lot. When cores are taken by the Contracting Agency at the request of the Contractor, they shall be requested by noon of the next workday after the test results for the compaction sublot have been provided or made available to the Contractor. Traffic control shall be provided by the Contractor as requested by the Engineer. Failure by the Contractor to provide the requested traffic control will result in forfeiture of the request for retesting. When the CPF for the compaction lot based on the results of the cores is less than 1.00, the Contracting Agency will deduct the cost for the coring from any monies due or that may become due the Contractor under the Contract at the rate of $200 per core and the Contractor shall pay for the cost of the traffic control.

5-04.3(10)D  HMA Compaction – Visual Evaluation

Visual Evaluation will be the basis of acceptance for compaction of the Bid items “HMA for Pavement Repair Cl. ___ PG ___” and “HMA for Prelevelling Class ___ PG ___. This HMA shall be thoroughly compacted to the satisfaction of the Engineer. HMA that is used to prelevel wheel ruts shall be compacted with a pneumatic tire roller.

5-04.3(10)E  HMA Compaction – Test Point Evaluation

When compaction acceptance is by Test Point Evaluation, compact HMA based on a test point evaluation of the compaction train. Perform the test point evaluation in accordance with instructions from the Engineer. The number of passes with an approved compaction train, required to attain the maximum test point density, shall be used on all subsequent paving.

5-04.3(10)F  HMA Compaction Acceptance – Notification of Acceptance Test Results

The obligations and responsibilities for notifying the Contractor of compaction acceptance test results are the same as for mixture acceptance test results. See Section 5-04.3(9)E.
5-04.3(11) Reject Work
This Section applies to HMA and all requirements related to HMA (except aggregates prior to being incorporated into HMA). For rejection of aggregate prior to its incorporation into HMA refer to Section 3-04.

5-04.3(11)A Reject Work – General
Work that is defective or does not conform to Contract requirements shall be rejected. The Contractor may propose, in writing, alternatives to removal and replacement of rejected material. Acceptability of such alternative proposals will be determined at the sole discretion of the Engineer.

5-04.3(11)B Rejection by Contractor
The Contractor may, prior to acceptance sampling and testing, elect to remove any defective material and replace it with new material. Any such new material will be sampled, tested, and evaluated for acceptance.

5-04.3(11)C Rejection Without Testing (Mixture or Compaction)
The Engineer may, without sampling, reject any batch, load, or section of Roadway that appears defective. Material rejected before placement shall not be incorporated into the pavement.

No payment will be made for the rejected materials or the removal of the materials unless the Contractor requests the rejected material to be tested. If the Contractor requests testing, acceptance will be by Statistical Evaluation, and a minimum of three samples will be obtained and tested. When uncompacted material is required for testing but not available, the Engineer will determine random sample locations on the roadway in accordance with WSDOT Test Method T 716, take cores in accordance with WSDOT SOP 734, and test the cores in accordance with WSDOT SOP 737.

If the CPF for the rejected material is less than 0.75, no payment will be made for the rejected material; in addition, the cost of sampling and testing shall be borne by the Contractor. If the CPF is greater than or equal to 0.75, the cost of sampling and testing will be borne by the Contracting Agency. If the material is rejected before placement and the CPF is greater than or equal to 0.75, compensation for the rejected material will be at a CPF of 0.75. If rejection occurs after placement and the CPF is greater than or equal to 0.75, compensation for the rejected material will be at the calculated CPF with an addition of 25 percent of the unit Contract price added for the cost of removal and disposal.

5-04.3(11)D Rejection – A Partial Sublot (Mixture or Compaction)
In addition to the random acceptance sampling and testing, the Engineer may also isolate from a mixture or compaction sublot any material that is suspected of being defective in relative density, gradation or asphalt binder content. Such isolated material will not include an original sample location. The Contracting Agency will obtain a minimum of three random samples of the suspect material and perform the testing. When
uncompacted material is required for testing but is not available, the Engineer will select random sample locations on the roadway in accordance with WSDOT Test Method T 716, take cores samples in accordance with WSDOT SOP 734, and test the material in accordance with WSDOT SOP 737. The material will then be statistically evaluated as an independent lot in accordance with Section 1-06.2(2).

5-04.3(11)E Rejection – An Entire Sublot (Mixture or Compaction)
An entire mixture or compaction sublot that is suspected of being defective may be rejected. When this occurs, a minimum of two additional random samples from this sublot will be obtained. When uncompacted material is required for the additional samples but the material has been compacted, the Contracting Agency will take and test cores from the roadway as described in Section 5-04.3(11)D. The additional samples and the original sublot will be evaluated as an independent lot in accordance with Section 1-06.2(2).

5-04.3(11)F Rejection - A Lot in Progress (Mixture or Compaction)
The Contractor shall shut down operations and shall not resume HMA placement until such time as the Engineer is satisfied that material conforming to the Specifications can be produced when:

1. the Composite Pay Factor (CPF) of a mixture or compaction lot in progress drops below 1.00 and the Contractor is taking no corrective action, or

2. the Pay Factor (PFi) for any constituent of a mixture or compaction lot in progress drops below 0.95 and the Contractor is taking no corrective action, or

3. either the PFi for any constituent (or the CPF) of a mixture or compaction lot in progress is less than 0.75.

5-04.3(11)G Rejection – An Entire Lot (Mixture or Compaction)
An entire lot with a CPF of less than 0.75 will be rejected.

5-04.3(12) Joints
5-04.3(12)A HMA Joints
5-04.3(12)A1 Transverse Joints
Conduct operations such that placement of the top or wearing course is a continuous operation or as close to continuous as possible. Unscheduled transverse joints will be allowed, but the roller may pass over the unprotected end of the freshly laid HMA only when the placement of the course is discontinued for such a length of time that the HMA will cool below compaction temperature. When the Work is resumed, cut back the previously compacted HMA to produce a slightly beveled edge for the full thickness of the course.

Construct a temporary wedge of HMA on a 50H:1V where a transverse joint as a result of paving or planing is open to traffic. Separate the HMA in the temporary wedge from the permanent HMA.
upon which it is placed by strips of heavy wrapping paper or other methods approved by the Engineer. Remove the wrapping paper and trim the joint to a slightly beveled edge for the full thickness of the course prior to resumption of paving.

Waste the material that is cut away and place new HMA against the cut. Use rollers or tamping irons to seal the joint.

5-04.3(12)A2  Longitudinal Joints
Offset the longitudinal joint in any one course from the course immediately below by not more than 6 inches nor less than 2 inches. Locate all longitudinal joints constructed in the wearing course at a lane line or an edge line of the Traveled Way. Construct a notched wedge joint along all longitudinal joints in the wearing surface of new HMA unless otherwise approved by the Engineer. The notched wedge joint shall have a vertical edge of not less than the maximum aggregate size nor more than \( \frac{1}{2} \) of the compacted lift thickness, and then taper down on a slope not steeper than 4H:1V. Uniformly compact the sloped portion of the HMA notched wedge joint.

On one-lane ramps a longitudinal joint may be constructed at the center of the traffic lane, subject to approval by the Engineer, if:

1. The ramp must remain open to traffic, or
2. The ramp is closed to traffic and a hot-lap joint is constructed.
   a. Two paving machines shall be used to construct the hot-lap joint.
   b. The pavement within 6 inches of the hot-lap joint will not be excluded from random location selection for compaction testing.
   c. Construction equipment other than rollers shall not operate on any uncompacted HMA.

When HMA is placed adjacent to cement concrete pavement, construct longitudinal joints between the HMA and the cement concrete pavement. Saw the joint to the dimensions shown on Standard Plan A-40.10 and fill with joint sealant meeting the requirements of Section 9-04.2.

5-04.3(12)B  Bridge Paving Joint Seals
5-04.3(12)B1  HMA Sawcut and Seal
Prior to placing HMA on the bridge deck, establish sawcut alignment points at both ends of the bridge paving joint seal to be placed at the bridge ends, and at interior joints within the bridge deck when and where shown in the Plans. Establish the sawcut alignment points in

City of Fife
Port of Tacoma Road Interchange – Phase 1
Amendments to Standard Specs
a manner that they remain functional for use in aligning the sawcut after placing the HMA overlay.

Submit a Type 1 Working Drawing consisting of the sealant manufacturer’s application procedure.

Construct the bridge paving joint seal as specified in the Plans and in accordance with the detail shown in the Standard Plans. Construct the sawcut in accordance with Section 5-05.3(8). Apply the sealant in accordance with Section 5-05.3(8)B and the manufacturer’s application procedure.

5-04.3(12)B2 Paved Panel Joint Seal
Construct the paved panel joint seal in accordance with the requirements specified in Section 5-04.3(12)B1 and the following requirement:

1. Clean and seal the existing joint between concrete panels in accordance with Section 5-01.3(8) and the details shown in the Standard Plans.

5-04.3(13) Surface Smoothness
The completed surface of all courses shall be of uniform texture, smooth, uniform as to crown and grade, and free from defects of all kinds. The completed surface of the wearing course shall not vary more than ¼ inch from the lower edge of a 10-foot straightedge placed on the surface parallel to the centerline. The transverse slope of the completed surface of the wearing course shall vary not more than ¼ inch in 10 feet from the rate of transverse slope shown in the Plans.

When deviations in excess of the above tolerances are found that result from a high place in the HMA, correct the pavement surface by one of the following methods:

1. Remove material from high places by grinding with an approved grinding machine, or

2. Remove and replace the wearing course of HMA, or

3. By other method approved by the Engineer.

Correct defects until there are no deviations anywhere greater than the allowable tolerances.

Deviations in excess of the above tolerances that result from a low place in the HMA and deviations resulting from a high place where corrective action, in the opinion of the Engineer, will not produce satisfactory results will be accepted with a price adjustment. The Engineer shall deduct from monies due or that may become due to the Contractor the sum of $500.00 for each and every section of single traffic lane 100 feet in length in which any excessive deviations described above are found.
When portland cement concrete pavement is to be placed on HMA, the surface tolerance of the HMA shall be such that no surface elevation lies above the Plan grade minus the specified Plan depth of portland cement concrete pavement. Prior to placing the portland cement concrete pavement, bring any such irregularities to the required tolerance by grinding or other means approved by the Engineer.

When utility appurtenances such as manhole covers and valve boxes are located in the Traveled Way, pave the Roadway before the utility appurtenances are adjusted to the finished grade.

5-04.3(14) Planing Bituminous Pavement
Plane in such a manner that the underlying pavement is not torn, broken, or otherwise damaged by the planing operation. Delamination or raveling of the underlying pavement will not be construed as damage due to the Contractor’s operations. Pavement outside the limits shown in the Plans or designated by the Engineer that is damaged by the Contractor’s operations shall be repaired to the satisfaction of the Engineer at no additional cost to the Contracting Agency.

For mainline planing operations, use equipment with automatic controls and with sensors for either or both sides of the equipment. The controls shall be capable of sensing the grade from an outside reference line, or a mat-referencing device. The automatic controls shall have a transverse slope controller capable of maintaining the mandrel at the desired transverse slope (expressed as a percentage) within plus or minus 0.1 percent.

Remove all loose debris from the planed surface before opening the planed surface to traffic. The planings and other debris resulting from the planing operation shall become the property of the Contractor and be disposed of in accordance with Section 2-03.3(7)C, or as otherwise allowed by the Contract.

5-04.3(15) Sealing Pavement Surfaces
Apply a fog seal where shown in the Plans. Construct the fog seal in accordance with Section 5-02.3. Unless otherwise approved by the Engineer, apply the fog seal prior to opening to traffic.

5-04.3(16) HMA Road Approaches
Construct HMA approaches at the locations shown in the Plans or where staked by the Engineer, in accordance with Section 5-04.

5-04.4 Measurement
HMA Cl. ___ PG ___, HMA for ___ Cl. ___ PG ___, and Commercial HMA will be measured by the ton in accordance with Section 1-09.2, with no deduction being made for the weight of asphalt binder, mineral filler, or any other component of the HMA. If the Contractor elects to remove and replace HMA as allowed by Section 5-04.3(11), the material removed will not be measured.

Roadway cores will be measured per each for the number of cores taken.
Crack Sealing-LF will be measured by the linear foot along the line of the crack.

Soil residual herbicide will be measured by the mile for the stated width to the nearest 0.01 mile or by the square yard, whichever is designated in the Proposal.

Pavement repair excavation will be measured by the square yard of surface marked prior to excavation.

Asphalt for fog seal will be measured by the ton, as provided in Section 5-02.4.

Longitudinal joint seals between the HMA and cement concrete pavement will be measured by the linear foot along the line and slope of the completed joint seal.

HMA sawcut and seal, and paved panel joint seal, will be measured by the linear foot along the line and slope of the completed joint seal.

Planing bituminous pavement will be measured by the square yard.

Temporary pavement marking will be measured by the linear foot as provided in Section 8-23.4.

Water will be measured by the M gallon as provided in Section 2-07.4.

### 5-04.5 Payment

Payment will be made for each of the following Bid items that are included in the Proposal:

- “HMA Cl. ___ PG ___”, per ton.
- “HMA for Approach Cl. ___ PG ___”, per ton.
- “HMA for Preleveling Cl. ___ PG ___”, per ton.
- “HMA for Pavement Repair Cl. ___ PG ___”, per ton.
- “Commercial HMA”, per ton.

The unit Contract price per ton for “HMA Cl. ___ PG ___”, “HMA for Approach Cl. ___ PG ___”, “HMA for Preleveling Cl. ___ PG ___”, “HMA for Pavement Repair Cl. ___ PG ___”, and “Commercial HMA” shall be full compensation for all costs, including anti-stripping additive, incurred to carry out the requirements of Section 5-04 except for those costs included in other items which are included in this Subsection and which are included in the Proposal.

“Crack Sealing-FA”, by force account.

“Crack Sealing-FA” will be paid for by force account as specified in Section 1-09.6.

For the purpose of providing a common Proposal for all Bidders, the Contracting Agency has entered an amount in the Proposal to become a part of the total Bid by the Contractor.

“Crack Sealing-LF”, per linear foot.

The unit Contract price per linear foot for “Crack Sealing-LF” shall be full payment for all costs incurred to perform the Work described in Section 5-04.3(4)A.

“Soil Residual Herbicide _____ ft. Wide”, per mile, or “Soil Residual Herbicide”, per square yard.
The unit Contract price per mile or per square yard for “Soil Residual Herbicide” shall be full payment for all costs incurred to obtain, provide and install herbicide in accordance with Section 5-04.3(4)B.

“Pavement Repair Excavation Incl. Haul”, per square yard.
The unit Contract price per square yard for “Pavement Repair Excavation Incl. Haul” shall be full payment for all costs incurred to perform the Work described in Section 5-04.3(4)C with the exception, however, that all costs involved in the placement of HMA shall be included in the unit Contract price per ton for “HMA for Pavement Repair Cl. ___ PG ___”, per ton.

“Asphalt for Fog Seal”, per ton.
Payment for “Asphalt for Fog Seal” is described in Section 5-02.5.

“Longitudinal Joint Seal”, per linear foot.
The unit Contract price per linear foot for “Longitudinal Joint Seal” shall be full payment for all costs incurred to construct the longitudinal joint between HMA and cement concrete pavement, as described in Section 5-04.3(12)B.

“HMA Sawcut And Seal”, per linear foot.
The unit Contract price per linear foot for “HMA Sawcut And Seal” shall be full payment for all costs incurred to perform the Work described in Section 5-04.3(12)B1.

“Paved Panel Joint Seal”, per linear foot.
The unit Contract price per linear foot for “Paved Panel Joint Seal” shall be full payment for all costs incurred to perform the Work described in Section 5-04.3(12)B2.

“Planing Bituminous Pavement”, per square yard.
The unit Contract price per square yard for “Planing Bituminous Pavement” shall be full payment for all costs incurred to perform the Work described in Section 5-04.3(14).

“Temporary Pavement Marking”, per linear foot.
Payment for “Temporary Pavement Marking” is described in Section 8-23.5.

“Water”, per M gallon.
Payment for “Water” is described in Section 2-07.5.

“Job Mix Compliance Price Adjustment”, by calculation.
“Job Mix Compliance Price Adjustment” will be calculated and paid for as described in Section 5-04.3(9)B6 and 5-04.3(9)D1.

“Compactation Price Adjustment”, by calculation.
“Compactation Price Adjustment” will be calculated and paid for as described in Section 5-04.3(10)C3.

“HMA Core – Bridge”, per each.
The unit Contract price per each for “HMA Core – Bridge” shall be full payment for all costs, including traffic control, associated with taking HMA density cores in pavement that is on a bridge deck.

“HMA Core – Roadway”, per each.
The unit Contract price per each for “HMA Core – Roadway” shall be full payment for all costs, including traffic control, associated with taking HMA density cores in pavement that is not on a bridge deck.

“Cyclic Density Price Adjustment”, by calculation.
“Cyclic Density Price Adjustment” will be calculated and paid for as described in Section 5-04.3(10)B.

5-05.AP5
Section 5-05, Cement Concrete Pavement
January 3, 2017

5-05.3(1) Concrete Mix Design for Paving
In last sentence of the second paragraph of item number 1, the reference to “Section 9-01.2(4)” is revised to read “Section 9-01.2(1)B”.
The following is inserted after item number 2:

3. Mix Design Modifications - The Contractor may initiate adjustments to the aggregate proportions of the approved mix design. An adjustment in both the fine and coarse aggregate batch target weights of plus or minus 200 pounds per cubic yard will be allowed without resubmittal of the mix design. The adjusted aggregate weights shall become the new batch target weights for the mix design.

Item number 3 is renumbered to 4 and revised (up until the table) to read:

4. Conformance to Mix Design - Cement and coarse and fine aggregate weights shall be within the following tolerances of the batch target weights of the mix design:

<table>
<thead>
<tr>
<th>Portland Cement Concrete Batch Weights</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cement</td>
</tr>
<tr>
<td>Coarse Aggregate</td>
</tr>
<tr>
<td>Fine Aggregate</td>
</tr>
</tbody>
</table>

5-05.3(3)B Mixing Equipment
The last sentence of item number 4 is revised to read:

Plant-mixed concrete may be transported in nonagitated vehicles provided that the concrete is in a workable condition when placed and:

a. discharge is completed within 45 minutes after the introduction of mixing water to the cement and aggregates, or
b. discharge is completed within 60 minutes after the introduction of mixing water to the cement and aggregates, provided the concrete mix temperature is 70°F or below during placement, or
c. discharge is completed within 60 minutes after the introduction of mixing water to the cement and aggregates, provided the mix contains an approved set retarder at the manufacturer’s minimum dosage rate.

5-05.3(6) Subgrade
This section, including title, is revised to read:

5-05.3(6) Surface Preparation
The Subgrade surface shall be prepared and compacted a minimum of 3 feet beyond each edge of the area which is to receive concrete pavement in order to accommodate the slip-form equipment.

Concrete shall not be placed during a heavy rainfall. Prior to placing concrete:

1. The surface shall be moist;
2. Excess water (e.g., standing, pooling or flowing) shall be removed from the surface.
3. The surface shall be clean and free of any deleterious materials.
4. The surface temperature shall not exceed 120°F or be frozen.

5-05.3(7)A Slip-Form Construction
The second sentence of the first paragraph is revised to read:

The alignment and elevation of the paver shall be regulated from outside reference lines established for this purpose, or by an electronic control system capable of controlling the line and grade within required tolerances.

6-02.AP6
Section 6-02, Concrete Structures
August 7, 2017

6-02.2 Materials
The item “Elastomeric Bearing Pads” is revised to read “Fabricated Bridge Bearing Assemblies”.

6-02.3(2) Proportioning Materials
In the sixth paragraph, the reference to “Section 9-01.2(4)” is revised to read “9-01.2(1)B”.

6-02.3(2)A Contractor Mix Design
The following new sentence is inserted after the first sentence of the third paragraph:
The mix design submittal shall also include test results no older than one year showing that the Aggregates do not contain Deleterious Substances in accordance with Section 9-03.

6-02.3(2)A1 Contractor Mix Design for Concrete Class 4000D
Item number 4 of the first paragraph is deleted.

Items number 5, 6, and 7 of the first paragraph are renumbered to 4, 5, and 6, respectively.

The following new sentence is inserted after the second sentence of the last paragraph:

Mix designs using shrinkage reducing admixture shall state the specific quantity required.

The following new sentence is inserted before the last sentence of the last paragraph:

Testing samples of mixes using shrinkage reducing admixture shall use the admixture amount specified in the mix design submittal.

6-02.3(2)B Commercial Concrete
The last sentence of the first paragraph is revised to read:

Commercial concrete does not require mix design or source approvals for cement, aggregate, and other admixtures.

6-02.3(5)G Sampling and Testing for Temperature, Consistency and Air Content
The last three paragraphs are revised to read:

Sampling and testing will be performed before concrete placement from the first load. Concrete shall not be placed until all tests have been completed by the Engineer, and the results indicate that the concrete is within acceptable limits. If the concrete is not within acceptable limits, sampling and testing will continue before concrete placement for each load until one load meets all of the applicable acceptance requirements. After one test indicates that the concrete is within specified limits, the concrete may be placed and the sampling and testing frequency may decrease to one for every 100 cubic yards. Sampling shall be performed in accordance with FOP for WAQTC TM 2 and random samples shall be selected in accordance with WSDOT T 716. After the first acceptable load of concrete, up to ½ cubic yard may be placed from subsequent loads to be tested prior to testing for acceptance.

When the results for any subsequent acceptance test indicates that the concrete as delivered and approved by the Contractor for placement does not conform to the specified limits, the sampling and testing frequency will be resumed for each load. Whenever one subsequent test indicates that the concrete is within the specified limits, the random sampling and testing frequency of one for every 100 cubic yards may resume.

Sampling and testing for a placement of one class of concrete consisting of 50 cubic yards or less will be as listed above, except that after one set of tests indicate that the
concrete is within specified limits, the remaining concrete to be placed may be accepted by visual inspection.

**6-02.3(6)A1 Hot Weather Protection**

This section is revised to read:

The Contractor shall provide concrete within the specified temperature limits. Cooling of the coarse aggregate piles by sprinkling with water is permitted provided the moisture content is monitored and the mixing water is adjusted for the free water in the aggregate. Shading or cooling aggregate piles (sprinkling of fine aggregate piles with water is not allowed). If sprinkling of the coarse aggregates is to be used, the pile moisture content shall be monitored and the mixing water adjusted for the free water in the aggregate. In addition, when removing the coarse aggregate, it shall be removed from at least 1 foot above the bottom of the pile. Refrigerating mixing water; or replacing all or part of the mixing water with crushed ice, provided the ice is completely melted by placing time.

If air temperature exceeds 90°F, the Contractor shall use water spray or other accepted methods to cool all concrete-contact surfaces to less than 90°F. These surfaces include forms, reinforcing steel, steel beam flanges, and any others that touch the mix.

**6-02.3(6)A2 Cold Weather Protection**

This section is revised to read:

Concrete shall be maintained at or above a temperature of 40°F during the first seven days of the Cold Weather Protection Period and at or above a temperature of 35°F during the remainder of the Cold Weather Protection Period. Cold weather protection requirements do not apply to concrete in shafts and piles placed below the ground line.

Prior to placing concrete in cold weather, the Contractor shall submit a Type 2 Working Drawing with a written procedure for cold weather concreting. The procedure shall detail how the Contractor will adequately cure the concrete and prevent the concrete temperature from falling below the minimum temperature. Extra protection shall be provided for areas especially vulnerable to freezing (such as exposed top surfaces, corners and edges, thin sections, and concrete placed into steel forms). Concrete placement will only be allowed if the Contractor’s cold weather protection plan has been accepted by the Engineer.

Prior to concrete placement, the Contractor shall review the 7-day temperature predictions for the job site from the Western Region Headquarters of the National Weather Service (www.wrh.noaa.gov). When temperatures below 35°F are predicted, the Contractor shall:

1. Install temperature sensors in each concrete placement. One sensor shall be installed for every 100 cubic yards of concrete placed. Sensors shall be installed at locations directed by the Engineer, and shall be placed 1.5 inches from the face of concrete.

2. Immediately after concrete placement, temperature sensors shall be installed on the concrete surface at locations directed by the Engineer. One sensor shall be installed for every 100 cubic yards of concrete placed.
Temperatures shall be measured and recorded a minimum of every hour for the duration of the Cold Weather Protection Period. Temperature data shall be submitted to the Engineer as a Type 1 Working Drawing within three days following the end of the Cold Weather Protection Period.

For each day that the concrete temperature falls below 40°F during the first seven days of the Cold Weather Protection Period, no curing time is awarded for that day and the Cold Weather Protection Period is extended for one additional day. If the concrete temperature falls below 35°F during the Cold Weather Protection Period, the concrete may be rejected by the Engineer.

6-02.3(7) Concrete Exposed to Sea Water
This section including title is revised to read:

6-02.3(7) Vacant

6-02.3(8) Concrete Exposed to Alkaline Soils or Water
This section including title is revised to read:

6-02.3(8) Vacant

6-02.3(10)D4 Monitoring Bridge Deck Concrete Temperature After Placement
This section is revised to read:

The Contractor shall measure and record the concrete temperature and ambient temperature a minimum of every hour for seven calendar days after concrete placement. The Contractor shall place two temperature sensors in the bridge deck at locations specified by the Engineer. The Contractor shall measure ambient temperature near the locations where concrete temperature is being measured. When the bridge deck is being enclosed and heated to meet cold weather requirements, ambient temperature readings shall be taken within the enclosure. The Contractor shall submit the concrete temperature and ambient temperature data as a Type 1 Working Drawing in spreadsheet format within 14 calendar days from placing the bridge deck concrete.

The Contractor shall submit a Type 1 Working Drawing consisting of the type and model of each device and the method used to measure and record the temperatures.

6-02.3(13)A Strip Seal Expansion Joint System
The first paragraph is revised to read:

The Contractor shall submit Type 2 Working Drawings consisting of the strip seal expansion joint shop drawings. These plans shall include, at a minimum, the following:

1. Plan, elevation, and sections of the joint system and all components, with dimensions and tolerances.

2. All material designations.
3. Manufacturer’s written installation procedure. The installation procedure shall indicate how the extrusions set into the two sides of the joint will be allowed to move independently of one another.

4. Corrosion protection system used on the metal components.

5. Locations of welded shear studs, lifting mechanisms, temperature setting devices, and construction adjustment devices.

6. Method of sealing the system to prevent leakage of water through the joint.

7. Details of the temporary supports for the steel extrusions while the encapsulating concrete of the headers is placed and cured.

8. The gland installation procedure, including the means and methods used to install the gland and assure correct seating of the gland within the steel extrusions.

The following new paragraph is inserted after the third paragraph:

If the gland is installed in the field, the Contractor shall have the services of a strip seal expansion joint system manufacturer’s technical representative physically present at the job site. The manufacturer’s technical representative shall train the Contractor’s personnel performing the field installation of the gland, provide technical assistance for installing the gland, and observe and inspect the installation of at least the first complete joint.

The second to last paragraph is deleted.

6-02.3(14)D General Requirements for Concrete Surface Finishes Produced by Form Liners
The first two sentences of the third paragraph are deleted.

6-02.3(16) Plans for Falsework and Formwork
The last sentence of the first paragraph is revised to read:

A submittal is not required for footing or retaining wall formwork if the concrete placement is 4 feet or less in height.

The second to last paragraph is revised to read:

The Contractor shall furnish associated design calculations to the Engineer as part of the submittal. The design calculations shall include the structural and geotechnical design of the foundation and shall show the stresses and deflections in all load-carrying members that are part of the falsework system. Construction details which may be shown in the form of sketches on the calculation sheets shall be shown in the falsework or formwork drawings as well. Falsework or formwork plans will not be accepted in cases where it is necessary to refer to the calculation sheets for information needed for complete understanding of the falsework and formwork plans or how to construct the falsework and formwork.
The last paragraph is deleted.

6-02.3(17)D Falsework Support Systems: Piling, Temporary Concrete Footings, Timber Mudsills, Manufactured Shoring Towers, Caps, and Posts
This section, including title, is revised to read:

Foundations for falsework shall be designed for conditions stated in this Section using methods shown in the AASHTO Standard Specifications for Highway Bridges Seventeenth Edition – 2002 for allowable stress design, the AASHTO LRFD Bridge Design Specifications for load and resistance factor design or the AASHTO Guide Design Specifications for Bridge Temporary Works. Allowable stresses for materials shall not exceed stresses and conditions allowed by Section 6-02.3(17)B.

6-02.3(17)D1 Piling
This section including title is revised to read:

6-02.3(17)D1 Vacant

6-02.3(17)D2 Temporary Concrete Footings and Timber Mudsills
This section including title is revised to read:

6-02.3(17)D2 Vacant

6-02.3(17)D4 Manufactured Shoring Tower Systems and Devices
The fifth paragraph is deleted.

6-02.3(17)D5 Cross-Braced Type Base Frames
This section is deleted in its entirety.

6-02.3(17)D6 Ladder Type Base Frames
This section is deleted in its entirety.

6-02.3(17)D7 Intermediate Strength Shoring
This section is deleted in its entirety.

6-02.3(17)D8 Heavy-Duty Shoring Systems
This section is deleted in its entirety.

6-02.3(17)K Concrete Forms on Steel Spans
In the last paragraph, “ASTM A325” is revised to read “ASTM F3125 Grade A325”.

6-02.3(17)N Removal of Falsework and Forms
The fifth paragraph is deleted.

6-02.3(19)A Vacant
This section, including title, is revised to read:
6-02.3(19)A Submittals of Acceptance Test Reports and Certificates

The Contractor shall submit the following production samples and test reports and certificates for fabricated bridge bearing assemblies as applicable:

1. A Type 2 Working Drawing consisting of a six-inch square by \(\frac{3}{8}\)-inch thick sample of PTFE taken from the lot of production material.

2. A Type 2 Working Drawing consisting of a six-inch square by 1-inch thick sample of pre-formed fabric pad taken from the lot of production material.

3. Type 1 Working Drawings consisting of Manufacturers’ Certificates of Compliance for the PTFE, polyether urethane, pre-formed fabric pad duck, silicone grease, epoxy gel, and resin filler.

4. Type 1 Working Drawings consisting of certified mill test reports for all steel and stainless steel in the bearing assemblies.

5. Type 1 Working Drawings consisting of certified test reports confirming that the pre-formed fabric pads meet the specific requirements of proof load.

6-02.3(24)A Field Bending

This section (excluding the tables) is revised to read:

Field bending of AASHTO M31 Grade 60 and ASTM A706 Grade 60 reinforcement shall be done in accordance with the requirements of this section. Field bending of all other reinforcement shall require a Type 2 Working Drawing showing the bend radii, bending and heating procedures, and any inspection or testing requirements.

Field bending shall not be done on reinforcement within the top or bottom third of column lengths or within plastic hinge regions identified in the Plans. Field bending shall not be done on bar sizes No. 14 or No. 18.

In field-bending steel reinforcing bars, the Contractor shall:

1. Make the bend gradually using a bending tool equipped with a bending diameter as listed in Table 1. Bending shall not be done by means of hammer blows and pipe sleeves. When bending to straighten a previously bent bar, move a hickey bar progressively around the bend.

2. Apply heat as described below for bending bar sizes No. 6 through No. 11 and for bending bar sizes No. 5 and smaller when the bars have been previously bent. Previously unbent bars of sizes No. 5 and smaller may be bent without heating when the bar temperature is 40°F or higher. When previously unbent bars of sizes No. 5 and smaller have a bar temperature lower than 40°F, they shall be heated to within the range of 100°F to 150°F prior to bending. In applying heat for field-bending steel reinforcing bars, the Contractor shall:

   a. Avoid damage to the concrete by insulating any concrete within 6 inches of the heated bar area;
b. Apply two heat tips simultaneously at opposite sides of bar sizes No. 7 or larger;

c. Heat the bar to within the required temperature range shown in Table 2 as verified by using temperature-indicating crayons or other suitable means;

d. Heat a minimum bar length as shown in Table 3. Locate the heated section of the bar to include the entire bending length;

e. Bend immediately after the required temperature range has been achieved. Maintain the bar within the required temperature range during the entire bending process;

f. Do not cool bars artificially with water, forced air, or other means.

3. Limit any bend or straightening to these maximum angles: 135 degrees for bar sizes No. 8 or smaller, and 90 degrees for bar sizes No. 9 through No. 11.

4. Repair epoxy coating on epoxy coated bars in accordance with Section 6-02.3(24)H.

6-02.3(25) Prestressed Concrete Girders
Under the heading “Prestressed Concrete Slab Girder”, the second sentence is deleted.

6-02.3(25)A Shop Drawings
The sixth paragraph is deleted.

6-02.3(25)F Prestress Release
The last two sentences of the last paragraph are deleted and replaced with the following single sentence:

This request shall be submitted as a Type 2E Working Drawing analyzing changes in vertical deflection, girder lateral stability and concrete stresses in accordance with Section 6-02.3(25)L2.

6-02.3(25)H Finishing
Item number 2 in the first paragraph is revised to read:

2. The bottoms, sides, and tops of the lower flanges on all girders, including the top of the bottom slab between the tub girder webs.

6-02.3(25)I Fabrication Tolerances
Items 4 and 5 in the first paragraph are revised to read:

4. Flange Depth: ± ¼ inch

5. Strand Position:

Individual strands: ± ¼ inch
Bundled strands: ± ½ inch
Harped strand group center of gravity at the girder ends: ± 1 inch

Items 7, 8, 9 and 10 in the first paragraph are revised to read:

8. Bearing Recess (center of recess to girder end): ± ⅜ inch.
9. Girder Ends (deviation from square or designated skew):
   Horizontal: ± ⅛ inch per foot of girder width, up to a maximum of ± ½ inch
   Vertical: ± ⅜ inch per foot of girder depth, up to a maximum of ± 1 inch
10. Bearing Area Deviation from Plane (in length or width of bearing): ± ½ inch

Items 14 and 15 in the first paragraph are revised to read:

14. Local smoothness of any surface: ± ¼ inch in 10 feet.
15. Differential Camber between Girders in a Span (measured in place at the job site):

<table>
<thead>
<tr>
<th>Condition</th>
<th>Camber Rule</th>
</tr>
</thead>
<tbody>
<tr>
<td>For wide flange deck and deck bulb tee girders with a cast-in-place</td>
<td>Cambers shall be equalized when</td>
</tr>
<tr>
<td>reinforced concrete deck:</td>
<td>the differences in cambers between</td>
</tr>
<tr>
<td>For wide flange deck, deck bulb tee and slab girders without a cast-in-</td>
<td>adjacent girders exceeds ± ⅛ inch</td>
</tr>
<tr>
<td>place reinforced concrete deck:</td>
<td></td>
</tr>
</tbody>
</table>

17. Position of Lifting Embedments: ± 3 inches longitudinal, ± ¼ inch transverse.

**6-02.3(25)J Horizontal Alignment**

This section is revised to read:

The Contractor shall check and record the horizontal alignment (sweep) of each girder at the following times:

1. Initial – Upon removal of the girder from the casting bed
2. Shipment – Within 14 days prior to shipment; and
3. Erection – After girder erection and cutting temporary top strands but prior to any equalization, welding ties or placement of diaphragms.

Horizontal alignment of the top and bottom flanges shall be checked and recorded.

Alternatively, the Contractor may check and record the horizontal alignment of the web...
near mid-height of the girder. Each check shall be made by measuring the maximum offset at mid-span relative to a chord that starts and stops at the girder ends. The Contractor shall check and record the alignment at a time when the girder is not influenced by temporary differences in surface temperature. Records for the initial check (item 1 above) shall be included in the Contractor’s prestressed concrete certificate of compliance. Records for all other checks shall be submitted as a Type 1 Working Drawing.

For each check (items 1 to 3 above), the alignment shall not be offset more than ⅛ inch for each 10 feet of girder length. Girders not meeting this tolerance for the shipment check (item 2 above) shall require an analysis of girder lateral stability and stresses in accordance with Section 6-02.3(25)L1. The Contractor shall perform this analysis and submit it as a Type 2E Working Drawing prior to shipment of the girder. Any girder that exceeds an offset of ⅛ inch for each 10 feet of girder length for the erection check (item 3 above) shall be corrected at the job site to the ⅛ inch maximum offset per 10 feet of girder length before concrete is placed into the diaphragms. The Contractor shall submit a Type 2 Working Drawing for any required corrective action.

The maximum distance between the side of a prestressed concrete slab girder, or the edge of the top flange of a wide flange deck, wide flange thin deck or deck bulb tee girder, and a chord that extends the full length of the girder shall be ±½ inch after erection (item 3 above).

6-02.3(25)K Vertical Deflection

Items 2 and 3 in the first paragraph are revised to read:

2. Shipment – Within 14 days prior to shipment;

3. Erection – After girder erection and cutting temporary top strands but prior to any equalization, welding ties or placement of diaphragms.

The following new paragraph is inserted after the second paragraph:

Girders with vertical deflections not meeting the limit shown in the Plans for the shipment check (item 2 above) shall require an analysis of girder lateral stability and stresses in accordance with Section 6-02.3(25)L1. The Contractor shall perform this analysis and submit it as a Type 2E Working Drawing prior to shipment.

The following new sentence is inserted after the second sentence of the fourth to last paragraph:

Any diaphragms are assumed to be placed.

The last three paragraphs are deleted and replaced with the following:

If the girder vertical deflection measured for the erection check (item 3 above) is not between the lower “D” dimension bound shown in the Plans and the upper “D” dimension bound shown in the Plans plus ¾ inches, the Engineer may require corrective action. The Contractor shall submit a Type 2 Working Drawing for any required corrective action.
6-02.3(25)L Handling and Storage

The second paragraph is revised to read:

For strand lift loops, only ½-inch diameter or 0.6-inch diameter strand conforming to
Section 9-07.10 shall be used, and a minimum 2-inch diameter straight pin of a shackle
shall be used through the loops. Multiple loops shall be held level in the girder during
casting in a manner that allows each loop to carry its share of the load during lifting.
The minimum distance from the end of the girder to the centroid of the strand lift loops
shall be 3 feet. The loops for all prestressed concrete girders, with the exception of
prestressed concrete slab girders, shall project a minimum of 1'-6" from the top of the
girder. The loops for prestressed concrete slab girders shall project a minimum of 4
inches. Loops shall extend to within 3 inches clear of the bottom of the girder,
terminating with a 9-inch long 90-degree hook. Loads on individual loops shall be
limited to 12 kips, and all girders shall be picked up at a minimum angle of 60 degrees
from the top of the girder.

The third sentence of the fourth paragraph is revised to read:

Alternatively, these temporary strands may be post-tensioned provided the strands are
stressed on the same day that the permanent prestress is released into the girder and
the strands are tensioned prior to lifting the girder.

The second to last sentence of the fourth paragraph is revised to read:

When the post-tensioned alternative is used, the Contractor shall be responsible for
properly sizing the anchorage plates, and configuring the reinforcement adjacent to the
anchorage plates, to prevent bursting or splitting of the concrete in the top flange.

The second to last paragraph is deleted.

This section is supplemented with the following new subsections:

6-02.3(25)L1 Girder Lateral Stability and Stresses

The Contractor shall be responsible for safely lifting, storing, shipping and erecting
prestressed concrete girders.

The Contract documents may provide shipping and handling details for girders
including lifting embedment locations (L), shipping support locations (L1 and L2),
minimum shipping support rotational spring constants (Ke), minimum shipping support
center-to-center wheel spacings (Wcc), vertical deflections and number of temporary top
strands. These shipping and handling details have been determined in accordance with
Section 6-02.3(25)L2.

The Contractor shall submit a Type 2E Working Drawing analyzing girder lateral
stability and concrete stresses during lifting, storage, shipping and erection in
accordance with Section 6-02.3(25)L2 in the following cases:

1. Any of the analysis assumptions listed in Section 6-02.3(25)L2 are invalid.
   Determination of validity shall be made by the Contractor, except that analysis
   assumptions shall be considered invalid if the actual values are outside of the
   provided tolerances.
2. The Contractor intends to alter the shipping and handling details provided in the Contract documents.

3. The Contract documents do not provide shipping and handling details.

6-02.3(25)L2 Lateral Stability and Stress Analysis

Analysis for girder lateral stability and concrete stresses during lifting, storage, shipping and erection shall be in accordance with the PCI Recommended Practice for Lateral Stability of Precast, Prestressed Concrete Bridge Girders, First Edition, Publication CB-02-16-E and the AASHTO LRFD Bridge Design Specifications edition identified in the Contract documents. The following design criteria shall be met:

1. Factor of Safety against cracking shall be at least 1.0
2. Factor of Safety against failure shall be at least 1.5
3. Factor of Safety against rollover shall be at least 1.5
4. Allowable concrete stresses shall be as specified in Section 6-02.3(25)L3

The analysis shall address any effects on girder vertical deflection (camber), “A” dimensions at centerline of bearings and deck screed cambers (C).

Shipping and handling details provided in the Contract documents have been determined using the following analysis assumptions:

1. Girder dimensions, strand locations and lifting embedment locations are within the tolerances specified in Section 6-02.3(25)I
2. Girder horizontal alignment (sweep) is within the tolerance specified in Section 6-02.3(25)J
3. Girder vertical deflection (camber) at midspan is less than or equal to the value shown in the Plans for shipping
4. Minimum concrete compressive strength at release ($f'_{ci}$) has been reached before initial lifting from casting bed. Minimum concrete compressive strength at 28 days ($f'_{c}$) has been reached before shipping.
5. Height of girder bottom above roadway at shipping supports is less than or equal to 72 inches
6. Height of shipping support roll center above roadway is 24 inches, ± 2 inches
7. Shipping support longitudinal placement ($L_1$ and $L_2$) tolerance is ± 6 inches
8. Shipping support lateral placement tolerance is ±1 inches
9. Shipping supports provide the minimum shipping support rotational spring constant \((K_0)\) and minimum shipping support center-to-center wheel spacings \((W_{cc})\) shown in the Plans.

10. For shipping at highway speeds a ± 20% dynamic load allowance (impact) is included with a typical roadway superelevation of 2%.

11. For turning at slow speeds, no dynamic load allowance (impact) is included with a maximum roadway superelevation of 6%.

12. Wind, centrifugal and seismic forces are not considered.

6-02.3(25)L3 Allowable Stresses

Prestressed concrete girder stresses shall be limited to the following values at all stages of construction and in service:

<table>
<thead>
<tr>
<th>Condition</th>
<th>Stress</th>
<th>Location</th>
<th>Allowable Stress (ksi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temporary Stress at Transfer and Lifting from Casting Bed</td>
<td>Tensile</td>
<td>In areas without bonded reinforcement sufficient to resist the tensile force in the concrete</td>
<td>(0.0948\lambda \sqrt{f'_{ci}} \leq 0.2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In areas with bonded reinforcement sufficient to resist the tensile force in the concrete</td>
<td>(0.24\lambda \sqrt{f'_{ci}})</td>
</tr>
<tr>
<td></td>
<td>Compressive</td>
<td>All locations</td>
<td>(0.65f'_{ci})</td>
</tr>
<tr>
<td>Temporary Stress at Shipping and Erection</td>
<td>Tensile</td>
<td>In areas without bonded reinforcement sufficient to resist the tensile force in the concrete</td>
<td>(0.0948\lambda \sqrt{f'_{ci}} \leq 0.2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In areas with bonded reinforcement sufficient to resist the tensile force in the concrete</td>
<td>(0.19\lambda \sqrt{f'_{ci}})</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In areas with bonded reinforcement sufficient to resist the tensile force in the concrete when shipping at 6% superelevation, without impact</td>
<td>(0.24\lambda \sqrt{f'_{ci}})</td>
</tr>
<tr>
<td></td>
<td>Compressive</td>
<td>All locations</td>
<td>(0.65f'_{ci})</td>
</tr>
<tr>
<td>Final Stresses at Service Load</td>
<td>Tensile</td>
<td>Precompressed tensile zone</td>
<td>0.0</td>
</tr>
<tr>
<td></td>
<td>Compressive</td>
<td>Effective prestress and permanent loads</td>
<td>(0.45f'_{ci})</td>
</tr>
<tr>
<td></td>
<td>Effective prestress,</td>
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<td>permanent loads and</td>
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<td></td>
<td>transient (live)</td>
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<tr>
<td></td>
<td>loads</td>
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<tr>
<td>Final Stresses</td>
<td>Compressive Fatigue</td>
<td></td>
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<tr>
<td>at Fatigue</td>
<td>I Load Combination</td>
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<td></td>
</tr>
<tr>
<td>Load</td>
<td>plus one-half</td>
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<td></td>
<td>effective prestress</td>
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<tr>
<td></td>
<td>and permanent loads</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>0.60(f'_c)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.40(f'_c)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Variables are as defined in the AASHTO LRFD Bridge Design Specifications.

6-02.3(25)M Shipping

The last four paragraphs are deleted and replaced with the following:

Girder lateral stability and stresses during shipping shall be in accordance with Section 6-02.3(25)L1.

If the Contractor elects to assemble spliced prestressed concrete girders into shipping configurations not shown in the Contract documents, the Contractor shall submit a Type 2E Working Drawing analyzing girder lateral stability and concrete stresses in accordance with Section 6-02.3(25)L2 before shipping.

6-02.3(25)N Prestressed Concrete Girder Erection

The second sentence of the first paragraph is revised to read:

The erection plan shall conform to Section 6-02.3(25)L1.

The last paragraph is revised to read:

Stop plates and dowel bars for prestressed concrete girders shall be set with either epoxy grout conforming to Section 9-26.3 or type IV epoxy bonding agent conforming to Section 9-26.1.

6-02.3(25)O Girder to Girder Connections

The second paragraph is revised to read:

Prestressed concrete girders shall be constructed in the following sequence:

1. If required, deflections shall be equalized in accordance with the Contractor’s equalization plan.

2. Any intermediate diaphragms shall be placed and any weld ties shall be welded in accordance with Section 6-03.3(25). Welding ground shall be attached directly to the steel plates being welded when welding the weld-ties.

3. Any keyways between adjacent girders shown in the Plans to receive grout shall be filled flush with the surrounding surfaces using a grout conforming to Section 9-20.3(2).”

4. Equalization equipment shall not be removed and other construction equipment shall not be placed on the structure until intermediate diaphragms...
and keyway grout have attained a minimum compressive strength of 2,500 psi.

6-02.3(26)D2 Test Block Dimensions
The first sentence is revised to read:

6-02.3(26)D2 Test Block Dimensions
The dimensions of the test block perpendicular to the tendon in each direction shall be the smaller of twice the minimum edge distance or the minimum spacing specified by the special anchorage device manufacturer, with the stipulation that the concrete cover over any confining reinforcing steel or supplementary skin reinforcement shall be appropriate for the project-specific application and circumstances.

6-02.3(26)E2 Ducts for External Exposed Installation
In the first paragraph, “ASTM D3350” is revised to read “ASTM D3035”.

6-02.3(26)G Tensioning
Item number 1 of the second paragraph is revised to read:

1. All concrete has reached a compressive strength of at least 4,000 psi or the strength specified in the Plans. When tensioning takes place prior to 28-day compressive strength testing on concrete sampled in accordance with Section 6-02.3(25)H, compressive strength shall be verified on field cured cylinders in accordance with the FOP for AASHTO T23.

6-02.3(27)A Use of Self-Consolidating Concrete for Precast Units
Item number 2 of the first paragraph is revised to read:

2. Precast reinforced concrete three-sided structures, box culverts and split box culverts in accordance with Section 7-02.3(6).

6-03.AP6 Section 6-03, Steel Structures
January 3, 2017

6-03.3(33) Bolted Connections
In this section, “AASHTO M253” is revised to read “ASTM F3125 Grade A490”, “ASTM F1852” is revised to read “ASTM F3125 Grade F1852”, and “ASTM A325” is revised to read “ASTM F3125 Grade A325”.

In the headings of Table 3, “A 325” is revised to read “ASTM F3125 Grade A325”.

In the headings of Table 3, “M 253” is revised to read “ASTM F3125 Grade A490”.

City of Fife
Port of Tacoma Road Interchange – Phase 1
Amendments to Standard Specs
Fed Aid No.STPUL-9927(056)
February 2018
Page 64
6-05.AP6
Section 6-05, Piling
August 1, 2016

In this section, the words “capacity” and “capacities” are replaced with “resistance” and “resistances”, respectively.

6-05.3(1) Piling Terms
The third paragraph is revised to read:

Overdriving – Over-driving of piles occurs when the ultimate bearing resistance calculated from the equation in Section 6-05.3(12), or the wave equation driving criteria if applicable, exceeds the ultimate bearing resistance required in the Contract in order to reach the minimum tip elevation specified in the Contract, or as required by the Engineer.

The first sentence of the last paragraph is revised to read:

Minimum Tip Elevation – The minimum tip elevation is the elevation to which the pile tip shall be driven.

6-05.3(3)A Casting and Stressing
The last sentence of the third paragraph is revised to read:

If the corrective action is not acceptable to the Engineer, the piling(s) will be subject to rejection by the Engineer.

6-05.3(5) Manufacture of Steel Piles
This section is supplemented with the following new paragraph:

At least 14-days prior to the start of production of the piling, the Contractor shall advise the Engineer of the production schedule. The Contractor shall give the Inspector safe and free access to the Work. If the Inspector observes any nonspecification Work or unacceptable quality control practices, the Inspector will advise the plant manager. If the corrective action is not acceptable to the Engineer, the piling(s) will be subject to rejection by the Engineer.

6-05.3(9)A Pile Driving Equipment Approval
The first sentence of the second paragraph is revised to read:

The Contractor shall submit Type 2E Working Drawings consisting of a wave equation analysis for all pile driving systems used to drive piling with required maximum driving resistances of greater than 300 tons.

6-07.AP6
Section 6-07, Painting
August 7, 2017

6-07.3(2) Submittals
This section is revised to read:
The Contractor shall submit a painting plan consisting of one comprehensive submittal including all components described in this Section. The Contractor shall submit Type 2 Working Drawings of the painting plan components.

For shop application of paint, the painting plan shall include the documents and samples listed in Sections 6-07.3(2)B, 6-07.3(2)C, and 6-07.3(2)E.

For field application of paint, the painting plan shall include the documents and samples listed in Section 6-07.3(2)A through 6-07.3(2)F.

6-07.3(2)A Work Force Qualifications Submittal Component

Item number 2 is revised to read:

2. Resumé of qualifications and contact information for the Contractor’s on-site supervisors. Each on-site supervisor shall have 3 years’ minimum of industrial painting field experience with 1 year minimum of field supervisory or management experience in bridge painting projects.

6-07.3(2)D Hazardous Waste Containment, Collection, Testing, and Disposal Submittal Component

This section is revised to read:

The hazardous waste containment, collection, testing, and disposal submittal component of the painting plan shall include the following:

1. Abrasive blasting containment system attachment and support in accordance with Section 6-07.3(10)A, with a complete description of each attachment device.

2. Details of jobsite material storage facilities and containment waste storage facilities, including location, security, and environmental control.

3. Methods and materials used to contain, collect, and dispose of all containment waste and all construction-related waste, including transportation of waste.

4. Details of the containment waste sampling plan conforming to WAC 173-303 for waste designated as dangerous waste or extremely hazardous waste.

5. The name of, and contact information for, the accredited analytical laboratory performing the testing of the containment waste samples in accordance with Section 6-07.3(10)F.

6. Process for tracking the disposal of hazardous waste, including a sample form of the tracking documentation.

7. When a wind speed threshold is specified, a description of the method to lower or withdraw tarps, plastic exterior, and other containment components
presenting an exposed face to wind, and the estimated time required to accomplish this action.

8. Provisions for dust and debris collection, ventilation, and auxiliary lighting within the containment system.

6-07.3(2)E Cleaning and Surface Preparation Equipment Submittal Component

This section, including title, is revised to read:

6-07.3(2)E Cleaning and Surface Preparation Submittal Component

The cleaning and surface preparation submittal component of the painting plan shall include the following:

1. Details of the abrasive blast cleaning operation, including:
   a. Description of the abrasive blast cleaning procedure.
   b. Type, manufacturer, and brand of abrasive blast material and all associated additives, including Materials Safety Data Sheets (MSDS).
   c. Description of the abrasive blast cleaning equipment to be used.

6-07.3(3)A Quality Control and Quality Assurance for Shop Application of Paint

In this section, “approved” is revised to read “accepted”.

6-07.3(3)B Quality Control and Quality Assurance for Field Application of Paint

The first sentence of the first paragraph is revised to read:

For field application of paint, the Contractor shall conduct quality control inspections as required by SSPC-PA 1, using the personnel and the processes outlined in the painting plan.

The second paragraph is revised to read:

A Type 1 Working Drawing consisting of the Contractor’s daily quality control report, signed and dated by the Contractor’s quality control inspector, accompanied by copies of the test results of quality control tests performed on the work covered by the daily quality control report, shall be submitted before the end of the next day’s work shift.

In the third paragraph, “approval” is revised to read “acceptance”.

Item number 2 of the fourth paragraph is deleted.

In the fourth paragraph, items 3, 4 and 5 are renumbered to 2, 3 and 4, respectively.

6-07.3(9)F Shop Surface Cleaning and Preparation

In the first sentence, “approved” is revised to read “accepted”.
6-07.3(9)G Application of Shop Primer Coat

In the first sentence of the first paragraph, "approval" is revised to read "acceptance".

The last sentence of the first paragraph is revised to read:

Primer shall be applied with the spray nozzles and pressures recommended by the manufacturer of the paint system, to attain the film thicknesses specified.

In the third paragraph, the first sentence is revised to read:

The Contractor shall provide access to the steel to permit inspection by the Engineer.

6-07.3(9)I Application of Field Coatings

The following new paragraph is inserted before to the first paragraph:

An on-site supervisor shall be present for each work shift at the bridge site.

In the fourth paragraph (after the preceding Amendment is applied), "approved" is deleted from the first sentence.

The first sentence of the last paragraph is revised to read:

All paint damage that occurs shall be repaired in accordance with the manufacturer’s written recommendations.

6-07.3(10)A Containment

The first four paragraphs are deleted and replaced with the following three paragraphs:

The containment system shall be in accordance with SSPC Technology Guide No. 6, Guide for Containing Surface Preparation Debris Generated During Paint Removal Operations Class 1. The containment system shall fully enclose the steel to be painted and not allow any material to escape the containment system. The Contractor shall protect the surrounding environment from all debris or damage resulting from the Contractor’s operations.

Except as otherwise specified in the Contract, the containment length shall not exceed the length of a span (defined as pier to pier). The containment system shall not cause any damage to the existing structure. Attachment devices shall not mark or otherwise damage the steel member to which they are attached. Field-welding of attachments to the existing structure will not be allowed. The Contractor shall not drill holes into the existing structure or through existing structural members except as shown in the Contractor’s painting plan Working Drawing submittal.

Emissions shall be assessed by Visible Emission Observations (Method A) in SSPC Technology Update No. 7 Section 6.2 and shall be limited to the Level A Acceptance Criteria Option Level 0 Emissions standard. If visible emissions occur or if failure to the containment system occurs or if signs of failure to the containment system are present, the Contractor shall stop work immediately. Work shall not resume until the failure has been corrected to the satisfaction of the Engineer.
6-07.3(10)B Bird Guano, Fungus, and Vegetation Removal

The last paragraph is revised to read:

Bird guano, bird nesting materials, fungus, and vegetative growth shall be disposed of at a land disposal site accepted by the Engineer. The Contractor shall submit a Type 1 Working Drawing consisting of a copy of the disposal receipt, which shall include a description of the disposed material.

6-07.3(10)C Dry Cleaning

This section is revised to read:

Dry cleaning shall include removal of accumulated dirt and debris on the surfaces to be painted. Collected dirt and debris shall be disposed of at a land disposal site accepted by the Engineer. The Contractor shall submit a Type 1 Working Drawing consisting of a copy of the disposal receipt, which shall include a description of the disposed material.

6-07.3(10)D Surface Preparation Prior to Overcoat Painting

The second paragraph is revised to read:

Following any preparation by SSPC-SP1, all steel surfaces to be painted shall be prepared in accordance with SSPC-SP 7, brush-off blast cleaning. Surfaces inaccessible to brush-off blast shall be prepared in accordance with SSPC-SP 15, commercial grade power tool cleaning, as allowed by the Engineer.

The first sentence of the third paragraph is revised to read:

Following brush-off blast cleaning, the Contractor shall perform spot abrasive blast cleaning in accordance with SSPC-SP 6, commercial blast cleaning.

In the fifth sentence of the third paragraph, “approved” is revised to read “accepted”.

The second sentence of the last paragraph is deleted.

6-07.3(10)F Collecting, Testing, and Disposal of Containment Waste

The third, fourth and fifth paragraphs are deleted and replaced with the following two new paragraphs:

Containment waste is defined as all paint chips and debris removed from the steel surface and all abrasive blast media, as contained by the containment system. After all waste from the containment system has been collected, the Contractor shall collect representative samples of the components that field screening indicates are lead-contaminated material. The Contractor shall collect at least one representative sample from each container. The Contractor may choose to collect a composite sample of each container, but the composite sample must consist of several collection points (a minimum of 3 random samples) that are representative of the entire contents of the container and representative of the characteristics of the type of waste in the container. In accordance with WAC 173–303-040, a representative sample means “a sample which can be expected to exhibit the average properties of the sample source.”
The debris shall be tested for metals using the Toxicity Characteristics Leaching Procedure (TCLP) and EPA Methods 1311 and 6010. At a minimum, the materials should be analyzed for the Resource Conservation and Recovery Act (RCRA) 8 Metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver). Pursuant to the Dangerous Waste (DW) Regulations Chapter 173-303-90(8)(c) WAC, “Any waste that contains contaminants which occur at concentrations at or above the DW threshold must be designated as DW.” All material within each individual container or containment system that designates as DW shall be disposed of at a legally permitted Subtitle C Hazardous Waste Landfill. All material within each individual container or containment system that designate below the DW threshold, will be designated as “Solid Waste” and shall be disposed of at a legally permitted Subtitle D Landfill. Disposal shall be in accordance with WAC 173-303 for waste designated “Dangerous Waste” and pursuant to WAC 173-350 for waste designated as “Solid Waste”.

The first sentence of the fifth to last paragraph is revised to read:

The Contractor shall submit a Type 1 Working Drawing consisting of two copies of the transmittal documents or bill of lading listing the waste material shipped from the construction site to the waste disposal site.

6-07.3(10)G Treatment of Pack Rust and Gaps
In this section, “approved by the Engineer” is revised to read “accepted by the Engineer”.

6-07.3(10)H Paint System
In the last paragraph, “approved” is revised to read “allowed”.

6-07.3(10)I Paint Color
In the last sentence, “approved” is revised to read “allowed”.

6-07.3(10)J Mixing and Thinning Paint
In the third paragraph, “approved” is revised to read “allowed”.

6-07.3(10)O Applying Field Coatings
The following new paragraph is inserted before the first paragraph:

An on-site supervisor shall be present for each work shift at the bridge site.

In the sixth paragraph (after the preceding Amendment is applied), “approved” and “approval” are revised to read “accepted” and “acceptance”, respectively.

In the seventh paragraph (after the preceding Amendment is applied), “approval” is revised to read “concurrence”.

The second sentence of the last paragraph is revised to read:

Any plank removal or cutting shall be done with the concurrence of the Engineer.

6-07.3(10)P Field Coating Repair
In the second to last sentence, “approved” is revised to read “accepted”.

City of Fife
Fed Aid No.STPUL-9927(056)
Port of Tacoma Road Interchange – Phase 1
February 2018
Amendments to Standard Specs
The last sentence is deleted.

6-07.3(11)A Painting of Galvanized Surfaces
In the last sentence, “approval” is revised to read “acceptance”.

6-07.5 Payment
The following new paragraph is inserted after the paragraph following the Bid item “Cleaning and Painting - _____”, lump sum:

When a weather station is specified, all costs in connection with furnishing, installing, operating, and removing the weather station, including furnishing mounting hardware and repeaters, accessories and wireless display console units, processing and submitting daily weather data reports, maintenance and upkeep, shall be included in the lump sum Contract price for “Cleaning And Painting – _____”.

6-08.AP6
Section 6-08, Waterproofing
January 3, 2017

This section and all subsections, including title, is revised to read:

6-08 Bituminous Surfacing on Structure Decks
6-08.1 Description
This Work consists of removing and placing Hot Mix Asphalt (HMA) or Bituminous Surface Treatment (BST) directly on or over a Structure. This Work also includes performing concrete bridge deck repair, applying waterproofing membrane, and sealing paving joints.

6-08.2 Materials
Materials shall meet the requirements of the following sections:

<table>
<thead>
<tr>
<th>Material</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bituminous Surface Treatment</td>
<td>5-02.2</td>
</tr>
<tr>
<td>Hot Mix Asphalt</td>
<td>5-04.2</td>
</tr>
<tr>
<td>Joint Sealants</td>
<td>9-04.2</td>
</tr>
<tr>
<td>Closed Cell Foam Backer Rod</td>
<td>9-04.2(3)A</td>
</tr>
<tr>
<td>Waterproofing Membrane (Deck Seal)</td>
<td>9-11</td>
</tr>
<tr>
<td>Bridge Deck Repair Material</td>
<td>9-20.5</td>
</tr>
</tbody>
</table>

6-08.3 Construction Requirements
6-08.3(1) Definitions

Adjusted Removal Depth – the Bituminous Pavement removal depth specified by the Engineer to supersede the Design Removal Depth after review of the Contractor survey of the existing Bituminous Pavement grade profile.

Bituminous Pavement – the surfacing material containing an asphalt binder.

Design Removal Depth – the value shown in the “pavement schedule” or elsewhere in the Plans to indicate the design thickness of Bituminous Pavement to be removed.
**Final Grade Profile** – the compacted finished grade surface of completed Bituminous Pavement surfacing consisting of a vertical profile and superelevation cross-slope, developed by the Engineer for Grade Controlled Structure Decks based on the Contractor survey.

**Grade Controlled** – a Structure Deck requiring restriction of Bituminous Pavement work, including restriction of pavement removal methods and restriction of overlay pavement thicknesses.

**Structure Deck** – the bridge deck (concrete or timber), bridge approach slab, top of concrete box culvert, or other concrete surfaces over or upon which existing Bituminous Pavement is removed and new Bituminous Pavement is applied.

**6-08.3(2) Contractor Survey for Grade Controlled Structure Decks**

Prior to removing existing Bituminous Pavement from a Grade Controlled Structure Deck, the Contractor shall complete a survey of the existing surface for use in establishing the existing cross section and grade profile elevations. When removal of Bituminous Pavement is to be achieved by rotary milling/planing, the Contractor’s survey shall also include the depths of the existing surfacing at each survey point.

The Contractor is responsible for all calculations, surveying, installation of control points, and measuring required for setting, maintaining and resetting equipment and materials necessary for the construction of the overlay to the Final Grade Profile.

**6-08.3(2)A Survey Requirements**

The Contractor shall establish at least two primary survey control points for controlling actual Bituminous Pavement removal depth and the Final Grade Profile. Horizontal control shall be by station and offset which shall be tied to either the Roadway centerline or the Structure centerline. Vertical control may be an assumed datum established by the Contractor.

Primary control points shall be described by station or milepost and offset on the baseline selected by the Contractor. The Contractor may expand the survey control information to include secondary horizontal and vertical control points as needed for the project.

Survey information collected shall include station or milepost, offset, and elevation for each lane line and curb line. Survey information shall be collected at even 20 foot station intervals, and along the centerline of each bridge expansion joint. The survey shall extend 300’-0” beyond the bridge back of pavement seat or end of Structure Deck. The survey information shall include the top of Bituminous Pavement elevation and, when rotary milling/planing equipment is used, the corresponding depth of Bituminous Pavement to the Structure Deck. The Contractor shall ensure a surveying accuracy to within ± 0.01 feet for vertical control and ± 0.2 feet for horizontal control.
Voids in HMA created by the Contractor’s Bituminous Pavement depth measurements shall be filled by material conforming to Section 9-20 or another material acceptable to the Engineer.

6-08.3(2)B Survey Submittal
The Contractor's survey records shall include descriptions of all survey control points including station/milepost, offset, and elevations of all secondary control points. The Contractor shall maintain survey records of sufficient detail to allow the survey to be reproduced. The Contractor shall submit a Type 2 Working Drawing consisting of the compiled survey records and information. Survey data shall be submitted as an electronic file in Microsoft Excel format.

6-08.3(2)C Final Grade Profile and Adjusted Removal Depth
Based on the results of the survey, the Engineer may develop a Final Grade Profile and Adjusted Removal Depth. If they are developed, the Final Grade Profile and Adjusted Removal Depth will be provided to the Contractor within three working days after receiving the Contractor's survey information. When provided, the Adjusted Removal Depth supersedes the Design Removal Depth to become the Bituminous Pavement removal depth for that Structure Deck.

6-08.3(3) General Bituminous Pavement Removal Requirements
The Contractor shall remove Bituminous Pavement and associated deck repair material from Structure Decks to the horizontal limits shown in the Plans and to either the specified or adjusted Bituminous Pavement removal depth as applicable.

Removal of Bituminous Pavement within 12-inches of existing permanent features that limit the reach of the machine or the edge of the following items shall be by hand or by hand operated (nominal 30-pounds class) power tools: existing bridge expansion joint headers; steel expansion joint assemblies; concrete butt joints between back of pavement seats and bridge approach slabs, bridge drain assemblies; thrie beam post steel anchorage assemblies fastened to the side or top of the Structure Deck.

When removing Bituminous Pavement with a planer, Section 5-04.3(14) shall apply. If the planer contacts the Structure Deck in excess of the specified planing depth tolerance, or contacts steel reinforcing bars at any time, the Contractor shall immediately cease planing operations and notify the Engineer. Planing operations shall not resume until completion of the appropriate adjustments to the planing machine and receiving the Engineer’s concurrence to resume.

6-08.3(4) Partial Depth Removal of Bituminous Pavement from Structure Decks
The depth of surfacing removal, as measured to the bottom of the lowest milling groove generated by the rotary milling/planing machine shall be +0.01, -0.02-feet of the specified or Adjusted Removal Depth as applicable.
6-08.3(5) Full Depth Removal of Bituminous Pavement from Structure Decks

6-08.3(5)A Method of Removal
The Contractor shall perform full depth removal by a method that does not damage or remove the Structure Deck in excess of the specified Bituminous Pavement removal tolerance. The Contractor shall submit a Type 2 Working Drawing consisting of the proposed methods and equipment to be used for full depth removal.

6-08.3(5)B Planer Requirements for Full Depth Removal
The final planed surface shall have a finished surface with a tolerance of +0.01, -0.02 feet within the planed surface profile, as measured from a 10-foot straight edge. Multiple passes of planing to achieve smoothness will not be allowed.

In addition to Section 6-08.3(3), the planing equipment shall conform to the following additional requirements:

1. The cutting tooth spacing on the rotary milling head shall be less than or equal to ¼ inch.

2. The rotary milling/planing machine shall have cutting teeth that leave a uniform plane surface at all times. All teeth on the mill head shall be kept at a maximum differential tolerance of \( \frac{3}{8} \)-inch between the shortest and longest tooth, as measured by a straight edge placed the full width of the rotary milling head.

3. Cutting tips shall be replaced when 30 percent of the total length of the cutting tip material remains.

Prior to each day's Bituminous Pavement removal operations, the Contractor shall confirm to the satisfaction of the Engineer that the rotary head cutting teeth are within the specified tolerances.

6-08.3(5)C Structure Deck Cleanup after Bituminous Pavement Removal
Waterproofing membrane that is loose or otherwise not firmly bonded to the Structure Deck shall be removed as an incidental component of the Work of surfacing removal. Existing waterproofing membrane bonded to the Structure Deck need not be removed.

6-08.3(6) Repair of Damage due to Bituminous Pavement Removal Operations
All concrete bridge deck, pavement seat, and steel reinforcing bar damage due to the Contractor’s surfacing removal operations shall be repaired by the Contractor in accordance with Section 1-07.13, and as specified below.

Damaged concrete in excess of the specified Bituminous Pavement removal tolerance shall be repaired in accordance with Section 6-08.3(7), with the bridge deck repair material placed to the level of the surrounding bridge deck and parallel to the final grade paving profile.
Damaged steel reinforcing bar shall be repaired as follows:

1. Damage to steel reinforcing bar resulting in a section loss less than 20-percent of the bar with no damage to the surrounding concrete shall be left in place and shall be repaired by removing the concrete to a depth ¾-inches around the top steel reinforcing bar and placing bridge deck repair material accepted by the Engineer to the level of the bridge deck and parallel to the final grade paving profile.

2. Damage to steel reinforcing bar resulting in a section loss of 20-percent or more in one location, bars partially or completely removed from the bridge deck, or where there is a lack of bond to the concrete, shall be repaired by removing the adjacent concrete and splicing a new bar of the same size. Concrete shall be removed to provide a ¾-inch minimum clearance around the bars. The splice bars shall extend a minimum of 40 bar diameters beyond each end of the damage.

6-08.3(7) Concrete Deck Repair
This Work consists of repairing the concrete deck after Bituminous Pavement has been removed.

6-08.3(7)A Concrete Deck Preparation
The Contractor, with the Engineer, shall inspect the exposed concrete deck to establish the extent of bridge deck repair in accordance with Section 6-09.3(6), except item 4 in Section 6-09.3(6) does not apply. Areas of Structure Deck left with existing well bonded waterproof membrane after full depth Bituminous Pavement removal are exempt from this inspection requirement.

All loose and unsound concrete within the repair area shall be removed with jackhammers or chipping hammers no more forceful than the nominal 30 pounds class, or other mechanical means acceptable to the Engineer, and operated at angles less than 45 degrees as measured from the surface of the deck to the tool. If unsound concrete exists around the existing steel reinforcing bars, or if the bond between concrete and steel reinforcing bar is broken, the Contractor shall remove the concrete to provide a ¾ inch minimum clearance to the bar. The Contractor shall take care to prevent damage to the existing steel reinforcing bars and concrete to remain.

After removing sufficient concrete to establish the limits of the repair area, the Contractor shall make ¾ inch deep vertical saw cuts and maintain square edges at the boundaries of the repair area. The exposed steel reinforcing bars and concrete in the repair area shall be abrasive blasted and blown clean just prior to placing the bridge deck repair material.
6-08.3(7)B Ultra-Low Viscosity, Two-Part Liquid, Polyurethane-Hybrid Polymer Concrete
The ultra-low viscosity, two-part liquid, polyurethane-hybrid polymer concrete shall be mixed in accordance with the manufacturer’s recommendations.

Aggregate shall conform to the gradation limit requirements recommended by the manufacturer. The aggregate and the ultra-low viscosity, two-part liquid, polyurethane-hybrid polymer concrete shall be applied to the repair areas in accordance with the sequence and procedure recommended by the manufacturer.

All repairs shall be float finished flush with the surrounding surface within a tolerance of 1/8 inch of a straight edge placed across the full width and breadth of the repair area.

6-08.3(7)C Pre-Packaged Cement Based Repair Mortar
The Contractor shall mix the pre-packaged cement based repair mortar using equipment, materials and proportions, batch sizes, and process as recommended by the manufacturer.

All repairs shall be float finished flush with the surrounding surface within a tolerance of 1/8 inch of a straight edge placed across the full width and breadth of the repair area.

6-08.3(7)D Cure
All bridge deck repair areas shall be cured in accordance with the manufacturer’s recommendations and attain a minimum compressive strength of 2,500 psi before allowing vehicular and foot traffic on the repair and placing waterproofing membrane on the bridge deck over the repair.

6-08.3(8) Waterproof Membrane for Structure Decks
This work consists of furnishing and placing a waterproof sheet membrane system over a prepared Structure Deck prior to placing an HMA overlay. The waterproof membrane system shall consist of a sheet membrane adhered to the Structure Deck with a primer.

The Contractor shall comply with all membrane manufacturer’s installation recommendations.

6-08.3(8)A Structure Deck Preparation
The Structure Deck and ambient air temperatures shall be above 50°F and the Structure Deck shall be surface-dry at the time of the application of the primer and membrane.

All areas of a Structure Deck that have fresh cast bridge deck concrete less than 28 days old (not including bridge deck repair concrete placed in accordance with Section 6-08.3(7)) shall cure for a period of time recommended by the membrane manufacturer, or as specified by the Engineer, before application of the membrane.
The entire Structure Deck and the sides of the curb and expansion joint headers to the height of the HMA overlay shall be free of all foreign material such as dirt, grease, etc. Prior to applying the primer or sheet membrane, all dust and loose material shall be removed from the Structure Deck with compressed air. All surface defects such as spalled areas, cracks, protrusions, holes, sharp edges, ridges, etc., and other surface imperfections greater than ¼ inch in width shall be corrected prior to application of the membrane.

6-08.3(8)B Applying Primer
The primer shall be applied to the cleaned deck surfaces at the rate according to the procedure recommended by the membrane manufacturer. All surfaces to be covered by the membrane shall be thoroughly and uniformly coated with primer. Structure Deck areas left with existing well bonded waterproof membrane after bituminous surfacing removal shall receive an application of primer in accordance with the membrane manufacturer’s recommendations. Precautionary measures shall be taken to ensure that pools and thick layers of primer are not left on the deck surface. The membrane shall not be applied until the primer has cured or volatile material has substantially dissipated, in accordance with the membrane manufacturer’s recommendations.

The primer and waterproof membrane shall extend from the bridge deck up onto the curb face and expansion joint header face the thickness of the HMA overlay. The membrane shall adhere to the vertical surface.

6-08.3(8)C Placing Waterproof Membrane
Membrane application shall begin at the low point on the deck, and continue in a lapped shingle pattern. The overlap shall be a minimum of six inches or greater if recommended by the membrane manufacturer. Membrane seams shall be sealed as recommended by the membrane manufacturer. Hand rollers or similar tools shall be used on the applied membrane to assure firm and uniform contact with the primed Structure surfaces.

The fabric shall be neatly cut and contoured at all expansion joints and drains. The cuts at bridge drains shall be two right angle cuts made to the inside diameter of the bridge deck drain outlet, after which the corners of the waterproof membrane shall be turned down into the drains and laid in a coating of primer.

6-08.3(8)D Membrane Repair and Protection
The waterproof membrane will be visually inspected by the Engineer for uniformity, tears, punctures, bonding, bubbles, wrinkles, voids and other defects. All such deficiencies shall be repaired in accordance with the membrane manufacturer’s recommendations prior to placement of the HMA overlay.

The membrane material shall be protected from damage due to the paving operations in accordance with the membrane manufacturer’s
recommendations. No traffic or equipment except that required for the actual waterproofing and paving operations will be permitted to travel or rest on the membrane until it is covered by the HMA overlay. The use of windrows is not allowed for laydown of HMA on a membrane.

Where waterproofing membrane is placed in stages or applied at different times, a strip of temporary paper shall be used to protect the membrane overlap from the HMA hand removal methods.

6-08.3(9) Placing Bituminous Pavement on Structure Decks
HMA overlay shall be applied on Grade Controlled Structure Decks using reference lines for vertical control in accordance with Section 5-04.3(3)C.

The compacted elevation of the HMA overlay on Structure Decks shall be within ± 0.02 feet of the specified overlay thickness or Final Grade Profile as applicable. Deviations from the final grade paving profile in excess of the specified tolerance and areas of non-conforming surface smoothness shall be corrected in accordance with Section 5-04.3(13).

Final grade Roadway transitions to a Structure Deck with Bituminous Pavement shall not exceed a 0.20 percent change in grade in accordance with the bridge deck transition for HMA overlay Standard Plan, unless shown otherwise in the Plans.

Final grade compacted HMA elevations shall be higher than an adjacent concrete edge by ¼ inch ± 1/8 inch at all expansion joint headers and concrete butt joints as shown in the concrete to asphalt butt joint details of the bridge paving joint seals Standard Plan. This also applies to steel edges within the limits of the overlay such as bridge drain frames and steel joint riser bars at bridge expansion joints.

6-08.3(9)A Protection of Structure Attachments and Embedments
The Contractor is responsible for protecting all Structure attachments and embedments from the application of BST and HMA.

Drainage inlets that are to remain open, and expansion joints, shall be cleaned out immediately after paving is completed. Materials passing through expansion joints shall be removed from the bridge within 10 working days.

All costs incurred by the Contractor in protective measures and clean up shall be included in the unit Contract prices for the associated Bid items of Work.

6-08.3(10) HMA Compaction on Structure Decks
Compaction of HMA on Structure Decks shall be in accordance with Section 5-04.3(10).

Work rejected in accordance with Section 5-04.3(11) shall include the materials, work, and incidentals to repair an existing waterproof membrane damaged by the removal of the rejected work.
6-08.3(11) Paved Panel Joint Seals and HMA Sawcut and Seal
Bridge paving joint seals shall be installed in accordance with Section 5-04.3(12)B and the details shown in the Plans and Standard Plans.

When concrete joints are exposed after removal of Bituminous Pavement, the joints shall be cleaned and sealed in accordance with Section 5-01.3(8) and the paved panel joint seal details of the bridge paving joint seals Standard Plan, including placement of the closed cell backer rod at the base of the cleaned joint. If waterproofing membrane is required, the membrane shall be slack or folded at the concrete joint to allow for Structure movements without stress to the membrane. After placement of the HMA overlay, the second phase of the paved panel joint seal shall be completed by sawing the HMA and sealing the sawn joint in accordance with Section 5-04.3(12)B2.

6-08.4 Measurement
Removing existing Bituminous Pavement from Structure Decks will be measured by the square yard of Structure Deck surface area with removed overlay.

Bridge deck repair will be measured by the square foot surface area of deck concrete removed with the measurement taken at the plane of the top mat of steel reinforcing bars.

Waterproof membrane will be measured by the square yard surface area of Structure Deck and curb and header surface area covered by membrane.

6-08.5 Payment
Payment will be made for each of the following Bid items when they are included in the Proposal:

“Structure Surveying”, lump sum.

“Removing Existing Overlay From Bridge Deck___”, per square yard.
The unit Contract price per square yard for “Removing Existing Overlay From Bridge Deck___”, shall be full pay for performing the Work as specified for full removal of Bituminous Pavement on Structure Decks, including the removal of existing waterproof membrane and disposing of materials.

“Bridge Deck Repair Br. No.____”, per square foot.
The unit Contract price per square foot for "Bridge Deck Repair Br. No.____” shall be full pay for performing the Work as specified, including removing and disposing of the concrete within the repair area and furnishing, placing, finishing, and curing the repair concrete.

“Waterproof Membrane Br. No.____”, per square yard.
The unit Contract price per square yard for "Waterproof Membrane Br. No.____” shall be full pay for performing the Work as specified, including repairing any damaged or defective waterproofing membrane and repair of damaged HMA overlay.
6-09.AP6
Section 6-09, Modified Concrete Overlays
April 4, 2016

6-09.3(8)A Quality Assurance for Microsilica Modified and Fly Ash Modified Concrete Overlays
The first sentence of the first paragraph is revised to read the following two new sentences:

The Engineer will perform slump, temperature, and entrained air tests for acceptance in accordance with Section 6-02.3(5)D and as specified in this Section after the Contractor has turned over the concrete for acceptance testing. Concrete samples for testing shall be supplied to the Engineer in accordance with Section 6-02.3(5)E.

The last paragraph is deleted.

6-09.3(8)B Quality Assurance for Latex Modified Concrete Overlays
The first two paragraphs are deleted and replaced with the following:

The Engineer will perform slump, temperature, and entrained air tests for acceptance in accordance with Section 6-02.3(5)D and as specified in this Section after the Contractor has turned over the concrete for acceptance testing. The Engineer will perform testing as the concrete is being placed. Samples shall be taken on the first charge through each mobile mixer and every other charge thereafter. The sample shall be taken after the first 2 minutes of continuous mixer operation. Concrete samples for testing shall be supplied to the Engineer in accordance with Section 6-02.3(5)E.

The second to last sentence of the last paragraph is revised to read:

Recommendations made by the technical representative on or off the jobsite shall be adhered to by the Contractor.

6-10.AP6
Section 6-10, Concrete Barrier
August 7, 2017

6-10.3(5) Temporary Concrete Barrier
This section title is revised to read:

Temporary Barrier

The first paragraph is revised to read:

For temporary barrier, the Contractor may use precast concrete barrier or temporary steel barrier. Temporary concrete barrier shall comply with Standard Plan requirements and cross-sectional dimensions, except that: (1) it may be made in other lengths than those shown in the Standard Plan, and (2) it may have permanent lifting holes no larger than 4 inches in diameter or lifting loops. Temporary steel barrier shall be certified that it meets the requirements of NCHRP 350 or MASH Test Level 3 or 4 and shall be installed in accordance with the manufacturer’s recommendations.
6-10.4 Measurement
The first sentence of the second paragraph is revised to read:

Temporary barrier will be measured by the linear foot along the completed line and
slope of the barrier, one time only for each setup of barrier protected area.

6-10.5 Payment
The Bid item “Temporary Conc. Barrier”, per linear foot, and the paragraph following this Bid
item, is revised to read:

“Temporary Barrier”, per linear foot.

The unit Contract price per linear foot for “Temporary Barrier” shall be full pay for all
costs, including furnishing, installing, connecting, anchoring, maintaining, temporary
storage, and final removal of the temporary barrier.

6-12.AP6
Section 6-12, Noise Barrier Walls
January 3, 2017

6-12.3(9) Access Doors and Concrete Landing Pads
The first sentence of the last paragraph is revised to read:

The Contractor shall construct concrete landing pads for each access door location as
shown in the Plans.

6-12.5 Payment
In the paragraph following the bid item “Noise Barrier Wall Access Door”, per each,
“concrete landing pad” is revised to read “concrete landing pads”.

6-14.AP6
Section 6-14, Geosynthetic Retaining Walls
January 3, 2017

6-14.3(2) Submittals
The first sentence of the first paragraph is revised to read:

The Contractor shall submit Type 2E Working Drawings consisting of detailed plans for
each wall.

6-14.5 Payment
The bid item “Concrete Fascia Panel”, per square foot, and the paragraph following this bid
item are revised to read:

“Concrete Fascia Panel For Geosynthetic Wall”, per square foot.

All costs in connection with constructing the concrete fascia panels as specified shall
be included in the unit Contract price per square foot for “Concrete Fascia Panel For
Geosynthetic Wall”, including all steel reinforcing bars, premolded joint filler,
polyethylene bond breaker strip, joint sealant, PVC pipe for weep holes, exterior
surface finish, and pigmented sealer (when specified), constructing and placing the
concrete footing, edge beam, anchor beam, anchor rod assembly, and backfill.

6-19.AP6
Section 6-19, Shafts
January 3, 2017

6-19.3 Construction Requirements
This section is supplemented with the following new subsection:

6-19.3(10) Engineer’s Final Acceptance of Shafts
The Engineer will determine final acceptance of each shaft, based on the
nondestructive QA test results and analysis for the tested shafts, and will provide a
response to the Contractor within 3 working days after receiving the test results and
analysis submittal.

6-19.3(1)B Nondestructive Testing of Shafts
This section’s content is deleted and replaced with the following new subsections:

6-19.3(1)B1 Nondestructive Quality Assurance (QA) Testing of Shafts
Unless otherwise specified in the Special Provisions, the Contractor shall perform
nondestructive QA testing of shafts, except for those constructed completely in the dry.
Either crosshole sonic log (CSL) testing in accordance with ASTM D 6760 or thermal
integrity profiling (TIP) testing in accordance with ASTM D 7949 shall be used.

6-19.3(1)B2 Nondestructive Quality Verification (QV) Testing of Shafts
The Contracting Agency may perform QV nondestructive testing of shafts that have
been QA tested by the Contractor. The Contracting Agency may test up to ten percent
of the shafts. The Engineer will identify the shafts selected for QV testing and the
testing method the Contracting Agency will use.
The Contractor shall accommodate the Contracting Agency’s nondestructive testing.

6-19.3(2) Shaft Construction Submittal
This section is revised to read:
The shaft construction submittal shall be comprised of the following four components:
construction experience; shaft installation narrative; shaft slurry technical assistance;
and nondestructive QA testing personnel. The submittals shall be Type 2 Working
Drawings, except the shaft slurry technical assistance and nondestructive QA testing
personnel submittals shall be Type 1.

This section is supplemented with the following new subsection:

6-19.3(2)D Nondestructive QA Testing Organization and Personnel
The Contractor shall submit the names of the testing organizations, and the names of
the personnel who will conduct nondestructive QA testing of shafts. The submittal shall
include documentation that the qualifications specified below are satisfied. For TIP
testing, the testing organization is the group that performs the data analysis and
produces the final report. The testing organizations and the testing personnel shall meet the following minimum qualifications:

1. The testing organization shall have performed nondestructive tests on a minimum of three deep foundation projects in the last two years.

2. Personnel conducting the tests for the testing organization shall have a minimum of one year experience in nondestructive testing and interpretation.

3. The experience requirements for the organization and personnel shall be consistent with the testing methods the Contractor has selected for nondestructive testing of shafts.

4. Personnel preparing test reports shall be a Professional Engineers, licensed under Title 18 RCW, State of Washington, and in accordance with WAC 196-23-020.

6-19.3(3) Shaft Excavation
The second paragraph is revised to read:

Shaft excavation shall not be started until the Contractor has received the Engineer’s acceptance for the reinforcing steel centralizers required when the casing is to be pulled during concrete placement.

This section is supplemented with the following:

Except as otherwise noted, the Contractor shall not commence subsequent shaft excavations until receiving the Engineer’s acceptance of the first shaft, based on the results and analysis of the nondestructive testing for the first shaft. The Contractor may commence subsequent shaft excavations prior to receiving the Engineer’s acceptance of the first shaft, provided the following condition is satisfied:

The Engineer permits continuing with shaft construction based on the Engineer’s observations of the construction of the first shaft, including, but not limited to, conformance to the shaft installation narrative in accordance with Section 6-19.3(2)B, and the Engineer’s review of Contractor’s daily reports and Inspector’s daily logs concerning excavation, steel reinforcing bar placement, and concrete placement.

6-19.3(5)B Steel Reinforcing Bar Cage Centralizers
This section is supplemented with the following new sentence:

The Contractor shall furnish and install additional centralizers as required to maintain the specified concrete cover throughout the length of the shaft.

6-19.3(5)C Concrete Cover Over Steel Reinforcing Bars
In the table, the second column (including heading) is revised to read:
### Minimum Concrete Cover, and Concrete Cover Tolerance, Except at Permanent Slip Casing (Inches)

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<td></td>
</tr>
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<td>6, -3</td>
<td></td>
</tr>
</tbody>
</table>

The following new paragraph is inserted after the table:

The concrete cover tolerances specified above apply to the concrete cover specified in the Plans, even if it exceeds the minimum concrete cover.

### 6-19.3(6) Access Tubes for Crosshole Sonic Log (CSL) Testing

This section title is revised to read:

### 6-19.3(6) Contractor Furnished Accessories for Nondestructive QA Testing

This section is supplemented with the following three new subsections:

#### 6-19.3(6)D Shafts Requiring Thermal Wire

The Contractor shall furnish and install thermal wire in all shafts receiving the thermal wire method of TIP testing, except as otherwise noted in Section 6-19.3(1)B1.

#### 6-19.3(6)E Thermal Wire and Thermal Access Points (TAPs)

The thermal wire and associated couplers shall be obtained from the source specified in the Special Provisions.

The Contractor shall securely attach the thermal wire to the interior of the reinforcement cage of the shaft in conformance with the supplier’s instructions. At a minimum, one thermal wire shall be furnished and installed for each foot of shaft diameter, rounded to the nearest whole number, as shown in the Plans. The number of thermal wires for shaft diameters specified as "X feet 6 inches" shall be rounded up to the next higher whole number. The thermal wires shall be placed around the shaft, inside the spiral or hoop reinforcement, and tied to the vertical reinforcement with plastic "zip" ties at a maximum spacing of 2-feet. Steel tie wire shall not be used.

The thermal wire shall be installed in straight alignment and taut, but with enough slack to not be damaged during reinforcing cage lofting. The wires shall be as near to parallel to the vertical axis of the reinforcement cage as possible. The thermal wire shall extend from the bottom of the reinforcement cage to the top of the shaft, with 15-feet of slack wire provided above the top of shaft. Care shall be taken to prevent damaging the thermal wires during reinforcement cage installation and concrete placement operations in the shaft excavation.

After completing shaft reinforcement cage fabrication at the site and prior to installation of the cage into the shaft excavation, the Contractor shall install and connect thermal access points (TAPs) to the thermal wires. The TAPs shall record data for at least one hour after the cage is placed in the excavation to measure the slurry temperature and enable the steel and slurry temperatures to equilibrate prior to placing concrete in the
shaft. The TAPs shall record and store data every 15 minutes. The TAPs shall remain active for a minimum of 36 hours.

Prior to beginning concrete placement the TAPs shall be checked to ensure they are recording data and that the wires have not been damaged. If a TAP unit is not functioning due to a damaged wire, the Contractor shall repair or replace the wire. If a TAP unit fails or a wire breaks after concrete placement has started, the Contractor shall not stop the concrete placement operation to repair the wire.

6-19.3(6)F Use of Access Tubes for TIP Testing Under the Thermal Probe Method

The Contractor may use access tubes for TIP testing under the thermal probe method. Access tubes shall be cared for in accordance with Section 6-19.3(6)C. Prior to TIP testing under the thermal probe method, the water in each tube shall be removed, collected, and stored in an insulated container. The access tube shall be blown dry and swabbed to remove residual water. After TIP testing, the collected and stored tube water shall be introduced back into the access tube. New potable water may be used, provided the water temperature is not more than 10°F cooler than the average concrete temperature measured by the probe.

6-19.3(6)A Shafts Requiring CSL Access Tubes

This section, including title, is revised to read:

6-19.3(6)A Shafts Requiring Access Tubes

The Contractor shall furnish and install access tubes in all shafts receiving CSL testing or the thermal probe method of TIP testing, except as otherwise noted in Section 6-19.3(1)B1.

6-19.3(6)B Orientation and Assembly of the CSL Access Tubes

This section's title is revised to read:

6-19.3(6)B Orientation and Assembly of the Access Tubes

6-19.3(6)C Care for CSL Access Tubes from Erection through CSL Testing

This section's title is revised to read:

6-19.3(6)C Care for Access Tubes from Erection Through Nondestructive QA Testing

The second sentence is revised to read:

The Contractor shall keep all of a shaft’s access tubes full of water through the completion of nondestructive QA testing of that shaft.

6-19.3(7)A Concrete Class for Shaft Concrete

This section is revised to read:

Shaft concrete shall be Class 5000P conforming to Section 6-02.

6-19.3(7)B Concrete Placement Requirements

The last sentence of the last paragraph is revised to read:
The Section 6-02.3(6) restriction for 5 feet maximum free fall shall not apply to placement of concrete into a shaft.

6-19.3(7)I Requirements for Placing Concrete Above the Top of Shaft

This section is revised to read:

Concrete shall not be placed above the top of shaft (for column splice zones, columns, footings, or shaft caps) until the Contractor receives the Engineer’s acceptance of nondestructive QA testing, if performed at that shaft, and acceptance of the shaft.

6-19.3(9) Nondestructive Testing of Shafts (Crosshole Sonic Log (CSL) Testing)

This section, including title, is revised to read:

6-19.3(9) Nondestructive QA Testing of Shafts

The Contractor shall provide nondestructive QA testing and analysis on all shafts with access tubes or thermal wires and TAPs facilitating the testing (See Section 6-19.3(1)B). The testing and analysis shall be performed by the testing organizations identified by the Contractor’s submittal in accordance with Section 6-19.3(2)D.

The Engineer may direct that additional testing be performed at a shaft if anomalies or a soft bottom are detected by the Contractor’s testing. If additional testing at a shaft confirms the presence of a defect(s) in the shaft, the testing costs and the delay costs resulting from the additional testing shall be borne by the Contractor in accordance with Section 1-05.6. If the additional testing indicates that the shaft has no defect, the testing costs and the delay costs resulting from the additional testing will be paid by the Contracting Agency in accordance with Section 1-05.6, and, if the shaft construction is on the critical path of the Contractor’s schedule, a time extension equal to the delay created by the additional testing will be granted in accordance with Section 1-08.8.

6-19.3(9)A Schedule of CSL Testing

This section, including title, is revised to read:

6-19.3(9)A TIP Testing Using Thermal Probes or CSL Testing

If selected as the nondestructive QA testing method by the Contractor, TIP testing using thermal probes, or CSL testing shall be performed after the shaft concrete has cured at least 96 hours. Additional curing time prior to testing may be required if the shaft concrete contains admixtures, such as set retarding admixture or water-reducing admixture, added in accordance with Section 6-02.3(3). The additional curing time prior to testing required under these circumstances shall not be grounds for additional compensation or extension of time to the Contractor in accordance with Section 1-08.8.

6-19.3(9)B Inspection of CSL Access Tubes

This section’s title is revised to read:

6-19.3(9)B Inspection of Access Tubes

6-19.3(9)C Engineer’s Final Acceptance of Shafts

This section, including title, is revised to read:
6-19.3(9)C  TIP Testing With Thermal Wires and TAPs

If selected as the nondestructive QA testing method by the Contractor, TIP testing with thermal wires and TAPs (See Section 6-19.3(6)E) shall be performed. The TIP testing shall commence at the beginning of the concrete placement operation, recording temperature readings at 15-minute intervals until the peak temperature is captured in the data. Additional curing time may be required if the shaft concrete contains admixtures, such as set retarding admixture or water-reducing admixture, added in accordance with Section 6-02.3(3). The additional curing time required under these circumstances shall not be grounds for additional compensation or extension of time to the Contractor in accordance with Section 1-08.8.

TIP testing shall be conducted at all shafts in which thermal wires and TAPs have been installed for thermal wire analysis (Section 6-19.3(6)A).

6-19.3(9)D  Requirements to Continue Shaft Excavation Prior to Acceptance of First Shaft

This section, including title, is revised to read:

6-19.3(9)D  Nondestructive QA Testing Results Submittal

The Contractor shall submit the results and analysis of the nondestructive QA testing for each shaft tested. The Contractor shall submit the test results within three working days of testing. Results shall be a Type 1 Working Drawing presented in a written report.

TIP reports shall include:

1. A map or plot of the wire/tube location within the shaft and their position relative to a known and identifiable location, such as North.

2. Graphical displays of temperature measurements versus depth of each wire or tube for the analysis time selected, overall average temperature with depth, shaft radius or diameter with depth, concrete cover versus cage position with depth, and effective radius.

3. The report shall identify unusual temperatures, particularly significantly cooler local deviations from the overall average.

4. The report shall identify the location and extent where satisfactory or questionable concrete is identified.

   a. Satisfactory (S) - 0 to 6% Effective Radius Reduction and Cover Criteria Met

   b. Questionable (Q) - Effective Local Radius Reduction > 6%, Effective Local Average Diameter Reduction > 4%, or Cover Criteria Not Met

5. Variations in temperature between wire/tubes (at each depth) which in turn correspond to variations in cage alignment.
6. Where shaft specific construction information is available (e.g. elevations of the top of shaft, bottom of casing, bottom of shaft, etc.), these values shall be noted on all pertinent graphical displays.

CSL reports shall include:

1. A map or plot of the tube location within the shaft and their position relative to a known and identifiable location, such as North.

2. Graphical displays of CSL Energy versus Depth and CSL signal arrival time versus depth or velocity versus depth.

3. The report shall identify the location and extent where good, questionable, and poor concrete is identified, where no signal was received, or where water is present.
   a. Good (G) - No signal distortion and decrease in signal velocity of 10% or less is indicative of good quality concrete.
   b. Questionable (Q) - Minor signal distortion and a lower signal amplitude with a decrease in signal velocity between 10% and 20%.
   c. Poor (P) - Severe signal distortion and much lower signal amplitude with a decrease in signal velocity of 20% or more.
   d. No Signal (NS) - No signal was received.
   e. Water (W) - A measured signal velocity of nominally $V = 4,800$ to $5,000$ fps.

All QA test reports will provide a recommendation to accept the shaft as-is, recommendation for further review by the Engineer, or will provide a plan for further testing, investigation or repair to address any deficiencies identified by the testing.

6-19.3(9)E Additional CSL Testing
This section, including title, is revised to read:

6-19.3(9)E Vacant

6-19.3(9)I Requirements for CSL Access Tubes and Cored Holes After CSL Testing
This section’s title is revised to read:

6-19.3(9)I Requirements for Access Tubes and Cored Holes After CSL Testing

6-19.4 Measurement
This section is revised to read:
Constructing shafts will be measured by the linear foot. The linear foot measurement will be calculated using the top of shaft elevation and the bottom of shaft elevation for each shaft as shown in the Plans.

Rock excavation for shaft, including haul, will be measured by the linear foot of shaft excavated. The linear feet measurement will be computed using the top of the rock line, defined as the highest bedrock point within the shaft diameter, and the bottom elevation shown in the Plans.

QA shaft test will be measured once per shaft tested.

### 6-19.5 Payment

This section is revised to read:

Payment will be made for the following Bid items when they are included in the Proposal:

"Constructing___Diam. Shaft", per linear foot.

The unit Contract price per linear foot for “Constructing___Diam. Shaft” shall be full pay for performing the Work as specified, including:

1. Soil excavation for shaft, including all costs in connection with furnishing, mixing, placing, maintaining, containing, collecting, and disposing of all mineral, synthetic and water slurry, and disposing of groundwater collected by the excavated shaft.

2. Furnishing and placing temporary shaft casing, including temporary casing in addition to the required casing specified in the Special Provisions, and including all costs in connection with completely removing the casing after completing shaft construction.

3. Furnishing permanent casing for shaft.

4. Placing permanent casing for shaft.

5. Casing shoring, including all costs in connection with furnishing and installing casing shoring above the specified upper limit for casing shoring but necessary to provide for sufficient water head pressure to resist artesian water pressure present in the shaft excavation, removing casing shoring, and placing seals when required.

6. Furnishing and placing steel reinforcing bar and epoxy-coated steel reinforcing bar, including furnishing and installing steel reinforcing bar centralizers.

7. Installation of CSL tubes or thermal wires.

8. Furnishing, placing and curing concrete to the top of shaft or to the construction joint at the base of the shaft-column splice zone as applicable.
Payment for “Constructing ___ Diam. Shaft” will be made upon Engineer acceptance of the shaft, including completion of satisfactory QA shaft tests as applicable.

“Rock Excavation For Shaft Including Haul”, per linear foot. When rock excavation is encountered, payment for rock excavation is in addition to the unit Contract price per linear foot for “Constructing ___ Diam. Shaft”

“Shoring Or Extra Excavation Cl. A - ____”, lump sum. The lump sum Contract price for “Shoring Or Extra Excavation Cl. A - ____” shall be full pay for performing the Work as specified, including all costs in connection with all excavation outside the limits specified for soil and rock excavation for shaft including haul, all temporary telescoping casings, and all temporary casings beyond the limits of required temporary casing specified in the Special Provisions.

“QA Shaft Test”, per each. The unit Contract price per each for “QA Shaft Test” shall be full pay for performing the Work as specified, including operating all associated accessories necessary to record and process data and develop the summary QA test reports. Section 1-04.6 does not apply to this bid item.

“Removing Shaft Obstructions”, estimated. Payment for removing, breaking-up, or pushing aside shaft obstructions, as defined in Section 6-19.3(3)E, will be made for the changes in shaft construction methods necessary to deal with the obstruction. The Contractor and the Engineer shall evaluate the effort made and reach agreement on the equipment and employees utilized, and the number of hours involved for each. Once these cost items and their duration have been agreed upon, the payment amount will be determined using the rate and markup methods specified in Section 1-09.6. For the purpose of providing a common proposal for all Bidders, the Contracting Agency has entered an amount for the item “Removing Shaft Obstructions” in the Bid Proposal to become a part of the total Bid by the Contractor.

If drilled shaft tools, cutting teeth, casing or Kelly bar is damaged as a result of the obstruction removal work, the Contractor will be compensated for the costs to repair this equipment in accordance with Section 1-09.6.

If shaft construction equipment is idled as a result of the Work required to deal with the obstruction and cannot be reasonably reassigned within the project, then standby payment for the idled equipment will be added to the payment calculations. If labor is idled as a result of the Work required to deal with the obstruction and cannot be reasonably reassigned within the project, then all labor costs resulting from Contractor labor agreements and established Contractor policies will be added to the payment calculations.

The Contractor shall perform the amount of obstruction Work estimated by the Contracting Agency within the original time of the Contract. The Engineer will consider a time adjustment and additional compensation for costs related to the extended duration of the shaft construction operations, provided:
1. The dollar amount estimated by the Contracting Agency has been exceeded, and

2. The Contractor shows that the obstruction removal Work represents a delay to the completion of the project based on the current progress schedule provided in accordance with Section 1-08.3.

7-02.AP7

Section 7-02, Culverts

January 3, 2017

7-02.2 Materials

The following three new items are inserted after the item “Aggregate for Portland Cement Concrete:

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<tr>
<td>Gravel Backfill for Pipe Zone Bedding</td>
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<tr>
<td>Butyl Rubber Sealant</td>
<td>9-04.11</td>
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<tr>
<td>External Sealing Band</td>
<td>9-04.12</td>
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</table>

The last paragraph is deleted.

7-02.3(6) Precast Reinf. Conc. Three Sided Structures, Box Culverts and Split Box Culverts

This section is supplemented with the following new paragraph:

When the Plans include a complete set of design details for a Structure (defining panel shapes and dimensions, concrete strength requirements, and steel reinforcing bar, joint, and connection details), the design and load rating preparation and calculation submittal requirements of Sections 7-02.3(6)A1 and 7-02.3(6)A2 do not apply for the components shown in the Plans, but all other requirements of this Section remain in effect. The Contractor may propose alternate concrete culvert designs, accommodating the same rise, span, and length as shown in the Plans, to replace the Structure details shown in the Plans. If an alternate concrete culvert design is proposed, all of the requirements of this Section, including design and load rating preparation and calculation submittal, apply.

7-02.3(6)A General

This section is supplemented with the following two new paragraphs:

Tolerances for PRCTSS shall be as follows:

1. Internal Dimensions – The internal dimension shall not vary more than 1 percent or 2 inches, whichever is less, from the Plan dimensions. The haunch dimensions shall not vary more than \( \frac{3}{4} \) inch from the Plan dimensions.

2. Slab and Wall Thickness – The slab and wall thickness shall not be less than that shown in the Plans by more than 5 percent or \( \frac{1}{2} \) inch, whichever is greater. A thickness more than that required in the Plans will not be a cause for rejection if proper joining is not affected.
3. Length of Opposite Surfaces – Variations in lengths of two opposite surfaces of the three-sided section shall not be more than $\frac{3}{4}$ inch unless beveled sections are being used to accommodate a curve in the alignment.

4. Reinforcing steel placement shall meet the tolerances specified in Section 6-02.3(24)C.

Tolerances for PRCBC and PRCSBC shall be as follows:

1. Internal Dimensions – The internal dimensions shall not vary more than 1 percent from the Plan dimensions. If haunches are used, the haunch dimensions shall not vary more than $\frac{1}{4}$ inch from the Plan dimensions.

2. Slab and Wall Thickness – The slab and wall thickness shall not be less than that shown in the Plans by more than 5 percent or $\frac{3}{16}$ inch, whichever is greater. A thickness more than that required in the Plans will not be a cause for rejection.

3. Length of Opposite Box Segments – Variations in lengths of two opposite surfaces of the box segments shall not be more than $\frac{1}{8}$ inch per foot of internal span, with a maximum of $\frac{5}{8}$ inch for all sizes through 7 feet internal span, and a maximum of $\frac{3}{4}$ inch for internal spans greater than 7 feet, except where beveled sections are being used to accommodate a curve in the alignment.

4. Length of Box Segments – The underrun in length of a segment shall not be more than $\frac{1}{8}$ inch per foot of length with a maximum of $\frac{1}{2}$ inch in any box segment.

5. Length of Legs and Slabs – The variation in length of the legs shall not be more than $\frac{1}{8}$ inch per foot of the rise of the leg per leg with a maximum of $\frac{5}{8}$ inches. The differential length between opposing legs of the same segment shall not be more than $\frac{1}{2}$ inch. Length of independent top slab spans shall not vary by more than $\frac{1}{8}$ inch per foot of span of the top slab, with a maximum of $\frac{5}{8}$ inches.

6. Reinforcing steel placement shall meet the tolerances specified in Section 6-02.3(24)C.

This section is supplemented with the following new subsection:

7-02.3(6)A5 Wingwalls and Retaining Walls

Wingwalls and retaining walls (including cutoff walls and headwalls) shall be constructed in accordance with the Contractor’s design and Working Drawing submittal or when the Plans include a complete set of design details for a wall (defining panel shapes and dimensions, concrete strength requirements, and steel reinforcing bar, joint, and connection details), the details shown in the Plans.

Precast concrete construction shall conform to Sections 6-02.3(28) and 6-11.3(3).
Culvert bedding material shall be furnished, placed, and compacted in accordance with Section 7-02.3(6)A4.

**7-02.3(6)A1 Design Criteria**

The first sentence of the last paragraph is revised to read:

Whenever the minimum finished backfill or surfacing depth above the top of the Structure is less than 1'-0" (except when the top of the Structure is directly exposed to vehicular traffic), either all steel reinforcing bars in the span unit shall be epoxy-coated with 2" minimum concrete cover from the face of concrete to the face of the top mat of steel reinforcing bars, or the minimum concrete cover shall be 2½".

The last sentence of the last paragraph is revised to read:

Concrete cover from the face of any concrete surface to the face of any steel reinforcement shall be 1-inch minimum end clearance at all joints, and 2-inches minimum at all other locations.

**7-02.3(6)A2 Submittals**

The first paragraph is revised to read:

The Contractor shall submit shop drawings of the precast Structures. Fabrication shop drawings replicating complete design details when shown in the Plans shall be Type 2 Working Drawings. Submittals completing the design based on the schematic geometric requirements shown in the Plans, or proposing a Contractor designed alternative concrete culvert Structure shall be Type 2E Working Drawings with supporting design calculations.

The last paragraph is revised to read:

For precast Structures with a span length greater than 20-feet (as defined in Section 7-02.3(6)A1), except when the depth of fill above the top of culvert exceeds the Structure span length, a Type 2E Working Drawing shall be submitted consisting of a load rating report prepared in accordance with the AASHTO Manual for Bridge Evaluation and WSDOT Bridge Design Manual LRFD M 23-50 Chapter 13. Soil pressures used shall include effects from the backfill material and compaction methods, and shall be in accordance with the WSDOT Geotechnical Design Manual M 46-03 and the geotechnical report prepared for the project.

**7-02.3(6)A3 Casting**

This section is revised to read:

Concrete shall conform to Section 6-02.3(28)B, with a 28-day compressive strength as specified in the Plans or the Working Drawings submittal.

**7-02.3(6)A4 Excavation and Bedding Preparation**

The last paragraph is revised to read:

The upper layer of bedding course shall be a 6-inch minimum thickness layer of culvert bedding material, defined as granular material either conforming to Section 9-03.12(3)
or to AASHTO Grading No. 57 as specified in Section 9-03.1(4)C. The plan limits of
the culvert bedding material shall extend 1-foot beyond the plan limits of the culvert or
the Structure footing as applicable. The culvert bedding material shall be compacted in
accordance with the Section 2-09.3(1)E requirements for gravel backfill for drains.
After compaction, the culvert bedding material shall be screeded transversely to the
specified line and grade. Voids in the screeded culvert bedding material shall be filled
and then rescreeded prior to erecting the precast Structure.

7-02.3(6)B3 Erection
The last paragraph is revised to read:

Adjacent precast sections shall be connected by welding the weld-tie anchors in
accordance with Section 6-03.3(25). Welding ground shall be attached directly to the
steel plates being welded when welding the weld-ties. The weld-tie anchor spacing
shall not exceed 6'-0". After connecting the weld-tie anchors, the Contractor shall paint
the exposed metal surfaces with one coat of field primer conforming to Section 9-
08.1(2)F. Keyways shall be filled with grout conforming to Section 9-20.3(2).

7-02.3(6)C1 Casting
This section is revised to read:

PRCSBC shall consist of lid elements and “U” shaped base elements. The vertical legs
of the “U” shaped base elements shall be full height matching the rise of the culvert,
except as otherwise specified for culvert spans greater than 20-feet. For PRCSBC
spans greater than 20-feet (as defined in Section 7-02.3(6)A1), the lid elements may
include vertical legs of a maximum length of 4-feet.

All vertical and horizontal joints of PRCBC and PRCSBC elements shall be tongue and
groove type joints, except PRCBC and PRCSBC of 20-foot span or less may have
keyway joints connected by weld-tie anchors in accordance with Section 6-02.3(25)O.
The weld-tie anchor spacing shall not exceed 6'-0". There shall be at least two
galvanized steel tie plates across each top unit tongue and groove joint and each
tongue and groove joint between upper and lower units, unless otherwise shown in the
Plans or required by the seismic designed completed in accordance with Section 7-
02.3(6)A1.

7-02.3(6)C3 Erection
This section is revised to read:

PRCBC and PRCSBC shall be erected and backfilled in accordance with the erection
sequence specified in the Working Drawing submittal, and the construction equipment
restrictions specified in Section 6-02.3(25)O.

The Contractor shall install a continuous strip of butyl rubber sealant within all tongue
and groove joints prior to connecting the precast elements together. The butyl rubber
sealant shall have a minimum cross section of ½-inch by 1½-inch, unless otherwise
shown in the Plans.
After connecting the joints with weld-tie anchors, the Contractor shall paint the exposed metal surfaces with one coat of field primer conforming to Section 9-08.1(2)F. Keyways shall be filled with grout conforming to Section 9-20.3(2).

The Contractor shall wrap all exterior joints along the top and sides of the PRCBC and PRCSBC with a 12-inch wide strip of external sealing band centered about the joint and adhesively bonded to the concrete surface.

Backfill beside the PRCBC and PRCSBC shall be brought up in sequential layers, compacted concurrently. The difference in backfill height on opposing sides of the Structure shall not exceed 2-feet.

7-02.4 Measurement
This section is supplemented with the following:

Culvert bedding material will be measured by the cubic yard of material placed.

7-02.5 Payment
This section is supplemented with the following:

“Culvert Bedding Material”, per cubic yard.

7-08.AP7
Section 7-08, General Pipe Installation Requirements
January 3, 2017

7-08.3(1)A Trenches
The second sentence of the last paragraph is revised to read:

The embankment material shall be compacted to 95 percent of maximum density and the moisture content at the time of compaction shall be between optimum and 3 percentage points below optimum as determined by the Compaction Control Tests specified in Section 2-03.3(14)D.

7-09.AP7
Section 7-09, Water Mains
April 3, 2017

7-09.3(24)D Dry Calcium Hypochlorite
The second paragraph is revised to read:

The number of grams of 70 percent test calcium hypochlorite required for a 20-foot length of pipe equals 0.238 × d², in which “d” is the diameter in inches.

8-01.AP8
Section 8-01, Erosion Control and Water Pollution Control
August 1, 2016

8-01.2 Materials
This section is supplemented with the following new paragraph:
Recycled concrete, in any form, shall not be used for any Work defined in Section 8-01.

### 8-01.3(7) Stabilized Construction Entrance
The last sentence of the first paragraph is revised to read:

Material used for stabilized construction entrance shall be free of extraneous materials that may cause or contribute to track out.

### 8-01.3(8) Street Cleaning
This section is revised to read:

Self-propelled street sweepers shall be used to remove and collect sediment and other debris from the Roadway, whenever required by the Engineer. The street sweeper shall effectively collect these materials and prevent them from being washed or blown off the Roadway or into waters of the State. Street sweepers shall not generate fugitive dust and shall be designed and operated in compliance with applicable air quality standards.

Material collected by the street sweeper shall be disposed of in accordance with Section 2-03.3(7)C.

Street washing with water will require the concurrence of the Engineer.

### 8-09.AP8
**Section 8-09, Raised Pavement Markers**
**January 3, 2017**

#### 8-09.5 Payment
In the last paragraph, “flaggers and spotters” is revised to read “flaggers”.

### 8-10.AP8
**Section 8-10, Guide Posts**
**January 4, 2016**

#### 8-10.3 Construction Requirements
The last sentence of the second paragraph is deleted.

### 8-11.AP8
**Section 8-11, Guardrail**
**January 17, 2017**

#### 8-11.3(1)C Terminal and Anchor Installation
This section is supplemented with the following new paragraph:

Beam Guardrail Non-flared Terminals for Type 1 guardrail shall meet the crash test and evaluation criteria of NCHRP 350 or the Manual for Assessing Safety Hardware (MASH). Beam Guardrail Non-flared Terminals for Type 31 guardrail shall meet the crash test and evaluation criteria of MASH.
8-11.3(1)F Removing and Resetting Beam Guardrail
The last sentence of the first paragraph is deleted.

8-11.5 Payment
The paragraph following the Bid item “Removing and Resetting Beam Guardrail”, per linear foot is revised to read:

The unit Contract price per linear foot for “Removing and Resetting Beam Guardrail” shall be full payment for all costs to perform the Work as described in Section 8-11.3(1)F, except for replacement posts and blocks.

The paragraph following the Bid item “Raising Existing Beam Guardrail”, per linear foot is revised to read:

The unit Contract price per linear foot for “Raising Existing Beam Guardrail” shall be full payment for all costs to perform the Work as described in Section 8-11.3(1)E, except for replacement posts and blocks.

8-20.AP8
Section 8-20, Illumination, Traffic Signal Systems, Intelligent Transportation Systems, and Electrical
August 7, 2017

8-20.1 Description
This section is supplemented with the following new subsection:

8-20.1(3) Permitting and Inspections
Electrical installations are subject to electrical inspection in accordance with RCW 19.28.101. Electrical inspections may only be performed by an electrical inspector meeting the requirements of RCW 19.28.321. Electrical installations will not be accepted until they have been inspected and approved by an electrical inspector as required by this Section. This inspection is required even if there is no new electrical service or new electrical meter being installed in the Contract.

Installations within WSDOT right of way are subject to a minimum of a final inspection by a WSDOT certified electrical inspector as allowed by RCW 19.28.141. A separate permit is not required for electrical installations within WSDOT right of way. Additional inspections may be required at the discretion of the Engineer.

Installations outside of WSDOT right of way are subject to permitting and inspection by the Washington State Department of Labor and Industries (L&I) or a local jurisdiction approved for that location by L&I. Approved local jurisdictions and their contacts may be found on the L&I website at http://www.lni.wa.gov/TradesLicensing/Electrical/FeePermInsp/CityInspectors/.

8-20.1(1) Regulations and Code
The second paragraph is revised to read:
Wherever reference is made in these Specifications or in the Special Provisions to the Code, the rules, or the standards mentioned above, the reference shall be construed to mean the code, rule, or standard that is in effect on the Bid advertisement date.

8-20.3(5)A  General
The last paragraph is revised to read:

Immediately after the sizing mandrel has been pulled through, install an equipment grounding conductor if applicable (see Section 8-20.3(9)) and any new or existing wire or cable as specified in the Plans. Where conduit is installed for future use, install a 200-pound minimum tensile strength pull string with the equipment grounding conductor. The pull string shall be attached to duct plugs or caps at both ends of the conduit.

8-20.3(5)A1  Fiber Optic Conduit
The last paragraph is deleted.

8-20.3(5)B  Conduit Type
The second and third paragraphs are deleted and replaced with the following new paragraph:

PVC and HDPE conduits shall be Schedule 80 unless installed as innerduct.

8-20.3(5)D  Conduit Placement
Item number 2 is revised to read:

2. 24-inches below the top of the untreated surfacing on a Roadbed.

8-20.3(9)  Bonding, Grounding
The following two new paragraphs are inserted after the first paragraph:

Install an equipment grounding conductor in all new conduit, whether or not the equipment grounding conductor is called for in the wire schedule.

For each new conduit with innerduct install an equipment grounding conductor in only one of the innerducts unless otherwise required by the NEC or the Plans.

The fourth paragraph (after the preceding Amendments are applied) is revised to read:

Bonding jumpers and equipment grounding conductors meeting the requirements of Section 9-29.3(2)A3 shall be minimum #8 AWG, installed in accordance with the NEC. Where existing conduits are used for the installation of new circuits, an equipment grounding conductor shall be installed unless an existing equipment ground conductor, which is appropriate for the largest circuit, is already present in the existing raceway. The equipment ground conductor between the isolation switch and the sign lighter fixtures shall be minimum #14 AWG stranded copper conductor. Where parallel circuits are enclosed in a common conduit, the equipment-grounding conductor shall be sized by the largest overcurrent device serving any circuit contained within the conduit.
The second sentence of the fifth paragraph (after the preceding Amendments are applied) is revised to read:

A non-insulated stranded copper conductor, minimum #8 AWG with a full circle crimp on connector (crimped with a manufacturer recommended crimper) shall be connected to the junction box frame or frame bonding stud, the other end shall be crimped to the equipment bonding conductor, using a “C” type crimp connector.

The last two sentences of the sixth paragraph (after the preceding Amendments are applied) are revised to read:

For light standards, signal standards, cantilever and sign bridge Structures the supplemental grounding conductor shall be #4 AWG non-insulated stranded copper conductor. For steel sign posts which support signs with sign lighting or flashing beacons the supplemental grounding conductor shall be #6 AWG non insulated stranded copper conductor.

The fourth to last paragraph is revised to read:

Install a two grounding electrode system at each service entrance point, at each electrical service installation and at each separately derived power source. The service entrance grounding electrode system shall conform to the “Service Ground” detail in the Standard Plans. If soil conditions make vertical grounding electrode installation impossible an alternate installation procedure as described in the NEC may be used. Maintain a minimum of 6 feet of separation between any two grounding electrodes within the grounding system. Grounding electrodes shall be bonded copper, ferrous core materials and shall be solid rods not less than 10 feet in length if they are ½ inch in diameter or not less than 8 feet in length if they are ¾ inch or larger in diameter.

8-20.3(13)A Light Standards

The first sentence in the second to last paragraph is revised to read:

All new and relocated metal light standards shall be numbered for identification using painted 4 inch block gothic letters (similar to series C highway lettering) and numbers installed 3 feet above the base facing the Traveled Way.

The numbered list in the second to last paragraph is deleted and replaced with the following:

NN
CC-SSSS
VVV

Where:
NN – Is the pole number as identified in the Plans. May be one or more characters.

CC – Is the circuit letter as identified in the Plans. May be one or more characters.

SSSS – Is the service cabinet number as identified in the Plans. Do not include the two or three letter prefix. Up to four digits - do not include leading zeros.

VVV – Is the operating voltage of the luminaire. Always three digits.
8-20.3(13)C Luminaires
The first paragraph is revised to read:

The Contractor shall mark the installation date on the inside of the luminaire ballast or
driver housing using a permanent marking pen.

8-22.AP8
Section 8-22, Pavement Marking
August 7, 2017

8-22.3(6) Removal of Pavement Markings
This section is revised to read:

Pavement markings to be removed shall be obliterated until all blemishes caused by
the pavement marking removal conform to the coloration of the adjacent pavement.

Grinding to remove pavement markings in their entirety is allowed in areas designated
for applications of either Hot Mix Asphalt (HMA) or Bituminous Surface Treatment
(BST). Pavement marking removal shall be performed from April 1st through
September 30th and only in those areas that shall be paved within the same time
window as the grinding, unless otherwise allowed by the Engineer in writing.

For all cement concrete pavement and areas that will not be overlaid with hot mix
asphalt or BST, grinding is allowed to a depth just above the pavement surface and
then Water blasting or shot blasting shall be required to remove the remaining
pavement markings.

If in the opinion of the Engineer, the pavement is materially damaged by pavement
marking removal, such damage shall be repaired by the Contractor in accordance with
Section 1-07.13(1). Sand or other material deposited on the pavement as a result of
removing lines and markings shall be removed as the Work progresses to avoid
hazardous conditions. Accumulation of sand or other material which might interfere
with drainage will not be permitted.

8-22.4 Measurement
The first two sentences of the fourth paragraph are revised to read:

The measurement for “Painted Wide Lane Line”, “Plastic Wide Lane Line”, “Profiled
Plastic Wide Lane Line”, “Painted Barrier Center Line”, “Plastic Barrier Center Line”,
“Painted Stop Line”, “Plastic Stop Line”, “Painted Wide Dotted Entry Line”, or “Plastic
Wide Dotted Entry Line” will be based on the total length of each painted, plastic or
profiled plastic line installed. No deduction will be made for the unmarked area when
the marking includes a broken line such as, wide broken lane line, drop lane line, wide
dotted lane line or wide dotted entry line.

8-22.5 Payment
The following two new Bid items are inserted after the Bid item “Plastic Crosshatch
Marking”, per linear foot:

“Painted Wide Dotted Entry Line”, per linear foot.
“Plastic Wide Dotted Entry Line”, per linear foot.

9-01.AP9

Section 9-01, Portland Cement
August 7, 2017

This section’s title is revised to read:

Cement

9-01.1 Types of Cement
This section is revised to read:

Cement shall be classified as portland cement, blended hydraulic cement, or rapid hardening hydraulic cement.

9-01.2(2) Vacant
This section, including title, is revised to read:

9-01.2(2) Rapid Hardening Hydraulic Cement
Rapid hardening hydraulic cement shall meet the requirements of ASTM C 1600.

9-01.2(3) Low Alkali Cement
This section is renumbered as follows:

9-01.2(1)A Low Alkali Cement

9-01.2(4) Blended Hydraulic Cement
This section is renumbered as follows:

9-01.2(1)B Blended Hydraulic Cement

In the first paragraph, items number 3 through 5 are revised to read:

3. Type IT(PX)(LY), where (PX) equals the targeted percentage of pozzolan, and (LY) equals the targeted percentage of limestone. The pozzolan (PX) shall be Class F fly ash and shall be a maximum of 35 percent. (LY) shall be a minimum of 5 percent and a maximum of 15 percent. Separate testing of each source of fly ash at each proposed replacement level shall be conducted in accordance with ASTM C1012. Expansion at 180 days shall be 0.10 percent or less.

4. Type IT(SX)(LY), where (SX) equals the targeted percentage of slag cement, and (LY) equals the targeted percentage of limestone. (SX) shall be a maximum of 50 percent. (LY) shall be a minimum of 5 percent and a maximum of 15 percent. Separate testing of each source of slag at each proposed replacement level shall be conducted in accordance with ASTM C1012. Expansion at 180 days shall be 0.10 percent or less.
5. Type IL(X), where (X) equals the targeted percentage of limestone, and shall be a minimum of 5 percent and a maximum of 15 percent. Testing shall be conducted in accordance with ASTM C1012. Expansion at 180 days shall be 0.10 percent or less.

9-01.3 Tests and Acceptance
The second paragraph is revised to read:

Cement producers/suppliers that certify portland cement or blended hydraulic cement shall participate in the Cement Acceptance Program as described in WSDOT Standard Practice QC 1. Rapid hardening hydraulic cement producers/suppliers are not required to participate in WSDOT Standard Practice QC 1.

9-03.AP9
Section 9-03, Aggregates
August 7, 2017

9-03.1(1) General Requirements
In this section, each reference to “Section 9-01.2(3)” is revised to read “Section 9-01.2(1)A”.

This first paragraph is supplemented with the following:

Reclaimed aggregate may be used if it complies with the specifications for Portland Cement Concrete. Reclaimed aggregate is aggregate that has been recovered from plastic concrete by washing away the cementitious materials.

9-03.1(2) Fine Aggregate for Portland Cement Concrete
This section is revised to read:

Fine aggregate shall consist of natural sand or manufactured sand, or combinations thereof, accepted by the Engineer, having hard, strong, durable particles free from adherent coating. Fine aggregate shall be washed thoroughly to meet the specifications.

9-03.1(2)A Deleterious Substances
This section is revised to read:

The amount of deleterious substances in the washed aggregate shall be tested in accordance with AASHTO M 6 and not exceed the following values:

<table>
<thead>
<tr>
<th>Material</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material finer than No. 200 Sieve</td>
<td>2.5 percent by weight</td>
</tr>
<tr>
<td>Clay lumps and friable particles</td>
<td>3.0 percent by weight</td>
</tr>
<tr>
<td>Coal and lignite</td>
<td>0.25 percent by weight</td>
</tr>
<tr>
<td>Particles of specific gravity less than 2.00</td>
<td>1.0 percent by weight</td>
</tr>
</tbody>
</table>

Organic impurities shall be tested in accordance with AASHTO T 21 by the glass color standard procedure and results darker than organic plate no. 3 shall be rejected. A darker color results from AASHTO T 21 may be used provided that when tested for the effect of organic impurities on strength of mortar, the relative
strength at 7 days, calculated in accordance with AASHTO T 71, is not less than 95 percent.

9-03.1(4) Coarse Aggregate for Portland Cement Concrete
This section is revised to read:
Coarse aggregate for concrete shall consist of gravel, crushed gravel, crushed stone, or combinations thereof having hard, strong, durable pieces free from adherent coatings. Coarse aggregate shall be washed to meet the specifications.

9-03.1(4)A Deleterious
This section, including title, is revised to read:

9-03.1(4)A Deleterious Substances
The amount of deleterious substances in the washed aggregate shall be tested in accordance with AASHTO M 80 and not exceed the following values:

<table>
<thead>
<tr>
<th>Material</th>
<th>Percentage by weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material finer than No. 200</td>
<td>1.01%</td>
</tr>
<tr>
<td>Clay lumps and Friable Particles</td>
<td>2.0%</td>
</tr>
<tr>
<td>Shale</td>
<td>2.0%</td>
</tr>
<tr>
<td>Wood waste</td>
<td>0.05%</td>
</tr>
<tr>
<td>Coal and Lignite</td>
<td>0.5%</td>
</tr>
<tr>
<td>Sum of Clay Lumps, Friable Particles, and Chert (Less Than 2.40 specific gravity SSD)</td>
<td>3.0%</td>
</tr>
</tbody>
</table>

1If the material finer than the No. 200 sieve is free of clay and shale, this percentage may be increased to 1.5.

9-03.1(4)C Grading
The following new sentence is inserted at the beginning of the last paragraph:
Where coarse aggregate size 467 is used, the aggregate may be furnished in at least two separate sizes.

9-03.1(5) Combined Aggregate Gradation for Portland Cement Concrete
This section is revised to read:
As an alternative to using the fine aggregate sieve grading requirements in Section 9-03.1(2)B, and coarse aggregate sieve grading requirements in Section 9-03.1(4)C, a combined aggregate gradation conforming to the requirements of Section 9-03.1(5)A may be used.

9-03.1(5)A Deleterious Substances
This section is revised to read:
The amount of deleterious substances in the washed aggregates 3/8 inch or larger shall not exceed the values specified in Section 9-03.1(4)A and for aggregates smaller than 3/8 inch they shall not exceed the values specified in Section 9-03.1(2)A.
9-03.1(5)B Grading
The first paragraph is deleted.

9-03.8(2) HMA Test Requirements
In the table in item number 3, the heading “Statistical and Nonstatistical” is revised to read “Statistical”.

9-03.8(7) HMA Tolerances and Adjustments
In the table in item number 1, the column titled “Nonstatistical Evaluation” is deleted.
In the table in item 1, the last column titled “Commercial Evaluation” is revised to read “Visual Evaluation”.

9-03.11(1) Streambed Sediment
The following three new sentences are inserted after the first sentence of the first paragraph:
Alternate gradations may be used if proposed by the Contractor and accepted by the Engineer. The Contractor shall submit a Type 2 Working Drawing consisting of 0.45 power maximum density curve of the proposed gradation. The alternate gradation shall closely follow the maximum density line and have Nominal Aggregate Size of no less than 1½ inches or no greater than 3 inches.

9-03.12(4) Gravel Backfill for Drains
The following new sentence is inserted at the beginning of the second paragraph:
As an alternative, AASHTO grading No. 57 may be used in accordance with Section 9-03.1(4)C.

9-03.12(5) Gravel Backfill for Drywells
The following new sentence is inserted at the beginning of the second paragraph:
As an alternative, AASHTO grading No. 4 may be used in accordance with Section 9-03.1(4)C.

9-03.21(1)B Concrete Rubble
This section, including title, is revised to read:

9-03.21(1)B Recycled Concrete Aggregate
Recycled concrete aggregates are coarse aggregates manufactured from hardened concrete mixtures. Recycled concrete aggregate may be used as coarse aggregate or blended with coarse aggregate for Commercial Concrete. Recycled concrete aggregate shall meet all of the requirements for coarse aggregate contained in Section 9-03.1(4) or 9-03.1(5). In addition to the requirements of Section 9-03.1(4) or 9-03.1(5), recycled concrete shall:
1. Contain an aggregated weight of less than 1 percent of adherent fines, vegetable matter, plastics, plaster, paper, gypsum board, metals, fabrics, wood, tile, glass, asphalt (bituminous) materials, brick, porcelain or other deleterious substance(s) not otherwise noted;
2. Be free of components such as chlorides and reactive materials that are detrimental to the concrete, unless mitigation measures are taken to prevent recurrence in the new concrete;

3. Have an absorption of less than 10 percent when tested in accordance with AASHTO T 85.

4. Be considered mechanically fractured and therefore be considered part of the total fracture calculation as determined by the FOP for AASHTO T 335.

Recycled concrete aggregate shall be in a saturated condition prior to mixing.

Recycled concrete aggregate shall not be placed below the ordinary high water mark of any surface water of the State.

9-03.21(1)D Recycled Steel Furnace Slag
This section title is revised to read:

Steel Slag

9-03.21(1)E Table on Maximum Allowable Percent (By Weight) of Recycled Material
In the Hot Mix Asphalt column, each value of “20” is revised to read “25”.

The last column heading “Steel Furnace Slag” is revised to read “Steel Slag”.

The following new row is inserted after the second row:

| Coarse Aggregate for Commercial Concrete | 9-03.1(4) | 0 | 100 | 0 | 0 |

9-04.AP9

Section 9-04, Joint and Crack Sealing Materials
January 3, 2017

This section is supplemented with the following two new subsections:

9-04.11 Butyl Rubber Sealant
Butyl rubber sealant shall conform to ASTM C 990.

9-04.12 External Sealing Band
External sealing band shall by Type III B conforming to ASTM C 877.

9-04.1(2) Premolded Joint Filler for Expansion Joints
This section is supplemented with the following:

As an alternative to the above, a semi-rigid, non-extruding, resilient type, closed-cell polypropylene foam, preformed joint filler with the following physical properties as tested to AASHTO T 42 Standard Test Methods may be used.
### Closed-Cell Polypropylene Foam Preformed Joint Filler

<table>
<thead>
<tr>
<th>Physical Property</th>
<th>Requirement</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Absorption</td>
<td>&lt; 1.0%</td>
<td>AASHTO T 42</td>
</tr>
<tr>
<td>Compression Recovery</td>
<td>&gt; 80%</td>
<td>AASHTO T 42</td>
</tr>
<tr>
<td>Extrusion</td>
<td>&lt; 0.1 in.</td>
<td>AASHTO T 42</td>
</tr>
<tr>
<td>Density</td>
<td>&gt; 3.5 lbs./cu.ft.</td>
<td>AASHTO T 42</td>
</tr>
<tr>
<td>Water Boil (1 hr.)</td>
<td>No expansion</td>
<td>AASHTO T 42</td>
</tr>
<tr>
<td>Hydrochloric Acid Boil (1 hr.)</td>
<td>No disintegration</td>
<td>AASHTO T 42</td>
</tr>
<tr>
<td>Heat Resistance °F</td>
<td>392°F± 5°F</td>
<td>ASTM D 5249</td>
</tr>
</tbody>
</table>

### 9-04.2(1) Hot Poured Joint Sealants

This section’s content is deleted and replaced with the following new subsections:

#### 9-04.2(1)A Hot Poured Sealant

Hot poured sealant shall be sampled in accordance with ASTM D5167 and tested in accordance with ASTM D5329.

##### 9-04.2(1)A1 Hot Poured Sealant for Cement Concrete Pavement

Hot poured sealant for cement concrete pavement shall meet the requirements of ASTM D6690 Type IV, except for the following:

1. The Cone Penetration at 25°C shall be 130 maximum.
2. The extension for the Bond, non-immersed, shall be 100 percent.

#### 9-04.2(1)A2 Hot Poured Sealant for Bituminous Pavement

Hot poured sealant for bituminous pavement shall meet the requirements of ASTM D6690 Type I or Type II.

#### 9-04.2(1)B Sand Slurry for Bituminous Pavement

Sand slurry is mixture consisting of the following components measured by total weight:

1. Twenty percent CSS-1 emulsified asphalt,
2. Two percent portland cement, and
3. Seventy-eight percent fine aggregate meeting the requirements of 9-03.1(2)B Class 2. Fine aggregate may be damp (no free water).

#### 9-04.2(2) Poured Rubber Joint Sealer

The last paragraph is deleted.

#### 9-04.4(1) Rubber Gaskets for Concrete Pipes and Precast Manholes

“AASHTO M 198” is revised to read “ASTM C 990”.

#### 9-04.4(3) Gaskets for Aluminum or Steel Culvert or Storm Sewer Pipe

In the last sentence, “AASHTO M 198” is revised to read “ASTM C 990”.

9-06.AP9

Section 9-06, Structural Steel and Related Materials
January 3, 2017

9-06.5(3) High-Strength Bolts
In this section, “ASTM A325” is revised to read “ASTM F3125 Grade A325”, “ASTM A490” is revised to read “ASTM F3125 Grade A490”, and “ASTM F1852” is revised to read “ASTM F3125 Grade F1852”.

In the fifth paragraph, “ASTM-A325” is revised to read “ASTM F3125”.

9-06.12 Bronze Castings
In this section, “AASHTO M107” is revised to read “ASTM B22”.

9-06.16 Roadside Sign Structures
In the first paragraph, “ASTM A325” is revised to read “ASTM F3125 Grade A325”.

9-07.AP9

Section 9-07, Reinforcing Steel
August 1, 2016

9-07.1(1)A Acceptance of Materials
The first sentence of the first paragraph is revised to read:

Reinforcing steel rebar manufacturers shall comply with the National Transportation Product Evaluation Program (NTPEP) Work Plan for Reinforcing Steel (rebar) Manufacturers.

The first sentence of the second paragraph is revised to read:

Steel reinforcing bar manufacturers use either English or a Metric size designation while stamping rebar.

9-07.1(2) Bending
The first two sentences of the first paragraph are deleted and replaced with the following two new sentences:

Steel reinforcing bars shall be cut and bent cold to the shapes shown on the Plans. Fabrication tolerances shall be in accordance with ACI 315.

9-10.AP9

Section 9-10, Piling
August 1, 2016

9-10.3 Cast-In-Place Concrete Piling
This section is revised to read:

Reinforcement for cast-in-place concrete piles shall conform to Section 9-07.2.
9-11.AP9

Section 9-11, Waterproofing
January 3, 2017

This section (and all subsections), including title, is revised to read:

9-11 Waterproof Membrane

9-11.1 Asphalt for Waterproofing
Waterproof membrane shall be a sheet membrane conforming to ASTM D 6153 Type III, the puncture capacity specified below, and either the thin polymer sheet tensile stress or the geotextile and fabric grab tensile strength specified below:

<table>
<thead>
<tr>
<th>Performance Properties</th>
<th>Test Method</th>
<th>Specification Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile Stress (for Thin Polymer Sheets)</td>
<td>ASTM D 882</td>
<td>75 pounds per inch min.</td>
</tr>
<tr>
<td>Grab Tensile Strength (for Geotextiles and Fabrics)</td>
<td>ASTM D 4632 (Woven or Nonwoven)</td>
<td>200 pounds min.</td>
</tr>
<tr>
<td>Puncture Capacity (For Thin Polymer Sheets, Geotextiles and Fabrics)</td>
<td>ASTM E 154</td>
<td>200 pounds min.</td>
</tr>
</tbody>
</table>

Waterproofing membrane will be accepted based on a Manufacturer’s Certificate of Compliance with each lot of waterproof membrane.

9-11.2 Primer for Waterproof Membrane
The primer for the waterproof membrane shall be appropriate for bonding the sheet membrane to the bridge deck surface and shall be compatible with the membrane in accordance with the waterproof membrane manufacturer’s recommendations.

9-14.AP9

Section 9-14, Erosion Control and Roadside Planting
August 7, 2017

9-14.4(2) Hydraulically Applied Erosion Control Products (HECPs)
The first paragraph is revised to read:

All HECPs shall be made of natural plant fibers unaltered by synthetic materials, and in a dry condition, free of noxious weeds, seeds, chemical printing ink, germination inhibitors, herbicide residue, chlorine bleach, rock, metal, plastic, and other materials detrimental to plant life.

The last sentence of the third paragraph is revised to read the following two sentences:

Under no circumstances will field mixing of additives or components be acceptable, with the exception of seed and water. The product shall be hydrated in accordance with the manufacturer’s recommendations.
In Table 1 of the fourth paragraph, the following new row is inserted below the table heading:

These test requirements apply to the fully mixed product, including tackifiers, dyes, or other additives that may be included in the HECP final product in its sprayable form.

The last two paragraphs are revised to read:

If the HECP contains a dye to facilitate placement and inspection of the material, it shall be nontoxic to plants, animals, and aquatic life and shall not stain concrete or painted surfaces.

The HECP shall not be harmful to plants, animals, and aquatic life.

9-14.4(4) Wood Strand Mulch
The last paragraph is revised to read:

The Contractor shall provide a test report performed in accordance with WSDOT T 125 demonstrating compliance to this specification prior to acceptance. This product shall not be harmful to plants, animals, and aquatic life.

9-14.4(7) Tackifier
The first paragraph is supplemented with the following:

Tackifiers shall include a mulch tracer added to visible aid uniform application, and shall not be harmful to plants, animals, or aquatic life.

The first sentence of the second paragraph is revised to read:

The Contractor shall provide test results documenting the tackifier and mulch tracer meets the requirements for Acute Toxicity, Solvents, and Heavy Metals as required in Table 1 in Section 9-14.4(2).

9-14.4(7)A Organic Tackifier
This section is revised to read:

Organic tackifiers shall be derived from natural plant sources and shall not be harmful to plants, animals, and aquatic life.

9-14.4(7)B Synthetic Tackifier
This section is revised to read:

Synthetic tackifiers shall not be harmful to plants, animals, and aquatic life.

9-14.5(2) Biodegradable Erosion Control Blanket
The first paragraph is revised to read:

Biodegradable erosion control blankets, including netting if present, shall be made of natural plant fibers unaltered by synthetic materials. All blanket material shall effectively
9-14.5(4)A Biodegradable Check Dams

This section is revised to read:

Biodegradable check dams shall meet the following requirements:

1. Made of natural plant fiber unaltered by synthetic material.

2. Netting if present shall be made of natural plant fibers unaltered by synthetic materials. Materials shall effectively perform the intended erosion control function until permanent vegetation has been established or for a minimum of 6 months, whichever comes first.

3. Straw bales shall not be used as check dams.

9-14.5(5) Wattles

This section is revised to read:

Wattles shall consist of cylinders of plant material such as weed-free straw, coir, wood chips, excelsior, or wood fiber or shavings encased within netting made of natural plant fibers unaltered by synthetic materials. Wattles shall be a minimum of 8 inches in diameter. Netting material shall be clean, evenly woven, and free of encrusted concrete or other contaminating materials such as preservatives. Netting material shall be free from cuts, tears, or weak places and shall effectively perform the intended erosion control function until permanent vegetation has been established or for a minimum of 6 months, whichever comes first.

If wood chip filler is used, it shall meet the material requirements as specified in Section 9-14.4(3). If straw filler is used, it shall meet the material requirements as specified in Section 9-14.4(1). If wood shavings are used, 80 percent of the fibers shall have a minimum length of 6 inches between 0.030 and 0.50 inches wide and between 0.017 and 0.13 inches thick.

Stakes for wattles shall be made of wood from untreated Douglas fir, hemlock, or pine species.

9-14.5(6) Compost Socks

This section is revised to read:

Compost socks shall consist of fabric made of natural plant fibers unaltered by synthetic materials. The compost sock shall be filled with Medium Compost as
specified in Section 9-14.4(8). Compost socks shall be at least 8 inches in diameter. The sock shall be clean, evenly woven; free of encrusted concrete or other contaminating materials; free from cuts, tears, broken or missing yarns; free of thin, open, or weak areas; and free of any type of preservative. Sock fabric shall effectively perform the intended erosion control function until permanent vegetation has been established or for a minimum of 6 months, whichever comes first.

Stakes for compost socks shall be made of wood from untreated Douglas fir, hemlock, or pine species.

9-16.AP9

Section 9-16, Fence and Guardrail

January 17, 2017

9-16.3(3) Galvanizing

The first three sentences are deleted and replaced with the following single sentence:

W-beam or thrie beam rail elements and terminal sections shall be galvanized in accordance with AASHTO M 180, Class A, Type II.

9-20.AP9

Section 9-20, Concrete Patching Material, Grout, and Mortar

January 3, 2017

This section is supplemented with the following new subsection:

9-20.5 Bridge Deck Repair Material

Bridge deck repair material shall be either an ultra-low viscosity, two-part liquid, polyurethane-hybrid polymer concrete, or a pre-packaged cement based repair mortar, conforming to the following requirements:


2. Total soluble chloride ion content by mass of product shall conform to the limits specified in Section 6-02.3(2) for reinforced concrete.

3. Permeability of less than 2,000 coulombs at 56-days in accordance with AASHTO T 277.

If pre-packaged deck repair material does not include coarse aggregate, the Contractor shall extend the mix with coarse aggregate as recommended by the manufacturer.

9-23.AP9

Section 9-23, Concrete Curing Materials and Admixtures

January 3, 2017

9-23.9 Fly Ash

The first paragraph is revised to read:
Fly ash shall conform to the requirements of AASHTO M295 Class C or F including supplementary optional chemical requirements as set forth in Table 2.

The last sentence of the last paragraph is revised to read:

The supplementary optional chemical limits in AASHTO M295 Table 2 do not apply to fly ash used in Controlled Density Fill.

9-23.12 Metakaolin
This section, including title, is revised to read:

9-23.12 Natural Pozzolan
Natural Pozzolans shall be either Metakaolin or ground Pumice and shall conform to the requirements of AASHTO M295 Class N, including supplementary optional chemical requirements as set forth in Table 2.

9-28.AP9
Section 9-28, Signing Materials and Fabrication
April 3, 2017

9-28.14(3) Aluminum Structures
This section is revised to read:

Welding of aluminum shall be in accordance with AWS D1.2/D1.2M, latest edition, Structural Welding Code – Aluminum.

Aluminum alloy filler metals utilized on anodized structures shall result in color matching to base metals.

9-29.AP9
Section 9-29, Illumination, Signal, Electrical
August 7, 2017

9-29.2 Junction Boxes, Cable Vaults, and Pull Boxes
This section is supplemented with the following new subsections:

9-29.2(5) Testing Requirements
The Contractor shall provide for testing of junction boxes, cable vaults and pull boxes. Junction boxes, cable vaults and pull boxes shall be tested by an independent materials testing facility, and a test report issued documenting the results of the tests performed.

For each junction box, vault and pull box type, the independent testing laboratory shall meet the requirements of AASHTO R 18 for Qualified Tester and Verified Test Equipment. The test shall be conducted in the presence of a Professional Engineer, licensed under Title 18 RCW, State of Washington, in the branch of Civil or Structural, and each test sheet shall have the Professional Engineer’s original signature, date of signature, original seal, and registration number. One copy of the test report shall be furnished to the Contracting Agency certifying that the box and cover meet or exceed the loading requirements for that box type, and shall include the following information:
1. Product identification.

2. Date of testing.

3. Description of testing apparatus and procedure.

4. All load deflection and failure data.

5. Weight of box and cover tested.

6. Upon completion of the required test(s) the box shall be loaded to failure or to the maximum load possible on the testing machine (70,000 pounds minimum).

7. A brief description of type and location of failure or statement that the testing machine reached maximum load without failure of the box.

9-29.2(5)A Standard Duty Boxes and Vaults

Standard Duty Concrete Junction Boxes, Cable Vaults, and Pull Boxes shall be load tested to 22,500 pounds. The test load shall be applied uniformly through a 10 by 10 by 1-inch steel plate centered on the lid. The test load shall be applied and released ten times, and the deflection at the test load and released state shall be recorded for each interval. At each interval the junction box shall be inspected for lid deformation, failure of the lid/frame welds, vertical and horizontal displacement of the lid/frame, cracks, and concrete spalling.

Concrete junction boxes will be considered to have withstood the test if none of the following conditions are exhibited:

1. Permanent deformation of the lid or any impairment to the function of the lid.

2. Vertical or horizontal displacement of the lid frame.

3. Cracks wider than 0.012 inches that extend 12 inches or more.

4. Fracture or cracks passing through the entire thickness of the concrete.

5. Spalling of the concrete.

9-29.2(5)B Retrofit Security Lids for Standard Duty Concrete Junction Boxes

Security lids used to retrofit existing Standard Duty Concrete Junction Boxes shall be tested as follows:

1. The security lid shall be installed on any appropriately sized box that is currently approved on the Qualified Products List.

2. The security lid and box assembly shall be load tested in accordance with Section 9-29.2(5)A. After the ten load cycles but before loading to failure, the security lid shall be fully opened and removed to verify operability.
3. The locking mechanism(s) shall be tested as follows:
   
a. The locking mechanism shall be cycled 250 times (locked, then unlocked again) at room temperature (60-80°F). If there is more than one identical locking mechanism, only one needs to be cycled in this manner.
   
b. Temperature changes should be limited to no more than 60°F per hour.
   
c. The security lid shall be cooled to and held at -30°F for 15 minutes. The locking mechanism shall then be cycled once to verify operation at this temperature.
   
d. The security lid shall be heated to and held at 120-122°F for 15 minutes. The locking mechanism shall then be cycled once to verify operation at this temperature.
   
e. The security lid shall be temperature adjusted to and held at 110°F and 95% humidity for 15 minutes. The locking mechanism shall then be cycled once to verify operation at this temperature and humidity.

9-29.2(5)C Standard Duty Non-Concrete Junction Boxes
Non-concrete Junction Boxes shall be tested as defined in the ANSI/SCTE 77 Tier 15 test method using the test load of 22,500 pounds (minimum) in place of the design load during testing. In addition, the Contractor shall provide a Manufacturer Certificate of Compliance for each non-concrete junction box installed.

9-29.2(5)D Heavy-Duty Boxes and Vaults
Heavy-Duty Junction Boxes, Cable Vaults, and Pull Boxes shall be load tested to 46,000 pounds. The test load shall be applied vertically through a 10 by 20 by 1-inch steel plate centered on the lid with an orientation both on the long axis and the short axis of the junction box. The test load shall be applied and released ten times on each axis. The deflection at the test load and released state shall be recorded for each interval. At each interval the test box shall be inspected for lid deformation, failure of the lid or frame welds, vertical and horizontal displacement of the lid frame, cracks, and concrete spalling. After the twentieth loading interval the test shall be terminated with a 60,000 pound load being applied vertically through the steel plate centered on the lid and with the long edge of steel plate orientated parallel to the long axis of the box.

Heavy-Duty Junction Boxes will be considered to have withstood the 46,000 pound test if none of the following conditions are exhibited:

1. Permanent deformation of the lid or any impairment to the function of the lid.
2. Vertical or horizontal displacement of the lid frame.
3. Cracks wider than 0.012 inches that extend 12 inches or more.
4. Fracture or cracks passing through the entire thickness of the concrete.

5. Spalling of the concrete.

Heavy-Duty Junction Boxes will be considered to have withstood the 60,000 pound test if all of the following conditions are exhibited:

1. The lid is operational.

2. The lid is securely fastened.

3. The welds have not failed.

4. Permanent dishing or deformation of the lid is ¼ inch or less.

5. No buckling or collapse of the box.

9-29.2(1) Standard Duty and Heavy Duty Junction Boxes

This section, including title, is revised to read:

9-29.2(1) Junction Boxes

For the purposes of this Specification concrete is defined as portland cement concrete and non-concrete is all others.

The Contractor shall provide shop drawings for all components, hardware, lid, frame, reinforcement, and box dimensions. The shop drawings shall be prepared by (or under the supervision of) a Professional Engineer, licensed under Title 18 RCW, State of Washington, in the branch of Civil or Structural. Each sheet shall carry the following:

1. Professional Engineer’s original signature, date of signature, original seal, and registration number. If a complete assembly drawing is included which references additional drawing numbers, including revision numbers for those drawings, then only the complete assembly drawing is required to be stamped.

2. The initials and dates of all participating design professionals.

3. Clear notation of all revisions including identification of who authorized the revision, who made the revision, and the date of the revision.

Design calculations shall carry on the cover page, the Professional Engineer’s original signature, date of signature, original seal, and registration number.

For each type of junction box, or whenever there is a change to the junction box design, a proof test, as defined in this Specification, shall be performed and new shop drawings submitted.

9-29.2(1)A Standard Duty Junction Boxes

This section is revised to read:
Standard Duty Junction Boxes are defined as Type 1, 2 and 8 junction boxes and shall have a minimum load rating of 22,500 pounds and be tested in accordance with Section 9-29.2(5). A complete Type 8 Junction Box includes the spread footing shown in the Standard Plans. All Standard Duty Junction Boxes placed in sidewalks, walkways, and shared use paths shall have slip resistant surfaces. Non-slip lids and frames shall be hot dip galvanized in accordance with AASHTO M111.

9-29.2(1)A1 Concrete Junction Boxes
The Standard Duty Concrete Junction Box steel frame, lid support, and lid shall be painted with a black paint containing rust inhibitors or painted with a shop applied, inorganic zinc primer in accordance with Section 6-07.3, or hot-dip galvanized in accordance with AASHTO M 111.

Concrete used in Standard Duty Junction Boxes shall have a minimum compressive strength of 6,000 psi when reinforced with a welded wire hoop, or 4,000 psi when reinforced with welded wire fabric or fiber reinforcement. The frame shall be anchored to the box by welding headed studs ¾ by 3 inches long, as specified in Section 9-06.15, to the frame. The wire fabric shall be attached to the studs and frame with standard tie practices. The box shall contain ten studs located near the centerline of the frame and box wall. The studs shall be placed one anchor in each corner, one at the middle of each width and two equally spaced on each length of the box.

Materials for Type 1, 2, and 8 Concrete Junction Boxes shall conform to the following:

<table>
<thead>
<tr>
<th>Materials</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete</td>
<td>Section 6-02</td>
</tr>
<tr>
<td>Reinforcing Steel</td>
<td>Section 9-07</td>
</tr>
<tr>
<td>Fiber Reinforcing</td>
<td>ASTM C1116, Type III</td>
</tr>
<tr>
<td>Lid</td>
<td>ASTM A786 diamond plate steel</td>
</tr>
<tr>
<td>Slip Resistant Lid</td>
<td>ASTM A36 steel</td>
</tr>
<tr>
<td>Frame</td>
<td>ASTM A786 diamond plate steel or ASTM A36 steel</td>
</tr>
<tr>
<td>Slip Resistant Frame</td>
<td>ASTM A36 steel</td>
</tr>
<tr>
<td>Lid Support</td>
<td>ASTM A36 steel, or ASTM A1011 SS Grade 36 (or higher)</td>
</tr>
<tr>
<td>Handle &amp; Handle support</td>
<td>ASTM A36 steel, or ASTM A1011 CS (Any Grade) or SS (Any Grade)</td>
</tr>
<tr>
<td>Anchors (studs)</td>
<td>Section 9-06.15</td>
</tr>
<tr>
<td>Bolts, Studs, Nuts, Washers</td>
<td>ASTM F593 or A193, Type 304 or 316, or Stainless Steel grade 302, 304, or 316 steel in accordance with approved shop drawing</td>
</tr>
<tr>
<td>Locking and Latching Mechanism Hardware and Bolts</td>
<td>In accordance with approved shop drawings</td>
</tr>
</tbody>
</table>
9-29.2(1)A2 Non-Concrete Junction Boxes

Material for the non-concrete junction boxes shall be of a quality that will provide for a similar life expectancy as portland cement concrete in a direct burial application.

Type 1, 2, and 8 non-concrete junction boxes shall have a Design Load of 22,500 pounds and shall be tested in accordance with Section 9-29.2(5). Non-concrete junction boxes shall be gray in color and have an open bottom design with approximately the same inside dimensions, and present a load to the bearing surface that is less than or equal to the loading presented by the concrete junction boxes shown in the Standard Plans. Non-concrete junction box lids shall include a pull slot and embedded 6 by 6 by ¼-inch steel plate, and shall be secured with two ½ inch stainless steel Penta-head bolts recessed into the cover. The tapped holes for the securing bolts shall extend completely through the box to prevent accumulation of debris. Bolts shall conform to ASTM F593, stainless steel.

9-29.2(1)B Heavy-Duty Junction Boxes

The first paragraph is revised to read:

Heavy-Duty Junction Boxes are defined as Type 4, 5, and 6 junction boxes and shall be concrete and have a minimum vertical load rating of 46,000 pounds without permanent deformation and 60,000 pounds without failure when tested in accordance with Section 9-29.2(5).

9-29.2(1)C Testing Requirements

This section is deleted in its entirety.

9-29.2(2) Small Cable Vaults, Standard Duty Cable Vaults, Standard Duty Pull Boxes, and Heavy Duty Pull Boxes

This section, including title, is revised to read:

9-29.2(2) Cable Vaults and Pull Boxes

Cable Vaults and Pull Boxes shall be constructed as a concrete box and as a concrete lid. The lids for Cable Vaults and Pull Boxes shall be interchangeable and both shall fit the same box as shown in the Standard Plans.

The Contractor shall provide shop drawings for all components, including concrete box, Cast Iron Ring, Ductile Iron Lid, Steel Rings, and Lid. In addition, the shop drawings shall show placement of reinforcing steel, knock outs, and any other appurtenances. The shop drawing shall be prepared by or under the direct supervision of a Professional Engineer, licensed under Title 18 RCW, State of Washington, in the branch of Civil or Structural. Each sheet shall carry the following:

1. Professional Engineer’s original signature, date of signature, original seal, and registration number. If a complete assembly drawing is included which references additional drawing numbers, including revision numbers for those drawings, then only the complete assembly drawing is required to be stamped.

2. The initials and dates of all participating design professionals.
3. Clear notation of all revisions including identification of who authorized the revision, who made the revision, and the date of the revision.

Design calculations shall carry on the cover page, the Professional Engineer’s original signature, date of signature, original seal, and registration number.

For each type of box or whenever there is a change to the Cable Vault or Pull box design, a proof test, as defined in this Specification, shall be performed and new shop drawings submitted.

9-29.2(2)A Small Cable Vaults, Standard Duty Cable Vaults, and Standard Duty Pull Boxes

This section’s title is revised to read:

9-29.2(2)A Standard Duty Cable Vaults and Pull Boxes

The first paragraph is revised to read:

Standard Duty Cable Vaults and Pull Boxes shall be concrete and have a minimum load rating of 22,500 pounds and be tested in accordance with Section 9-29.2(5). For the purposes of this Section, Small Cable Vaults are considered a type of Standard Duty Cable Vault.

The first sentence of the second paragraph is revised to read:

Concrete for Standard Duty Cable Vaults and Pull Boxes shall have a minimum compressive strength of 4,000 psi.

The first sentence of the third paragraph is revised to read:

All Standard Duty Cable Vaults and Pull Boxes placed in sidewalks, walkways, and shared-use paths shall have slip-resistant surfaces.

The fourth paragraph (up until the colon) is revised to read:

Materials for Standard Duty Cable Vaults and Pull Boxes shall conform to the following:

9-29.2(2)B Heavy-Duty Cable Vaults and Pull Boxes

The first paragraph is revised to read:

Heavy-Duty Cable Vaults and Pull Boxes shall be constructed of concrete having a minimum compressive strength of 4,000 psi, and have a minimum vertical load rating of 46,000 pounds without permanent deformation and 60,000 pounds without failure when tested in accordance with Section 9-29.2(5).

9-29.2(3) Structure Mounted Junction Boxes

The first and second paragraphs are revised to read:
Surface mounted junction boxes and concrete embedded junction boxes installed in cast-in-place structures shall be stainless steel NEMA 4X.

Concrete embedded junction boxes installed in structures constructed by slip forming shall be stainless steel NEMA 3R and shall be adjustable for depth, with depth adjustment bolts, which are accessible from the front face of the junction box with the lid installed.

9-29.3(1) Fiber Optic Cable

This section is revised to read:

All fiber optic cables shall be single mode fiber optic cables unless otherwise specified in the Contract. All fiber optic cables shall meet the following requirements:

1. Compliance with the current version of ANSI/ICEA S-87-640. A product data specification sheet clearly identifying compliance or a separate letter from manufacturer to state compliance shall be provided.

2. Cables shall be gel free, loose tube, low water peak, and all dielectric with no metallic component.

3. Cables shall not be armored unless specified in the Contract.

4. Cables shall be approved for mid-span entries and be rated by the manufacturer for outside plant (OSP) use, placement in underground ducts, and aerial installations.

5. Fiber counts shall be as specified in the Contract.

6. Fibers and buffer tubes shall be color coded in accordance with the current version of EIA/TIA-598.

7. Fibers shall not have any factory splices.

8. Outer Jacket shall be Type M (Medium Density Polyethylene). Outer jacket shall be free from holes, splits, blisters, or other imperfections and must be smooth and concentric as is consistent with the best commercial practice.

9. A minimum of one (1) rip cord is required for each cable.

10. Cable markings shall meet the following additional requirements:

a. Color shall be white or silver.

b. Markings shall be approximately 3 millimeters (118 mils) in height, and dimensioned and spaced to produce good legibility.

c. Markings shall include the manufacturer’s name, year of manufacture, the number of fibers, the words “OPTICAL CABLE”, and sequential length marks.
d. Sequential length markings shall be in meters or feet, spaced at intervals not more than 1 meter or 2 feet apart, respectively.

e. The actual cable length shall not be shorter than the cable length marking. The actual cable length may be up to 1% longer than the cable length marking.

f. Cables with initial markings that do not meet these requirements will not be accepted and may not be re-marked.

11. Short term tensile strength shall be a minimum of 600 pounds (1bs). Long term tensile strength shall be a minimum of 180 pounds (1bs). Tensile strength shall be achieved using a fiberglass reinforced plastic (FRP) central member and / or aramid yarns.

12. All cables shall be new and free of material or manufacturing defects and dimensional non-uniformity that would:

a. Interfere with the cable installation using accepted cable installation practices;

b. Degrade the transmission performance or environmental resistance after installation;

c. Inhibit proper connection to interfacing elements;

d. Otherwise yield an inferior product.

13. The fiber optic cables shall be shipped on reels with a drum diameter at least 20 times the diameter of the cable, in order to prevent damage to the cable. The reels shall be substantial and constructed so as to prevent damage during shipment and handling. Reels shall be labeled with the same information required for the cable markings, with the exception that the total length of cable shall be marked instead of incremental length marks. Reels shall also be labeled with the type of cable.

This section is supplemented with the following new subsection:

9-29.3(1)B Multimode Optical Fibers

Where multimode fiber optic cables are specified in the Contract, the optical fibers shall be one of the following types, as specified in the Contract:

a. Type OM1, meeting the requirements of EIA/TIA 492-AAAA-A or ISO/IEC 11801. The fiber core diameter shall be 62.5 µm.

b. Type OM2, meeting the requirements of EIA/TIA 492-AAAB-A or ISO/IEC 11801. The fiber core diameter shall be 50 µm.

All multimode optical fibers shall have a maximum attenuation of 3.0 dB/km at 850nm and 1.0 dB/km at 1300nm. Completed cable assemblies shall be rated for 1000BaseLX Ethernet communications.
9-29.3(1)A Singlemode Fiber Optic Cable
This section is revised to read:

Single-Mode optical fibers shall be EIA/TIA 492-CAAB or ISO/IEC 11801 Type OS2, low water peak zero dispersion fibers, meeting the requirements of ITU-T G.652.D.

9-29.6 Light and Signal Standards
The third paragraph is revised to read:

Light standard, signal standards, slip base hardware and foundation hardware shall be hot dip galvanized in accordance with AASHTO M 111 and AASHTO M 232. Where colored standards are required, standards shall be powder-coated after galvanizing in accordance with Section 6-07.3(11). The standard color shall be as specified in the Contract.

9-29.6(1) Steel Light and Signal Standards
In the first paragraph, “ASTM A325” is revised to read “ASTM F3125 Grade A325”.

9-29.6(2) Slip Base Hardware
In this section, “ASTM A325” is revised to read “ASTM F3125 Grade A325”.

9-29.7(2) Fused Quick-Disconnect Kits
The table is supplemented with the following new row:

| LED* | 10A | 10A | 20A |

The following footnote is inserted after the table:

* Applies to all LED luminaires, regardless of wattage. Fuses for LED luminaires shall be slow blow.

9-29.10 Luminaires
The first sentence of the third paragraph is revised to read:

All luminaires shall be provided with markers for positive identification of light source type and wattage in accordance with ANSI C136.15-2011, with the exception that LED luminaires shall be labeled with the wattage of their conventional luminaire equivalents – the text “LED” is optional.

The table in the fourth paragraph is revised to read:

<table>
<thead>
<tr>
<th>Conventional Lamp Wattage</th>
<th>Conventional Wattage Legend</th>
<th>Equivalent LED Legend</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>7</td>
<td>7E</td>
</tr>
<tr>
<td>100</td>
<td>10</td>
<td>10E</td>
</tr>
<tr>
<td>150</td>
<td>15</td>
<td>15E</td>
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<td>17E</td>
</tr>
<tr>
<td>200</td>
<td>20</td>
<td>20E</td>
</tr>
<tr>
<td>250</td>
<td>25</td>
<td>25E</td>
</tr>
</tbody>
</table>
9-29.13(10)C  NEMA Controller Cabinets
Item number 6 of the first paragraph is revised to read:

6. LED light strips shall be provided for cabinet lighting. Each LED light strip shall be approximately 12 inches long, have a minimum output of 320 lumens, and have a color temperature of 4100K (cool white) or higher. Two light strips shall be provided. One light strip shall be ceiling mounted and oriented parallel to the door face. The second light strip shall be mounted under the lower shelf, such that the output terminal landings are illuminated. Lighting shall not interfere with the proper operation of any other ceiling or shelf mounted equipment. All lighting fixtures shall energize automatically when any door is opened. Each door switch shall be labeled “Light”.

9-29.13(10)D  Cabinets for Type 170E and 2070 Controllers
Item number 6 of the first paragraph is revised to read:

6. LED light strips shall be provided for cabinet lighting, powered from the Equipment breaker on the Power Distribution Assembly. Each LED light strip shall be approximately 12 inches long, have a minimum output of 320 lumens, and have a color temperature of 4100K (cool white) or higher. There shall be two light strips for each rack within the cabinet. Lighting shall be ceiling mounted – rack mounted lighting is not permitted. One light strip shall be installed above the front of the rack, oriented parallel to the door face, and placed such that the front of the rack and the rack mounted equipment is illuminated. The second light strip shall be installed above the rear of the rack, oriented perpendicular to the door face, and placed such that the interior of the rack is illuminated. Lighting shall not interfere with the proper operation of any other ceiling mounted equipment. All lighting fixtures above a rack shall energize automatically when either door to that respective rack is opened. Each door switch shall be labeled “Light”.

9-29.13(12)  ITS Cabinet
Item number 6 of the first paragraph is revised to read:

6. LED light strips shall be provided for cabinet lighting, powered from the Equipment breaker on the Power Distribution Assembly. Each LED light strip shall be approximately 12 inches long, have a minimum output of 320 lumens, and have a color temperature of 4100K (cool white) or higher. There shall be two light strips for each rack within the cabinet. Lighting shall be ceiling mounted – rack mounted lighting is not permitted. One light strip shall be installed above the front of the rack, oriented parallel to the door face, and placed such that the front of the rack and the rack mounted equipment is illuminated. The second light strip shall be installed above the rear of the rack, oriented perpendicular to the door face, and placed such that the interior of the rack is illuminated. Lighting shall not interfere with the proper operation of any other ceiling mounted equipment. All lighting
fixtures above a rack shall energize automatically when either door to that respective rack is opened. Each door switch shall be labeled “Light”.

9-29.25 Amplifier, Transformer, and Terminal Cabinets

Item 2C is revised to read:

c. Transformer up to 12.5 KVA 20” 48” 24”
   Transformer 12.6 to 35 KVA 30” 60” 32”

The following new sentence is inserted before the last sentence of item number 10:

There shall be an isolation breaker on the input (line) side of the transformer, and a breaker array on the output (load) side.

9-30.AP9

Section 9-30, Water Distribution Materials

August 7, 2017

9-30.6(3) Service Pipes

This section is supplemented with the following new subsection:

9-30.6(3)C PEX-a Tubing

PEX-a tubing shall be a minimum of ¾-inch or a maximum 2-inch in diameter and shall be manufactured in accordance with AWWA C904 and ASTM F876. The tubing shall have a minimum materials designation code of 3306 in accordance with ASTM F876, a pressure rating of 200 psi at 73.4 degrees using a design factor of 0.63 as outlined in PPI TR-3, Part F-7, and shall have a minimum SDR of 9. Tubing color shall be blue in accordance with APWA Uniform color standards.

9-30.6(4) Service Fittings

This section is supplemented with the following new paragraph:

Fittings for PEX-a tubing shall meet the requirements of AWWA C904.

9-31.AP9

Section 9-31, Elastomeric Pads

August 7, 2017

This section, including title, is revised to read:

9-31 Fabricated Bridge Bearing Assemblies

9-31.1 Steel Plates and Bars

Steel plates and bars, including anchor array templates, shall conform to ASTM A 36.

Recessed steel surfaces retaining PTFE shall have an average surface roughness of 250-microroches or less.

Steel surfaces in contact with pre-formed fabric pad or polyether urethane disc shall have an average surface roughness of 250-microroches or less.
Steel surfaces in contact with stainless steel sheet, or with the bearing block of a pin bearing assembly, shall have an average surface roughness of 125-microinches or less.

All other steel surfaces in contact with other fabricated bridge bearing assembly components shall have an average surface roughness of 250-microinches or less.

9-31.2 Stainless Steel
Stainless steel sheet shall conform to ASTM A 240 Type 304L. Stainless steel in contact with PTFE shall be polished to a Number 8 mirror finish. Stainless steel sheet for fabric pad bearing assemblies shall have a thickness greater than or equal to 14-gage.

Stainless steel countersunk screws shall be hexagon socket type conforming to the geometric requirements of ANSI B 18.3 and shall conform to ASTM F 593 Type 304L.

9-31.3 Bearing Blocks and Keeper Rings
Bearing block forgings for pin bearing assemblies shall conform to Section 9-06.11, including AASHTO M 102 Supplemental Requirement S4. The grade shall be Grade F. The bearing block forging surfaces in contact with other pin bearing assembly components shall have an average surface roughness of 63-microinches or less. All other bearing block forging surfaces shall have an average surface roughness of 250-microinches or less.

Keeper ring forgings for pin bearing assemblies shall conform to Section 9-06.11, and the grade shall be Grade H. All keeper ring surfaces shall have an average surface roughness of 125-microinches or less.

9-31.4 Pin Assembly
Pins shall conform to ASTM A 276 UNS Designation 21800. The pin surfaces in contact with the bearing block shall have an average surface roughness of 63-microinches or less.

Nuts shall conform to ASTM A 563 Grade DH. Nuts with a thread diameter equal to or less than six-inches shall have a minimum Rockwell Hardness of HRc 24. Nuts with a thread diameter greater than six-inches shall have a Rockwell Hardness between HRc 20 and HRc 30.

Washers shall conform to ASTM A 572 Grade 50.

Cotter pins shall be stainless steel.

9-31.5 Welded Shear Connectors
Welded shear connectors shall conform to Section 9-06.15.

9-31.6 Bolts, Nuts and Washers
Bolts, nuts and washers shall conform to Section 9-06.5(3).
9-31.7 Anchor Array Rods, Nuts and Washers
Anchor array rods, nuts and washers shall conform to Section 9-06.5(4). The top 1'-0", minimum, of the exposed end of the anchor rods, and the associated nuts and washers, shall be galvanized in accordance with AASHTO M 232 or ASTM F 2329 as applicable.

Pipe sleeves for anchor array templates shall conform to ASTM A 53 Grade B Type E or S, black.

9-31.8 Bearing Pads

9-31.8(1) Elastomeric Pads
Elastomeric pads shall conform to the requirements of AASHTO M251 unless otherwise specified in the Plans or Special Provisions. The elastomer shall be low-temperature Grade 3 and shall not contain any form of wax. Unless otherwise specified in the Plans or Special Provisions, the elastomer shall have a shear modulus of elasticity of 165 psi at 73°F.

All elastomeric pads with steel laminates shall be cast as units in separate molds and bonded and vulcanized under heat and pressure. Corners and edges of molded pads may be rounded at the option of the Contractor. Radius at corners shall not exceed ⅜ inch, and radius of edges shall not exceed ⅛ inch. Elastomeric pads shall be fabricated to meet the tolerances specified in AASHTO M251.

Shims contained in laminated elastomeric pads shall be mill rolled steel sheets not less than 20 gage in thickness with a minimum cover of elastomer on all edges of:

¼ inch for pads less than or equal to 5 inches thick and,
½ inch for pads greater than 5 inches thick.

Steel shims shall conform to ASTM A1011, Grade 36, unless otherwise noted. All shim edges shall be ground or otherwise treated so that no sharp edges remain.

9-31.8(2) Polytetrafluoroethylene (PTFE)
PTFE shall be unfilled (100-percent virgin) PTFE or fiberglass fiber filled PTFE (or woven fabric PTFE for disc or spherical bearing assemblies) conforming to Section 18.8 of the AASHTO LRFD Bridge Construction Specifications, and the following additional requirements:

1. PTFE shall be unfilled (100-percent virgin) PTFE except where filled PTFE is specified in the Plans.
2. Filled PTFE shall be composed of PTFE resin uniformly blended with 15-percent maximum fiberglass fiber.
3. The substrate shall limit the flow (elongation) of the confined PTFE to not more than 0.009-inch under a pressure of 2,000 psi for 15-minutes at 78°F for a two-inch by three-inch test sample.
4. Unfilled PTFE shall have a hardness of 50 to 65 Durometer D, at 78°F, in accordance with ASTM D 2240.

5. The PTFE may be dimpled.

9-31.8(3) Pre-Formed Fabric Pad
Pre-formed fabric pads shall be composed of multiple layers of duck, impregnated and bound with high-quality oil resistant synthetic rubber, compressed into resilient pads. The pre-formed fabric pads shall conform to MIL C 882 and the following additional requirements:

1. The pre-formed fabric pad shall have a shore A hardness of 90 ± 5 in accordance with ASTM D 2240.

2. The number of plies shall be as required to produce the specified thickness after compression and vulcanization.

9-31.9 Polyether Urethane
Polyether urethane shall be a molded polyether urethane compound conforming to the following properties:

<table>
<thead>
<tr>
<th>Physical Properties</th>
<th>Specification</th>
<th>Hardness</th>
<th>Minimum Tensile Stress, ksi</th>
<th>Minimum Ultimate Elongation, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardness, Type D Durometer</td>
<td>ASTM D 2240</td>
<td>45</td>
<td>1.5</td>
<td>350</td>
</tr>
<tr>
<td>Minimum tensile stress, ksi</td>
<td>ASTM D 412</td>
<td>55</td>
<td>2.8</td>
<td>285</td>
</tr>
<tr>
<td>At 100-percent elongation</td>
<td></td>
<td>65</td>
<td>2.3</td>
<td>220</td>
</tr>
<tr>
<td>At 200-percent elongation</td>
<td></td>
<td></td>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td>Minimum tensile strength, ksi</td>
<td>ASTM D 412</td>
<td></td>
<td>1.9</td>
<td></td>
</tr>
<tr>
<td>Minimum ultimate elongation, percent</td>
<td>ASTM D 412</td>
<td></td>
<td>3.4</td>
<td></td>
</tr>
<tr>
<td>Maximum compression set (22 hours at 158°F) Method B, percent</td>
<td>ASTM D 395</td>
<td>2.3</td>
<td>4.0</td>
<td>4.0</td>
</tr>
</tbody>
</table>

Required minimums for tensile stress at specific elongations, tensile strength, ultimate elongation, and compression set may be interpolated for durometer hardness values between 45 and 55, and 55 and 65.

9-31.10 Silicone Grease
Silicone grease for use with dimpled PTFE shall conform to SAE AS 8660.

9-31.11 Epoxy Gel
Epoxy gel shall be Type 1, Grade 3, Class A, B, or C, conforming to Section 9-26.1.

9-31.12 Resin Filler
Resin filler shall be a two-component, resin and catalyst, liquid thermoset material, with the following properties:
1. The viscosity of the resin-catalyst mixture shall be 35,000 ± 5,000cP at 75°F immediately after mixing.

2. The flash point shall be 100°F minimum.

3. After mixing, the resin-catalyst mixture shall be pourable for a minimum of 8-minutes at 60°F and shall harden in 15-minutes maximum. Heating of the mixture to a maximum temperature of 250°F after placement is permissible to obtain a full cure.

The properties of the cured resin-catalyst mixture shall be:

1. The fully cured compressive strength shall be 12,000 psi, minimum.

2. The maximum allowable shrinkage shall be 2-percent. To control shrinkage, an inert filler may be used in the resin provided the specified viscosity requirements are met.

3. The hardness shall be between 40 and 55 in accordance with ASTM D 2583.

The resin and catalyst components shall be supplied in separate containers.

9-35.AP9

Section 9-35, Temporary Traffic Control Materials

August 7, 2017

9-35.12 Transportable Attenuator

The second sentence of the first paragraph is revised to read:

The transportable attenuator shall be mounted on, or attached to, a host vehicle that complies with the manufacturer’s recommended weight range.

9-35.14 Portable Temporary Traffic Control Signal

The last sentence of the eighth paragraph is revised to read:

A highly retroreflective yellow strip, 1 inch wide, shall be placed around the perimeter of the face of all vehicle signal backplates to project a rectangular image at night toward oncoming traffic.
# Special Provisions to Standard Specs

- City of Fife
- Port of Tacoma Road Interchange – Phase 1
- Special Provisions to Standard Specs – Conformed

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-01</td>
<td>Definitions and Terms</td>
<td>4</td>
</tr>
<tr>
<td>1-03</td>
<td>Award and Execution of Contract</td>
<td>13</td>
</tr>
<tr>
<td>1-04</td>
<td>Scope of Work</td>
<td>15</td>
</tr>
<tr>
<td>1-05</td>
<td>Control of Work</td>
<td>16</td>
</tr>
<tr>
<td>1-06</td>
<td>Control of Material</td>
<td>27</td>
</tr>
<tr>
<td>1-07</td>
<td>Legal Relations and Responsibilities to the Public</td>
<td>30</td>
</tr>
<tr>
<td>1-08</td>
<td>Prosecution and Progress</td>
<td>83</td>
</tr>
<tr>
<td>1-09</td>
<td>Measurement and Payment</td>
<td>90</td>
</tr>
<tr>
<td>1-10</td>
<td>Temporary Traffic Control</td>
<td>92</td>
</tr>
<tr>
<td>2-02</td>
<td>Removal of Structures and Obstructions</td>
<td>94</td>
</tr>
<tr>
<td>2-03</td>
<td>Roadway Excavation and Embankment</td>
<td>99</td>
</tr>
<tr>
<td>2-05</td>
<td>Embankment and Surcharge (New Section)</td>
<td>100</td>
</tr>
<tr>
<td>2-08</td>
<td>Dewatering</td>
<td>104</td>
</tr>
<tr>
<td>2-12</td>
<td>Construction Geosynthetic</td>
<td>113</td>
</tr>
<tr>
<td>4-04</td>
<td>Ballast and Crushed Surfacing</td>
<td>115</td>
</tr>
<tr>
<td>5-05</td>
<td>Cement Concrete Pavement</td>
<td>118</td>
</tr>
<tr>
<td>6-02</td>
<td>Concrete Structures</td>
<td>124</td>
</tr>
<tr>
<td>6-05</td>
<td>Piling</td>
<td>125</td>
</tr>
<tr>
<td>6-10</td>
<td>Concrete Barrier</td>
<td>126</td>
</tr>
<tr>
<td>6-13</td>
<td>Structural Earth Walls</td>
<td>127</td>
</tr>
<tr>
<td>7-01</td>
<td>Drains</td>
<td>134</td>
</tr>
<tr>
<td>7-02</td>
<td>Culverts</td>
<td>136</td>
</tr>
<tr>
<td>7-04</td>
<td>Storm Sewers</td>
<td>138</td>
</tr>
<tr>
<td>7-08</td>
<td>General Pipe Installation Requirements</td>
<td>141</td>
</tr>
<tr>
<td>7-09</td>
<td>Water Mains</td>
<td>143</td>
</tr>
<tr>
<td>7-14</td>
<td>Hydrants</td>
<td>147</td>
</tr>
<tr>
<td>7-15</td>
<td>Service Connections</td>
<td>148</td>
</tr>
<tr>
<td>8-01</td>
<td>Erosion Control and Water Pollution Control</td>
<td>150</td>
</tr>
<tr>
<td>8-02</td>
<td>Roadside Restoration</td>
<td>158</td>
</tr>
<tr>
<td>8-03</td>
<td>Irrigation Systems</td>
<td>159</td>
</tr>
<tr>
<td>Section</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>8-10</td>
<td>GUIDE POSTS</td>
<td>159</td>
</tr>
<tr>
<td>8-11</td>
<td>GUARDRAIL</td>
<td>161</td>
</tr>
<tr>
<td>8-12</td>
<td>CHAIN LINK FENCE AND WIRE FENCE</td>
<td>161</td>
</tr>
<tr>
<td>8-14</td>
<td>CEMENT CONCRETE SIDEWALKS</td>
<td>163</td>
</tr>
<tr>
<td>8-17</td>
<td>IMPACT ATTENUATOR SYSTEMS</td>
<td>163</td>
</tr>
<tr>
<td>8-19</td>
<td>GROUNDWATER MONITORING WELLS</td>
<td>164</td>
</tr>
<tr>
<td>8-20</td>
<td>ILLUMINATION, TRAFFIC SIGNAL SYSTEMS, AND ELECTRICAL (March 31, 2016 Tacoma GSP)</td>
<td>167</td>
</tr>
<tr>
<td>8-20</td>
<td>ILLUMINATION, TRAFFIC SIGNAL SYSTEMS, INTELLIGENT TRANSPORTATION SYSTEMS, AND ELECTRICAL</td>
<td>176</td>
</tr>
<tr>
<td>8-21</td>
<td>PERMANENT SIGNING</td>
<td>194</td>
</tr>
<tr>
<td>8-22</td>
<td>PAVEMENT MARKING</td>
<td>201</td>
</tr>
<tr>
<td>8-22.1</td>
<td>Description</td>
<td>201</td>
</tr>
<tr>
<td>8-26</td>
<td>FIELD OFFICE BUILDING</td>
<td>204</td>
</tr>
<tr>
<td>8-27</td>
<td>ADDITIONAL TRAFFIC CONTROL MEASURES</td>
<td>206</td>
</tr>
<tr>
<td>(January 2, 2018) 8-28 BOLLARDS</td>
<td></td>
<td>207</td>
</tr>
<tr>
<td>8-33</td>
<td>FRANCHISE AERIAL UTILITY CONVERSION (NEW SECTION)</td>
<td>208</td>
</tr>
<tr>
<td>9-03</td>
<td>AGGREGATES</td>
<td>221</td>
</tr>
<tr>
<td>9-05</td>
<td>DRAINAGE STRUCTURES AND CULVERTS</td>
<td>223</td>
</tr>
<tr>
<td>9-09</td>
<td>TIMBER AND LUMBER</td>
<td>223</td>
</tr>
<tr>
<td>9-14</td>
<td>EROSION CONTROL AND ROADSIDE PLANTING</td>
<td>224</td>
</tr>
<tr>
<td>9-15</td>
<td>IRRIGATION SYSTEM</td>
<td>225</td>
</tr>
<tr>
<td>9-19</td>
<td>TEMPORARY IRRIGATION SYSTEM (NEW SECTION)</td>
<td>227</td>
</tr>
<tr>
<td>9-29</td>
<td>ILLUMINATION, SIGNALS, ELECTRICAL (March 31, 2016 Tacoma GSP)</td>
<td>234</td>
</tr>
<tr>
<td>9-29</td>
<td>ILLUMINATION, SIGNAL, ELECTRICAL</td>
<td>252</td>
</tr>
<tr>
<td>27</td>
<td>APPENDICES</td>
<td>273</td>
</tr>
<tr>
<td>28</td>
<td>STANDARD PLANS</td>
<td>274</td>
</tr>
<tr>
<td>29</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
INTRODUCTION TO THE SPECIAL PROVISIONS

(August 14, 2013 APWA GSP)

The work on this project shall be accomplished in accordance with the Standard Specifications for Road, Bridge and Municipal Construction, 2016 edition, as issued by the Washington State Department of Transportation (WSDOT) and the American Public Works Association (APWA), Washington State Chapter (hereafter “Standard Specifications”). The Standard Specifications, as modified or supplemented by the Amendments to the Standard Specifications and these Special Provisions, all of which are made a part of the Contract Documents, shall govern all of the Work.

These Special Provisions are made up of both General Special Provisions (GSPs) from various sources, which may have project-specific fill-ins; and project-specific Special Provisions. Each Provision either supplements, modifies, or replaces the comparable Standard Specification, or is a new Provision. The deletion, amendment, alteration, or addition to any subsection or portion of the Standard Specifications is meant to pertain only to that particular portion of the section, and in no way should it be interpreted that the balance of the section does not apply.

The project-specific Special Provisions are not labeled as such. The GSPs are labeled under the headers of each GSP, with the effective date of the GSP and its source. For example:

(March 8, 2013 APWA GSP)
(April 1, 2013 WSDOT GSP)
(April, 2013 OR GSP)

Also incorporated into the Contract Documents by reference are:
• Manual on Uniform Traffic Control Devices for Streets and Highways, currently adopted edition, with Washington State modifications, if any
• Standard Plans for Road, Bridge and Municipal Construction, WSDOT/APWA, current edition
• City of Fife Standard Plans
• City of Tacoma Standard Plans

Contractor shall obtain copies of these publications, at Contractor’s own expense.
DIVISION 1 – GENERAL REQUIREMENTS

DESCRIPTION OF WORK

(March 13, 1995 WSDOT GSP)
This Contract provides for the improvement of *** Phase 1 of the project, which reconstructs
the existing southbound I-5 off ramp connecting the same to a new intersection of 34th Avenue
East and Pacific Highway East. This phase also widens and reconstructs 34th Avenue East and
12th Street East. Overhead utilities located on 34th Ave. E will be relocated underground. The
existing 12-inch storm line will be replaced. The existing waterline and gas along 34th will also
be relocated as part of the Phase 1 Port of Tacoma Road Interchange project. *** and other
work, all in accordance with the attached Contract Plans, these Contract Provisions, and the
Standard Specifications.

1-01 DEFINITIONS AND TERMS

1-01.3 Definitions
(January 4, 2016 APWA GSP)

Delete the heading Completion Dates and the three paragraphs that follow it, and replace
them with the following:

Dates

Bid Opening Date
The date on which the Contracting Agency publicly opens and reads the Bids.

Award Date
The date of the formal decision of the Contracting Agency to accept the lowest
responsible and responsive Bidder for the Work.

Contract Execution Date
The date the Contracting Agency officially binds the Agency to the Contract.

Notice to Proceed Date
The date stated in the Notice to Proceed on which the Contract time begins.

Substantial Completion Date
The day the Engineer determines the Contracting Agency has full and unrestricted
use and benefit of the facilities, both from the operational and safety standpoint, any
remaining traffic disruptions will be rare and brief, and only minor incidental work,
replacement of temporary substitute facilities, plant establishment periods, or
correction or repair remains for the Physical Completion of the total Contract.

Physical Completion Date
The day all of the Work is physically completed on the project. All documentation
required by the Contract and required by law does not necessarily need to be
furnished by the Contractor by this date.

Completion Date
The day all the Work specified in the Contract is completed and all the obligations of
the Contractor under the contract are fulfilled by the Contractor. All documentation
required by the Contract and required by law must be furnished by the Contractor
before establishment of this date.
**Final Acceptance Date**
The date on which the Contracting Agency accepts the Work as complete.

Supplement this Section with the following:

All references in the Standard Specifications, Amendments, or WSDOT General Special Provisions, to the terms “Department of Transportation”, “Washington State Transportation Commission”, “Commission”, “Secretary of Transportation”, “Secretary”, “Headquarters”, and “State Treasurer” shall be revised to read “Contracting Agency”.

All references to the terms “State” or “state” shall be revised to read “Contracting Agency” unless the reference is to an administrative agency of the State of Washington, a State statute or regulation, or the context reasonably indicates otherwise.

All references to “State Materials Laboratory” shall be revised to read “Contracting Agency designated location”.

All references to “final contract voucher certification” shall be interpreted to mean the Contracting Agency form(s) by which final payment is authorized, and final completion and acceptance granted.

**Additive**
A supplemental unit of work or group of bid items, identified separately in the Bid Proposal, which may, at the discretion of the Contracting Agency, be awarded in addition to the base bid.

**Alternate**
One of two or more units of work or groups of bid items, identified separately in the Bid Proposal, from which the Contracting Agency may make a choice between different methods or material of construction for performing the same work.

**Business Day**
A business day is any day from Monday through Friday except holidays as listed in Section 1-08.5.

**Contract Bond**
The definition in the Standard Specifications for “Contract Bond” applies to whatever bond form(s) are required by the Contract Documents, which may be a combination of a Payment Bond and a Performance Bond.

**Contract Documents**
See definition for “Contract”.

**Contract Time**
The period of time established by the terms and conditions of the Contract within which the Work must be physically completed.

**Notice of Award**
The written notice from the Contracting Agency to the successful Bidder signifying the Contracting Agency’s acceptance of the Bid Proposal.
**Notice to Proceed**

The written notice from the Contracting Agency or Engineer to the Contractor authorizing and directing the Contractor to proceed with the Work and establishing the date on which the Contract time begins.

**Traffic**

Both vehicular and non-vehicular traffic, such as pedestrians, bicyclists, wheelchairs, and equestrian traffic.

**1-02 BID PROCEDURES AND CONDITIONS**

**Prequalification of Bidders**

Delete this section and replace it with the following:

**1-02.1 Qualifications of Bidder**

*(January 24, 2011 APWA GSP)*

Before award of a public works contract, a bidder must meet at least the minimum qualifications of RCW 39.04.350(1) to be considered a responsible bidder and qualified to be awarded a public works project.

**1-02.2 Plans and Specifications**

 *****

Delete this section and replace it with the following:

Information as to where Bid Documents can be obtained or reviewed can be found in the Call for Bids (Advertisement for Bids) for the work.

After award of the contract, plans and specifications will be issued to the Contractor at no cost as detailed below:

<table>
<thead>
<tr>
<th>To Prime Contractor</th>
<th>No. of Sets</th>
<th>Basis of Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plans (11” x 17”)</td>
<td>6</td>
<td>Furnished automatically upon award.</td>
</tr>
<tr>
<td>Contract Provisions</td>
<td>6</td>
<td>Furnished automatically upon award.</td>
</tr>
</tbody>
</table>

Additional plans and Contract Provisions may be obtained by the Contractor from the source stated in the Call for Bids at the Contractor’s own expense. Plans are only available in 11” x 17” size.

**Examination of Plans, Specifications and Site of Work**

**General**

Section 1-02.4(1) is supplemented with the following:

*(January 5, 2015 WSDOT GSP)*
The Contracting Agency has included a partially filled in Washington State Department of Ecology (Ecology) Transfer of Coverage (Ecology form ECY 020-87a) for the Construction Stormwater General Permit (CSWGP) as part of the Bid Documents. As a condition of Section 1-03.3, Execution of Contract, the Contractor is required to complete sections I, III, and VIII of the Transfer of Coverage and return the form to the Contracting Agency.

The Contracting Agency is responsible for compliance with the CSWGP until the end of day that the Contract is executed. Beginning on the day after the Contract is executed the Contractor shall assume complete legal responsibility for compliance with the CSWGP and full implementation of all conditions of the CSWGP as they apply to the contract Work.

1-02.4(1) General
(August 15, 2016 APWA GSP Option A)

The first sentence of the last paragraph is revised to read:

Any prospective Bidder desiring an explanation or interpretation of the Bid Documents, must request the explanation or interpretation in writing soon enough to allow a written reply to reach all prospective Bidders before the submission of their Bids.

Subsurface Information
Section 1-02.4(2) is supplemented with the following:

(January 2, 2012 WSDOT GSP)
The soils information used for study and design of this project is available for review by the bidder at the following location:

*** Appendix A of the Project Special Provisions ***

The soils information includes the following:

*** Geotechnical Engineering Services Final Report – Interstate 5 Port of Tacoma Road Interchange ***

1-02.4(2) Subsurface Information
(March 8, 2013 APWA GSP)
The second sentence in the first paragraph is revised to read:

The Summary of Geotechnical Conditions and the boring logs, if and when included as an appendix to the Special Provisions, shall be considered as part of the Contract.

1-02.5 Proposal Forms
(July 31, 2017 APWA GSP)
Delete this section and replace it with the following:

The Proposal Form will identify the project and its location and describe the work. It will also list estimated quantities, units of measurement, the items of work, and the materials to be furnished at the unit bid prices. The bidder shall complete spaces on the proposal...
form that call for, but are not limited to, unit prices; extensions; summations; the total bid amount; signatures; date; and, where applicable, retail sales taxes and acknowledgment of addenda; the bidder’s name, address, telephone number, and signature; the bidder’s UDBE/DBE/M/WBE commitment, if applicable; a State of Washington Contractor’s Registration Number; and a Business License Number, if applicable. Bids shall be completed by typing or shall be printed in ink by hand, preferably in black ink. The required certifications are included as part of the Proposal Form.

The Contracting Agency reserves the right to arrange the proposal forms with alternates and additives, if such be to the advantage of the Contracting Agency. The bidder shall bid on all alternates and additives set forth in the Proposal Form unless otherwise specified.

1-02.6 Preparation of Proposal
(June 20, 2017 APWA GSP)

Supplement the second paragraph with the following:

4. If a minimum bid amount has been established for any item, the unit or lump sum price must equal or exceed the minimum amount stated.

5. Any correction to a bid made by interlineation, alteration, or erasure, shall be initialed by the signer of the bid.

Delete the fourth paragraph and replace it with the following:

The Bidder shall submit with the Bid a completed Underutilized Disadvantaged Business Enterprise (UDBE) Utilization Certification, when required by the Special Provisions. For each and every UDBE firm listed on the Bidder’s completed Underutilized Disadvantaged Business Enterprise Utilization Certification, the Bidder shall submit written confirmation from that UDBE firm that the UDBE is in agreement with the UDBE participation commitment that the Bidder has made in the Bidder’s completed Underutilized Disadvantaged Business Enterprise Utilization Certification. WSDOT Form 422-031U (Underutilized Disadvantaged Business Enterprise Written Confirmation Document) is to be used for this purpose. Bidder must submit good faith effort documentation with the Underutilized Disadvantaged Business Enterprise Utilization Certification only in the event the bidder’s efforts to solicit sufficient UDBE participation have been unsuccessful. Directions for delivery of the Underutilized Disadvantaged Business Enterprise Written Confirmation Documents and Underutilized Disadvantaged Business Enterprise Good Faith Effort documentation are included in Sections 1-02.9

Delete the last paragraph, and replace it with the following:

The Bidder shall make no stipulation on the Bid Form, nor qualify the bid in any manner.

A bid by a corporation shall be executed in the corporate name, by the president or a vice president (or other corporate officer accompanied by evidence of authority to sign).

A bid by a partnership shall be executed in the partnership name, and signed by a partner. A copy of the partnership agreement shall be submitted with the Bid Form if any UDBE requirements are to be satisfied through such an agreement.
A bid by a joint venture shall be executed in the joint venture name and signed by a member of the joint venture. A copy of the joint venture agreement shall be submitted with the Bid Form if any UDBE requirements are to be satisfied through such an agreement.

(******)

**Progress Schedule Minimum Bid**

A minimum bid of *** Schedule A Type B Progress Schedule $10,000 and Schedule B Type B Progress Schedule $15,000 *** lump sum has been established for the item “Type *** B *** Progress Schedule.” The Contractor’s bid shall equal or exceed that amount. If the Contractor’s bid is less than the minimum specified amount, the Contracting Agency will unilaterally revise the bid amount to the minimum specified amount and recalculate the Contractor’s total bid amount. The corrected total bid amount will be used by the Contracting Agency for award purposes and to fix the amount of the contract bond. Payment for Type B Progress schedule shall include all costs associated with developing Projected Progress Payments schedules.

Add the following new section:

1-02.6(1) **Recycled Materials Proposal**

*(January 4, 2016 APWA GSP)*

The Bidder shall submit with the Bid, its proposal for incorporating recycled materials into the project, using the form provided in the Contract Provisions.

1-02.7 **Bid Deposit**

*(March 8, 2013 APWA GSP)*

Supplement this section with the following:

Bid bonds shall contain the following:
1. Contracting Agency-assigned number for the project;
2. Name of the project;
3. The Contracting Agency named as obligee;
4. The amount of the bid bond stated either as a dollar figure or as a percentage which represents five percent of the maximum bid amount that could be awarded;
5. Signature of the bidder’s officer empowered to sign official statements. The signature of the person authorized to submit the bid should agree with the signature on the bond, and the title of the person must accompany the said signature;
6. The signature of the surety’s officer empowered to sign the bond and the power of attorney.

If so stated in the Contract Provisions, bidder must use the bond form included in the Contract Provisions.

If so stated in the Contract Provisions, cash will not be accepted for a bid deposit.

**Delivery of Proposal**

1-02.9 **Delivery of Proposal**

*(July 31, 2017 APWA GSP, Option A)*
Delete this section and replace it with the following:

Each Proposal shall be submitted in a sealed envelope, with the Project Name and Project Number as stated in the Call for Bids clearly marked on the outside of the envelope, or as otherwise required in the Bid Documents, to ensure proper handling and delivery.

If the project has FHWA funding and requires UDBE Written Confirmation Document(s) or Good Faith Effort (GFE) Documentation, then to be considered responsive, the Bidder shall submit Written Confirmation Documentation from each UDBE firm listed on the Bidder’s completed UDBE Utilization Certification, form 272-056U, as required by Section 1-02.6. The UDBE Written Confirmation Document(s) and/or GFE (if any) shall be received either with the Bid Proposal or as a Supplement to the Bid. The document(s) shall be received no later than 24 hours (not including Saturdays, Sundays and Holidays) after the time for delivery of the Bid Proposal.

The Bidder shall submit to the Contracting Agency a signed “Certification of Compliance with Wage Payment Statutes” document where the Bidder under penalty of perjury verifies that the Bidder is in compliance with responsible bidder criteria in RCW 39.04.350 subsection (1) (g), as required per Section 1-02.14. The “Certification of Compliance with Wage Payment Statutes” document shall be received either with the Bid Proposal or no later than 24 hours (not including Saturdays, Sundays and Holidays) after the time for delivery of the Bid Proposal.

If submitted after the Bid Proposal is due, the document(s) must be submitted in a sealed envelope labeled the same as for the Proposal, with “Supplemental Information” added. All other information required to be submitted with the Bid Proposal must be submitted with the Bid Proposal itself, at the time stated in the Call for Bids.

The Contracting Agency will not open or consider any Bid Proposal that is received after the time specified in the Call for Bids for receipt of Bid Proposals, or received in a location other than that specified in the Call for Bids. The Contracting Agency will not open or consider any “Supplemental Information” (UDBE confirmations, GFE documentation, or Certification of Compliance with Wage Payment Statutes) that is received after the time specified above, or received in a location other than that specified in the Call for Bids.

1-02.10 Withdrawing, Revising, or Supplementing Proposal
(July 23, 2015 APWA GSP)

Delete this section, and replace it with the following:

After submitting a physical Bid Proposal to the Contracting Agency, the Bidder may withdraw, revise, or supplement it if:

1. The Bidder submits a written request signed by an authorized person and physically delivers it to the place designated for receipt of Bid Proposals, and
2. The Contracting Agency receives the request before the time set for receipt of Bid Proposals, and
3. The revised or supplemented Bid Proposal (if any) is received by the Contracting Agency before the time set for receipt of Bid Proposals.
If the Bidder’s request to withdraw, revise, or supplement its Bid Proposal is received before the time set for receipt of Bid Proposals, the Contracting Agency will return the unopened Proposal package to the Bidder. The Bidder must then submit the revised or supplemented package in its entirety. If the Bidder does not submit a revised or supplemented package, then its bid shall be considered withdrawn.

Late revised or supplemented Bid Proposals or late withdrawal requests will be date recorded by the Contracting Agency and returned unopened. Mailed, emailed, or faxed requests to withdraw, revise, or supplement a Bid Proposal are not acceptable.

1-02.13 Irregular Proposals

(June 20, 2017 APWA GSP)

Delete this section and replace it with the following:

1. A Proposal will be considered irregular and will be rejected if:
   a. The Bidder is not prequalified when so required;
   b. The authorized Proposal form furnished by the Contracting Agency is not used or is altered;
   c. The completed Proposal form contains any unauthorized additions, deletions, alternate Bids, or conditions;
   d. The Bidder adds provisions reserving the right to reject or accept the award, or enter into the Contract;
   e. A price per unit cannot be determined from the Bid Proposal;
   f. The Proposal form is not properly executed;
   g. The Bidder fails to submit or properly complete a Subcontractor list, if applicable, as required in Section 1-02.6;
   h. The Bidder fails to submit or properly complete an Underutilized Disadvantaged Business Enterprise Certification, if applicable, as required in Section 1-02.6;
   i. The Bidder fails to submit written confirmation from each UDBE firm listed on the Bidder’s completed UDBE Utilization Certification that they are in agreement with the bidder’s UDBE participation commitment, if applicable, as required in Section 1-02.6, or if the written confirmation that is submitted fails to meet the requirements of the Special Provisions;
   j. The Bidder fails to submit UDBE Good Faith Effort documentation, if applicable, as required in Section 1-02.6, or if the documentation that is submitted fails to demonstrate that a Good Faith Effort to meet the Condition of Award was made;
   k. The Bid Proposal does not constitute a definite and unqualified offer to meet the material terms of the Bid invitation; or
   l. More than one Proposal is submitted for the same project from a Bidder under the same or different names.

2. A Proposal may be considered irregular and may be rejected if:
   a. The Proposal does not include a unit price for every Bid item;
   b. Any of the unit prices are excessively unbalanced (either above or below the amount of a reasonable Bid) to the potential detriment of the Contracting Agency;
   c. Receipt of Addenda is not acknowledged;
d. A member of a joint venture or partnership and the joint venture or partnership submit Proposals for the same project (in such an instance, both Bids may be rejected); or
e. If Proposal form entries are not made in ink.

1-02.14 Disqualification of Bidders
(July 31, 2017 APWA GSP, Option A)

Delete this section and replace it with the following:

A Bidder will be deemed not responsible if the Bidder does not meet the mandatory bidder responsibility criteria in RCW 39.04.350(1), as amended.

The Contracting Agency will verify that the Bidder meets the mandatory bidder responsibility criteria in RCW 39.04.350(1). To assess bidder responsibility, the Contracting Agency reserves the right to request documentation as needed from the Bidder and third parties concerning the Bidder’s compliance with the mandatory bidder responsibility criteria.

The Bidder shall submit to the Contracting Agency a signed “Certification of Compliance with Wage Payment Statutes”, document where the Bidder under penalty of perjury verifies that the Bidder is in compliance with responsible bidder criteria in RCW 39.04.350 subsection (1)(g). A form appropriate for “Certification of Compliance with Wage Payment Statutes” will be provided by the Contracting Agency in the Bid Documents. The form provided in the Bid Documents shall be submitted with the Bid as stated in Section 1-02.9.

If the Contracting Agency determines the Bidder does not meet the mandatory bidder responsibility criteria in RCW 39.04.350(1) and is therefore not a responsible Bidder, the Contracting Agency shall notify the Bidder in writing, with the reasons for its determination. If the Bidder disagrees with this determination, it may appeal the determination within two (2) business days of the Contracting Agency’s determination by presenting its appeal and any additional information to the Contracting Agency. The Contracting Agency will consider the appeal and any additional information before issuing its final determination. If the final determination affirms that the Bidder is not responsible, the Contracting Agency will not execute a contract with any other Bidder until at least two business days after the Bidder determined to be not responsible has received the Contracting Agency’s final determination.

1-02.15 Pre Award Information
(August 14, 2013 APWA GSP)

Revise this section to read:

Before awarding any contract, the Contracting Agency may require one or more of these items or actions of the apparent lowest responsible bidder:

1. A complete statement of the origin, composition, and manufacture of any or all materials to be used,
2. Samples of these materials for quality and fitness tests,
3. A progress schedule (in a form the Contracting Agency requires) showing the order of and time required for the various phases of the work,
4. A breakdown of costs assigned to any bid item,
5. Attendance at a conference with the Engineer or representatives of the Engineer,
6. Obtain, and furnish a copy of, a business license to do business in the city or county where the work is located.
7. Any other information or action taken that is deemed necessary to ensure that the bidder is the lowest responsible bidder.

1-03 AWARD AND EXECUTION OF CONTRACT

1-03.1 Consideration of Bids
(January 23, 2006 APWA GSP)

Revise the first paragraph to read:

After opening and reading proposals, the Contracting Agency will check them for correctness of extensions of the prices per unit and the total price. If a discrepancy exists between the price per unit and the extended amount of any bid item, the price per unit will control. If a minimum bid amount has been established for any item and the bidder’s unit or lump sum price is less than the minimum specified amount, the Contracting Agency will unilaterally revise the unit or lump sum price, to the minimum specified amount and recalculate the extension. The total of extensions, corrected where necessary, including sales taxes where applicable and such additives and/or alternates as selected by the Contracting Agency, will be used by the Contracting Agency for award purposes and to fix the Awarded Contract Price amount and the amount of the contract bond.

1-03.1(1) Identical Bid Totals
(January 4, 2016 APWA GSP)

Revise this section to read:

After opening Bids, if two or more lowest responsive Bid totals are exactly equal, then the tie-breaker will be the Bidder with an equal lowest bid that proposed to use the highest percentage of recycled materials in the Project, per the form submitted with the Bid Proposal. If those percentages are also exactly equal, then the tie-breaker will be determined by drawing as follows: Two or more slips of paper will be marked as follows: one marked “Winner” and the other(s) marked “unsuccessful”. The slips will be folded to make the marking unseen. The slips will be placed inside a box. One authorized representative of each Bidder shall draw a slip from the box. Bidders shall draw in alphabetic order by the name of the firm as registered with the Washington State Department of Licensing. The slips shall be unfolded and the firm with the slip marked “Winner” will be determined to be the successful Bidder and eligible for Award of the Contract. Only those Bidders who submitted a Bid total that is exactly equal to the lowest responsive Bid, and with a proposed recycled materials percentage that is exactly equal to the highest proposed recycled materials amount, are eligible to draw.

1-03.3 Execution of Contract
(October 1, 2005 APWA GSP)

Revise this section to read:
Copies of the Contract Provisions, including the unsigned Form of Contract, will be available for signature by the successful bidder on the first business day following award.

The number of copies to be executed by the Contractor will be determined by the Contracting Agency.

Within 10 calendar days after the award date, the successful bidder shall return the signed Contracting Agency-prepared contract, an insurance certification as required by Section 1-07.18, and a satisfactory bond as required by law and Section 1-03.4. Before execution of the contract by the Contracting Agency, the successful bidder shall provide any pre-award information the Contracting Agency may require under Section 1-02.15.

Until the Contracting Agency executes a contract, no proposal shall bind the Contracting Agency nor shall any work begin within the project limits or within Contracting Agency-furnished sites. The Contractor shall bear all risks for any work begun outside such areas and for any materials ordered before the contract is executed by the Contracting Agency.

If the bidder experiences circumstances beyond their control that prevents return of the contract documents within the calendar days after the award date stated above, the Contracting Agency may grant up to a maximum of 10 additional calendar days for return of the documents, provided the Contracting Agency deems the circumstances warrant it.

The first paragraph of Section 1-03.3 is supplemented with the following:

(1) January 5, 2015
The Contract will not be executed until the Contractor completes sections I, III, and VIII of the Transfer of Coverage for the Construction Stormwater General Permit and returns the form to the Contracting Agency.

1-03.4 Contract Bond
(July 23, 2015 APWA GSP)

Delete the first paragraph and replace it with the following:

The successful bidder shall provide executed payment and performance bond(s) for the full contract amount. The bond may be a combined payment and performance bond; or be separate payment and performance bonds. In the case of separate payment and performance bonds, each shall be for the full contract amount. The bond(s) shall:

1. Be on Contracting Agency-furnished form(s);
2. Be signed by an approved surety (or sureties) that:
   a. Is registered with the Washington State Insurance Commissioner, and
   b. Appears on the current Authorized Insurance List in the State of Washington published by the Office of the Insurance Commissioner,
3. Guarantee that the Contractor will perform and comply with all obligations, duties, and conditions under the Contract, including but not limited to the duty and obligation to indemnify, defend, and protect the Contracting Agency against all losses and claims related directly or indirectly from any failure:
   a. Of the Contractor (or any of the employees, subcontractors, or lower tier subcontractors of the Contractor) to faithfully perform and comply with all contract obligations, conditions, and duties, or
   b. Of the Contractor (or the subcontractors or lower tier subcontractors of the Contractor) to pay all laborers, mechanics, subcontractors, lower tier
subcontractors, material person, or any other person who provides supplies or provisions for carrying out the work;

4. Be conditioned upon the payment of taxes, increases, and penalties incurred on the project under titles 50, 51, and 82 RCW; and

5. Be accompanied by a power of attorney for the Surety’s officer empowered to sign the bond; and

6. Be signed by an officer of the Contractor empowered to sign official statements (sole proprietor or partner). If the Contractor is a corporation, the bond(s) must be signed by the president or vice president, unless accompanied by written proof of the authority of the individual signing the bond(s) to bind the corporation (i.e., corporate resolution, power of attorney, or a letter to such effect signed by the president or vice president).

Failure to Execute Contract

Section 1-03.5 is supplemented with the following:

(January 5, 2015 WSDOT GSP))

Failure to return the completed Transfer of Coverage for the Construction Stormwater General Permit to the Contracting Agency shall result in forfeiture of the proposal bond or deposit of this Bidder.

1-03.7 Judicial Review

(July 23, 2015 APWA GSP)

Revise this section to read:

Any decision made by the Contracting Agency regarding the Award and execution of the Contract or Bid rejection shall be conclusive subject to the scope of judicial review permitted under Washington Law. Such review, if any, shall be timely filed in the Superior Court of the county where the Contracting Agency headquarters is located, provided that where an action is asserted against a county, RCW 36.01.05 shall control venue and jurisdiction.

1-04 SCOPE OF WORK

1-04.2 Coordination of Contract Documents, Plans, Special Provisions, Specifications, and Addenda

(March 13, 2012 APWA GSP)

Revise the second paragraph to read:

Any inconsistency in the parts of the contract shall be resolved by following this order of precedence (e.g., 1 presiding over 2, 2 over 3, 3 over 4, and so forth):

1. Addenda,
2. Proposal Form,
3. Special Provisions,
4. Contract Plans,
5. Amendments to the Standard Specifications,
6. Standard Specifications,
7. Contracting Agency’s Standard Plans or Details (if any), and
1-05 CONTROL OF WORK

1-05.4 Conformity With and Deviations from Plans and Stakes

Section 1-05.4 is supplemented with the following:

(August 7, 2017 WSDOT GSP)

Contractor Surveying - Structure

Copies of the Contracting Agency provided primary survey control data are available for the bidder's inspection at the office of the Engineer.

The Contractor shall be responsible for setting, maintaining, and resetting all alignment stakes, slope stakes, and grades necessary for the construction of bridges, noise walls, and retaining walls. Except for the survey control data to be furnished by the Contracting Agency, calculations, surveying, and measuring required for setting and maintaining the necessary lines and grades shall be the Contractor's responsibility.

The Contractor shall inform the Engineer when monuments are discovered that were not identified in the Plans and construction activity may disturb or damage the monuments. All monuments noted on the plans "DO NOT DISTURB" shall be protected throughout the length of the project or be replaced at the Contractor's expense.

Detailed survey records shall be maintained, including a description of the work performed on each shift, the methods utilized, and the control points used. The record shall be adequate to allow the survey to be reproduced. A copy of each day's record shall be provided to the Engineer within three working days after the end of the shift.

The meaning of words and terms used in this provision shall be as listed in "Definitions of Surveying and Associated Terms" current edition, published by the American Congress on Surveying and Mapping and the American Society of Civil Engineers.

The survey work by the Contractor shall include but not be limited to the following:

1. Verify the primary horizontal and vertical control furnished by the Contracting Agency, and expand into secondary control by adding stakes and hubs as well as additional survey control needed for the project. Provide descriptions of secondary control to the Contracting Agency. The description shall include coordinates and elevations of all secondary control points.

2. Establish, by placing hubs and/or marked stakes, the location with offsets of foundation shafts and piles.

3. Establish offsets to footing centerline of bearing for structure excavation.

4. Establish offsets to footing centerline of bearing for footing forms.

5. Establish wing wall, retaining wall, and noise wall horizontal alignment.

6. Establish retaining wall top of wall profile grade.
7. Establish elevation benchmarks for all substructure formwork.

8. Check elevations at top of footing concrete line inside footing formwork immediately prior to concrete placement.

9. Check column location and pier centerline of bearing at top of footing immediately prior to concrete placement.

10. Establish location and plumbness of column forms, and monitor column plumbness during concrete placement.

11. Establish pier cap and crossbeam top and bottom elevations and centerline of bearing.

12. Check pier cap and crossbeam top and bottom elevations and centerline of bearing prior to and during concrete placement.

13. Establish grout pad locations and elevations.

14. Establish structure bearing locations and elevations, including locations of anchor bolt assemblies.

15. Establish box girder bottom slab grades and locations.

16. Establish girder and/or web wall profiles and locations.

17. Establish diaphragm locations and centerline of bearing.

18. Establish roadway slab alignment, grades and provide dimensions from top of girder to top of roadway slab. Set elevations for deck paving machine rails.

19. Establish traffic barrier and curb profile.

20. Profile all girders prior to the placement of any deadload or construction live load that may affect the girder's profile.

The Contractor shall provide the Contracting Agency copies of any calculations and staking data when requested by the Engineer.

To facilitate the establishment of these lines and elevations, the Contracting Agency will provide the Contractor with the following primary survey and control information:

1. Descriptions of two primary control points used for the horizontal and vertical control. Primary control points will be described by reference to the project alignment and the coordinate system and elevation datum utilized by the project. In addition, the Contracting Agency will supply horizontal coordinates for the beginning and ending points and for each Point of Intersection (PI) on each alignment included in the project.

2. Horizontal coordinates for the centerline of each bridge pier.
3. Computed elevations at top of bridge roadway decks at one-tenth points along centerline of each girder web. All form grades and other working grades shall be calculated by the Contractor.

The Contractor shall give the Contracting Agency three weeks notification to allow adequate time to provide the data outlined in Items 2 and 3 above. The Contractor shall ensure a surveying accuracy within the following tolerances:

<table>
<thead>
<tr>
<th>Item</th>
<th>Vertical</th>
<th>Horizontal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Stationing on structures</td>
<td>±0.02 feet</td>
<td>±0.02 feet</td>
</tr>
<tr>
<td>2. Alignment on structures</td>
<td>±0.01 feet</td>
<td>±0.02 feet</td>
</tr>
<tr>
<td>3. Superstructure elevations</td>
<td>variation from plan elevation</td>
<td></td>
</tr>
<tr>
<td>4. Substructure</td>
<td>±0.02 feet</td>
<td>variation from Plan grades.</td>
</tr>
</tbody>
</table>

The Contracting Agency may spot-check the Contractor's surveying. These spot-checks will not change the requirements for normal checking by the Contractor.

When staking the following items, the Contractor shall perform independent checks from different secondary control to ensure that the points staked for these items are within the specified survey accuracy tolerances:

- Piles
- Shafts
- Footings
- Columns

The Contractor shall calculate coordinates for the points associated with piles, shafts, footings and columns. The Contracting Agency will verify these coordinates prior to issuing approval to the Contractor for commencing with the survey work. The Contracting Agency will require up to seven calendar days from the date the data is received to issuing approval.

Contract work to be performed using contractor-provided stakes shall not begin until the stakes are approved by the Contracting Agency. Such approval shall not relieve the Contractor of responsibility for the accuracy of the stakes.

**Payment**

Payment will be made for the following bid item when included in the proposal:

"Structure Surveying", lump sum.

The lump sum contract price for "Structure Surveying" shall be full pay for all labor, equipment, materials, and supervision utilized to perform the Work specified, including any resurveying, checking, correction of errors, replacement of missing or damaged stakes, and coordination efforts.
(August 7, 2017 WSDOT GSP)
Contractor Surveying - Roadway

Copies of the Contracting Agency provided primary survey control data are available for the bidder's inspection at the office of the Engineer.

The Contractor shall be responsible for setting, maintaining, and resetting all alignment stakes, slope stakes, and grades necessary for the construction of the roadbed, drainage, surfacing, paving, channelization and pavement marking, illumination and signals, guardrails and barriers, and signing. Except for the survey control data to be furnished by the Contracting Agency, calculations, surveying, and measuring required for setting and maintaining the necessary lines and grades shall be the Contractor's responsibility.

The Contractor shall inform the Engineer when monuments are discovered that were not identified in the Plans and construction activity may disturb or damage the monuments. All monuments noted on the plans “DO NOT DISTURB” shall be protected throughout the length of the project or be replaced at the Contractors expense.

Detailed survey records shall be maintained, including a description of the work performed on each shift, the methods utilized, and the control points used. The record shall be adequate to allow the survey to be reproduced. A copy of each day's record shall be provided to the Engineer within three working days after the end of the shift.

The meaning of words and terms used in this provision shall be as listed in "Definitions of Surveying and Associated Terms" current edition, published by the American Congress on Surveying and Mapping and the American Society of Civil Engineers.

The survey work shall include but not be limited to the following:

1. Verify the primary horizontal and vertical control furnished by the Contracting Agency, and expand into secondary control by adding stakes and hubs as well as additional survey control needed for the project. Provide descriptions of secondary control to the Contracting Agency. The description shall include coordinates and elevations of all secondary control points.

2. Establish, the centerlines of all alignments, by placing hubs, stakes, or marks on centerline or on offsets to centerline at all curve points (PCs, PTs, and PIs) and at points on the alignments spaced no further than 50 feet.

3. Establish clearing limits, placing stakes at all angle points and at intermediate points not more than 50 feet apart. The clearing and grubbing limits shall be 5 feet beyond the toe of a fill and 10 feet beyond the top of a cut unless otherwise shown in the Plans.

4. Establish grading limits, placing slope stakes at centerline increments not more than 50 feet apart. Establish offset reference to all slope stakes. If Global Positioning Satellite (GPS) Machine Controls are used to provide grade control, then slope stakes may be omitted at the discretion of the Contractor.

5. Establish the horizontal and vertical location of all drainage features, placing offset stakes to all drainage structures and to pipes at a horizontal interval not greater than 25 feet.
6. Establish roadbed and surfacing elevations by placing stakes at the top of subgrade and at the top of each course of surfacing. Subgrade and surfacing stakes shall be set at horizontal intervals not greater than 50 feet in tangent sections, 25 feet in curve sections with a radius less than 300 feet, and at 10-foot intervals in intersection radii with a radius less than 10 feet. Transversely, stakes shall be placed at all locations where the roadway slope changes and at additional points such that the transverse spacing of stakes is not more than 12 feet. If GPS Machine Controls are used to provide grade control, then roadbed and surfacing stakes may be omitted at the discretion of the Contractor.

7. Establish intermediate elevation benchmarks as needed to check work throughout the project.

8. Provide references for paving pins at 25-foot intervals or provide simultaneous surveying to establish location and elevation of paving pins as they are being placed.

9. For all other types of construction included in this provision, (including but not limited to channelization and pavement marking, illumination and signals, guardrails and barriers, and signing) provide staking and layout as necessary to adequately locate, construct, and check the specific construction activity.

10. Contractor shall determine if changes are needed to the profiles or roadway sections shown in the Contract Plans in order to achieve proper smoothness and drainage where matching into existing features, such as a smooth transition from new pavement to existing pavement. The Contractor shall submit these changes to the Engineer for review and approval 10 days prior to the beginning of work.

The Contractor shall provide the Contracting Agency copies of any calculations and staking data when requested by the Engineer.

To facilitate the establishment of these lines and elevations, the Contracting Agency will provide the Contractor with primary survey control information consisting of descriptions of two primary control points used for the horizontal and vertical control, and descriptions of two additional primary control points for every additional three miles of project length. Primary control points will be described by reference to the project alignment and the coordinate system and elevation datum utilized by the project. In addition, the Contracting Agency will supply horizontal coordinates for the beginning and ending points and for each Point of Intersection (PI) on each alignment included in the project.

The Contractor shall ensure a surveying accuracy within the following tolerances:

<table>
<thead>
<tr>
<th></th>
<th>Vertical</th>
<th>Horizontal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slope stakes</td>
<td>±0.10 feet</td>
<td>±0.10 feet</td>
</tr>
<tr>
<td>Subgrade grade stakes set</td>
<td>±0.04 feet below grade</td>
<td>±0.01 feet</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(parallel to alignment)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>±0.1 feet</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(normal to alignment)</td>
</tr>
</tbody>
</table>
The Contracting Agency may spot-check the Contractor’s surveying. These spot-checks will not change the requirements for normal checking by the Contractor.

When staking roadway alignment and stationing, the Contractor shall perform independent checks from different secondary control to ensure that the points staked are within the specified survey accuracy tolerances.

The Contracting Agency will verify these coordinates prior to issuing approval to the Contractor for commencing with the work. The Contracting Agency will require up to seven calendar days from the date the data is received.

Contract work to be performed using contractor-provided stakes shall not begin until the stakes are approved by the Contracting Agency. Such approval shall not relieve the Contractor of responsibility for the accuracy of the stakes.

Stakes shall be marked in accordance with Standard Plan A10.10. When stakes are needed that are not described in the Plans, then those stakes shall be marked, at no additional cost to the Contracting Agency as ordered by the Engineer.

**Payment**

Payment will be made for the following bid item when included in the proposal:

"Roadway Surveying", lump sum.

The lump sum contract price for "Roadway Surveying" shall be full pay for all labor, equipment, materials, and supervision utilized to perform the Work specified, including any resurveying, checking, correction of errors, replacement of missing or damaged stakes, and coordination efforts.

**(April 3, 2017 WSDOT GSP)**

**Contractor Surveying – ADA Features**

**ADA Feature Staking Requirements**

The Contractor shall be responsible for setting, maintaining, and resetting all alignment stakes, and grades necessary for the construction of the ADA features. Calculations, surveying, and measuring required for setting and maintaining the necessary lines and grades shall be the Contractor’s responsibility. The Contractor
shall build the ADA features within the specifications in the Standard Plans and contract documents.

**ADA Feature As-Built Measurements**
The Contractor shall be responsible for providing As-Built records of all ADA feature improvements completed in the Contract.

The survey work shall include but not be limited to completing the measurements, recording the required measurements and completing other data fill-ins found on the ADA As-Built Forms, and transmitting the Forms to the Engineer. The ADA As-Built Forms are found at the following website location:

http://www.wsdot.wa.gov/Design/ADAGuidance.htm

The transmittal letter shall include a statement signed by the Contractor certifying the accuracy of the measurements.

In the instance where an ADA Feature does not meet accessibility requirements, all work to replace non-conforming work and then to measure, record the as-built measurements, and transmit the Forms to the Engineer shall be completed at no additional cost to the Contracting Agency, as ordered by the Engineer.

**Payment**
Payment will be made for the following bid item that is included in the Proposal:

"ADA Features Surveying", lump sum.

The unit Contract price per lump sum for "ADA Features Surveying" shall be full pay for all the Work as specified.

**1-05.7 Removal of Defective and Unauthorized Work**
*(October 1, 2005 APWA GSP)*

Supplement this section with the following:

If the Contractor fails to remedy defective or unauthorized work within the time specified in a written notice from the Engineer, or fails to perform any part of the work required by the Contract Documents, the Engineer may correct and remedy such work as may be identified in the written notice, with Contracting Agency forces or by such other means as the Contracting Agency may deem necessary.

If the Contractor fails to comply with a written order to remedy what the Engineer determines to be an emergency situation, the Engineer may have the defective and unauthorized work corrected immediately, have the rejected work removed and replaced, or have work the Contractor refuses to perform completed by using Contracting Agency or other forces. An emergency situation is any situation when, in the opinion of the Engineer, a delay in its remedy could be potentially unsafe, or might cause serious risk of loss or damage to the public.

Direct or indirect costs incurred by the Contracting Agency attributable to correcting and remediying defective or unauthorized work, or work the Contractor failed or refused to
perform, shall be paid by the Contractor. Payment will be deducted by the Engineer from monies due, or to become due, the Contractor. Such direct and indirect costs shall include in particular, but without limitation, compensation for additional professional services required, and costs for repair and replacement of work of others destroyed or damaged by correction, removal, or replacement of the Contractor’s unauthorized work.

No adjustment in contract time or compensation will be allowed because of the delay in the performance of the work attributable to the exercise of the Contracting Agency’s rights provided by this Section.

The rights exercised under the provisions of this section shall not diminish the Contracting Agency’s right to pursue any other avenue for additional remedy or damages with respect to the Contractor’s failure to perform the work as required.

1-05.11 Final Inspection
Delete this section and replace it with the following:

1-05.11 Final Inspections and Operational Testing
(October 1, 2005 APWA GSP)

1-05.11(1) Substantial Completion Date
When the Contractor considers the work to be substantially complete, the Contractor shall so notify the Engineer and request the Engineer establish the Substantial Completion Date. The Contractor’s request shall list the specific items of work that remain to be completed in order to reach physical completion. The Engineer will schedule an inspection of the work with the Contractor to determine the status of completion. The Engineer may also establish the Substantial Completion Date unilaterally.

If, after this inspection, the Engineer concurs with the Contractor that the work is substantially complete and ready for its intended use, the Engineer, by written notice to the Contractor, will set the Substantial Completion Date. If, after this inspection the Engineer does not consider the work substantially complete and ready for its intended use, the Engineer will, by written notice, so notify the Contractor giving the reasons therefor.

Upon receipt of written notice concurring in or denying substantial completion, whichever is applicable, the Contractor shall pursue vigorously, diligently and without unauthorized interruption, the work necessary to reach Substantial and Physical Completion. The Contractor shall provide the Engineer with a revised schedule indicating when the Contractor expects to reach substantial and physical completion of the work.

The above process shall be repeated until the Engineer establishes the Substantial Completion Date and the Contractor considers the work physically complete and ready for final inspection.

1-05.11(2) Final Inspection and Physical Completion Date
When the Contractor considers the work physically complete and ready for final inspection, the Contractor by written notice, shall request the Engineer to schedule a final inspection. The Engineer will set a date for final inspection. The Engineer and the Contractor will then make a final inspection and the Engineer will notify the Contractor in writing of all particulars in which the final inspection reveals the work incomplete or
 unacceptable. The Contractor shall immediately take such corrective measures as are necessary to remedy the listed deficiencies. Corrective work shall be pursued vigorously, diligently, and without interruption until physical completion of the listed deficiencies. This process will continue until the Engineer is satisfied the listed deficiencies have been corrected.

If action to correct the listed deficiencies is not initiated within 7 days after receipt of the written notice listing the deficiencies, the Engineer may, upon written notice to the Contractor, take whatever steps are necessary to correct those deficiencies pursuant to Section 1-05.7.

The Contractor will not be allowed an extension of contract time because of a delay in the performance of the work attributable to the exercise of the Engineer’s right hereunder.

Upon correction of all deficiencies, the Engineer will notify the Contractor and the Contracting Agency, in writing, of the date upon which the work was considered physically complete. That date shall constitute the Physical Completion Date of the contract, but shall not imply acceptance of the work or that all the obligations of the Contractor under the contract have been fulfilled.

1-05.11(3) Operational Testing

It is the intent of the Contracting Agency to have at the Physical Completion Date a complete and operable system. Therefore when the work involves the installation of machinery or other mechanical equipment; street lighting, electrical distribution or signal systems; irrigation systems; buildings; or other similar work it may be desirable for the Engineer to have the Contractor operate and test the work for a period of time after final inspection but prior to the physical completion date. Whenever items of work are listed in the Contract Provisions for operational testing they shall be fully tested under operating conditions for the time period specified to ensure their acceptability prior to the Physical Completion Date. During and following the test period, the Contractor shall correct any items of workmanship, materials, or equipment which prove faulty, or that are not in first class operating condition. Equipment, electrical controls, meters, or other devices and equipment to be tested during this period shall be tested under the observation of the Engineer, so that the Engineer may determine their suitability for the purpose for which they were installed. The Physical Completion Date cannot be established until testing and corrections have been completed to the satisfaction of the Engineer.

The costs for power, gas, labor, material, supplies, and everything else needed to successfully complete operational testing, shall be included in the unit contract prices related to the system being tested, unless specifically set forth otherwise in the proposal.

Operational and test periods, when required by the Engineer, shall not affect a manufacturer’s guaranties or warranties furnished under the terms of the contract.

1-05.13 Superintendents, Labor and Equipment of Contractor

(August 14, 2013 APWA GSP)

Delete the sixth and seventh paragraphs of this section.

Cooperation With Other Contractors

Section 1-05.14 is supplemented with the following:
(March 13, 1995 WSDOT GSP)

Other Contracts Or Other Work

It is anticipated that the following work adjacent to or within the limits of this project will be performed by others during the course of this project and will require coordination of the work:

***

- I-5 - Portland Avenue to Port of Tacoma Road - Southbound HOV I-5 M Street to Portland Avenue – HOV
- I-5 - Portland Avenue to Port of Tacoma Road - Northbound HOV
- SR 509/TMBL RR Crossing 1.1 Miles W of Norpoint Way – Safety
- SR 509/UP RR Crossing 0.6 Miles W of Norpoint Way - Safety
- I-5 - SR 16 Realignment - HOV Structure and Connections
- Love’s Redevelopment - The contractor shall notify Love’s 2-weeks prior to installing fence at right-of-way
- Utility Service Connections for Businesses and Residences along 34th Street.
- Cabling and wires installed by utility companies.
- Installation of gas lines, hookup to adjacent properties
- Installation of two deep gas lines. A 1-inch line crossing 34th St. at Sta D-Line Sta 33+05 and a 6-inch line from approximately D-Line Sta 28+00 to approximately D-Line Sta 34+35.
- City Contractor to connect electrical and communication services from utility service connections to adjacent buildings/facilities.
- Pacific Highway Puyallup River Bridge Replacement (SR 99 or Puyallup Ave, will be closed for approximately twelve months starting June 1, 2018).
- This interchange is used to haul long precast concrete girders, up to 200 feet long, on a daily/weekly basis. Girder hauling is achieved by traveling south on Port of Tacoma Road from the Concrete Technology Precast Facility at 1123 Port of Tacoma Road and using the I-5 Southbound On-Ramp to travel west (south of I-5) and turning left at Pacific Highway to travel east.

***

1-05.15 Method of Serving Notices

(March 25, 2009 APWA GSP)

Revise the second paragraph to read:

All correspondence from the Contractor shall be directed to the Project Engineer. All correspondence from the Contractor constituting any notification, notice of protest, notice of dispute, or other correspondence constituting notification required to be furnished under the Contract, must be in paper format, hand delivered or sent via mail delivery service to the Project Engineer's office. Electronic copies such as e-mails or electronically delivered copies of correspondence will not constitute such notice and will not comply with the requirements of the Contract.

Add the following new section:

1-05.16 Water and Power

(October 1, 2005 APWA GSP)
The Contractor shall make necessary arrangements, and shall bear the costs for power and water necessary for the performance of the work, unless the contract includes power and water as a pay item.

Add the following new section:

1-05.18 Record Drawings

(March 8, 2013 APWA GSP)

The Contractor shall maintain one set of full size plans for Record Drawings, updated with clear and accurate red-lined field revisions on a daily basis, and within 2 business days after receipt of information that a change in Work has occurred. The Contractor shall not conceal any work until the required information is recorded.

This Record Drawing set shall be used for this purpose alone, shall be kept separate from other Plan sheets, and shall be clearly marked as Record Drawings. These Record Drawings shall be kept on site at the Contractor’s field office, and shall be available for review by the Contracting Agency at all times. The Contractor shall bring the Record Drawings to each progress meeting for review.

The preparation and upkeep of the Record Drawings is to be the assigned responsibility of a single, experienced, and qualified individual. The quality of the Record Drawings, in terms of accuracy, clarity, and completeness, is to be adequate to allow the Contracting Agency to modify the computer-aided drafting (CAD) Contract Drawings to produce a complete set of Record Drawings for the Contracting Agency without further investigative effort by the Contracting Agency.

The Record Drawing markups shall document all changes in the Work, both concealed and visible. Items that must be shown on the markups include but are not limited to:

- Actual dimensions, arrangement, and materials used when different than shown in the Plans.
- Changes made by Change Order or Field Order.
- Changes made by the Contractor.
- Accurate locations of storm sewer, sanitary sewer, water mains and other water appurtenances, structures, conduits, light standards, vaults, width of roadways, sidewalks, landscaping areas, building footprints, channelization and pavement markings, etc. Include pipe invert elevations, top of castings (manholes, inlets, etc.).

If the Contract calls for the Contracting Agency to do all surveying and staking, the Contracting Agency will provide the elevations at the tolerances the Contracting Agency requires for the Record Drawings.

When the Contract calls for the Contractor to do the surveying/staking, the applicable tolerance limits include, but are not limited to the following:

<table>
<thead>
<tr>
<th>As-built sanitary &amp; storm invert and grate elevations</th>
<th>Vertical</th>
<th>Horizontal</th>
</tr>
</thead>
<tbody>
<tr>
<td>As-built monumentation</td>
<td>± 0.01 foot</td>
<td>± 0.01 foot</td>
</tr>
<tr>
<td></td>
<td>± 0.001 foot</td>
<td>± 0.001 foot</td>
</tr>
</tbody>
</table>
As-built waterlines, inverts, valves, hydrants ± 0.10 foot ± 0.10 foot
As-built ponds/swales/water features ± 0.10 foot ± 0.10 foot
As-built buildings (fin. Floor elev.) ± 0.01 foot ± 0.10 foot
As-built gas lines, power, TV, Tel, Com ± 0.10 foot ± 0.10 foot
As-built signs, signals, etc. N/A ± 0.10 foot

Making Entries on the Record Drawings:

- Use erasable colored pencil (not ink) for all markings on the Record Drawings,
  conforming to the following color code:
  - Additions - Red
  - Deletions - Green
  - Comments - Blue
  - Dimensions - Graphite
- Provide the applicable reference for all entries, such as the change order number, the request for information (RFI) number, or the approved shop drawing number.
- Date all entries.
- Clearly identify all items in the entry with notes similar to those in the Contract Drawings (such as pipe symbols, centerline elevations, materials, pipe joint abbreviations, etc.).

The Contractor shall certify on the Record Drawings that said drawings are an accurate depiction of built conditions, and in conformance with the requirements detailed above. The Contractor shall submit final Record Drawings to the Contracting Agency. Contracting Agency acceptance of the Record Drawings is one of the requirements for achieving Physical Completion.

Payment will be made for the following bid item:

<table>
<thead>
<tr>
<th>Record Drawings (Minimum Bid Schedule A $ 5,000) Minimum Bid Schedule B $5,000</th>
<th>Lump Sum</th>
</tr>
</thead>
</table>

Payment for this item will be made on a prorated monthly basis for work completed in accordance with this section up to 75% of the lump sum bid. The final 25% of the lump sum item will be paid upon submittal and approval of the completed Record Drawings set prepared in conformance with these Special Provisions.

A minimum bid amount has been entered in the Bid Proposal for this item. The Contractor must bid at least that amount.

**1-06 CONTROL OF MATERIAL**

Section 1-06 is supplemented with the following:

*Buy America*

(August 6, 2012 WSDOT GSP)
In accordance with Buy America requirements contained in 23 CFR 635.410, the major quantities of steel and iron construction material that is permanently incorporated into the project shall consist of American-made materials only. Buy America does not apply to temporary steel items, e.g., temporary sheet piling, temporary bridges, steel scaffolding and falsework.

Minor amounts of foreign steel and iron may be utilized in this project provided the cost of the foreign material used does not exceed one-tenth of one percent of the total contract cost or $2,500.00, whichever is greater.

American-made material is defined as material having all manufacturing processes occurring domestically. To further define the coverage, a domestic product is a manufactured steel material that was produced in one of the 50 States, the District of Columbia, Puerto Rico, or in the territories and possessions of the United States.

If domestically produced steel billets or iron ingots are exported outside of the area of coverage, as defined above, for any manufacturing process then the resulting product does not conform to the Buy America requirements. Additionally, products manufactured domestically from foreign source steel billets or iron ingots do not conform to the Buy America requirements because the initial melting and mixing of alloys to create the material occurred in a foreign country.

Manufacturing begins with the initial melting and mixing, and continues through the coating stage. Any process which modifies the chemical content, the physical size or shape, or the final finish is considered a manufacturing process. The processes include rolling, extruding, machining, bending, grinding, drilling, welding, and coating. The action of applying a coating to steel or iron is deemed a manufacturing process. Coating includes epoxy coating, galvanizing, aluminizing, painting, and any other coating that protects or enhances the value of steel or iron. Any process from the original reduction from ore to the finished product constitutes a manufacturing process for iron.

Due to a nationwide waiver, Buy America does not apply to raw materials (iron ore and alloys), scrap (recycled steel or iron), and pig iron or processed, pelletized, and reduced iron ore.

The following are considered to be steel manufacturing processes:

1. Production of steel by any of the following processes:
   a. Open hearth furnace.
   b. Basic oxygen.
   c. Electric furnace.
   d. Direct reduction.

2. Rolling, heat treating, and any other similar processing.

3. Fabrication of the products.
   a. Spinning wire into cable or strand.
b. Corrugating and rolling into culverts.

c. Shop fabrication.

A certification of materials origin will be required for any items comprised of, or containing, steel or iron construction materials prior to such items being incorporated into the permanent work. The certification shall be on DOT Form 350-109EF provided by the Engineer, or such other form the Contractor chooses, provided it contains the same information as DOT Form 350-109EF.

(August 6, 2012)
The following items of work containing steel or iron construction materials are considered to be temporary and are excluded from the Buy America requirements contained in 23 CFR 635.410 as described in the above paragraphs:

*** Remote Settlement Monitors ***

Approval of Materials Prior to Use
Section 1-06.1 is supplemented with the following:

(April 3, 2017 WSDOT GSP)
For each proposed material that is required to be submitted for approval using either the QPL or RAM process the Contractor will be allowed to submit for approval two material sources or manufacturers per material type at no cost. Additional material sources or manufacturers may be submitted for approval and will be processed at a cost of $125.00 per material source or manufacturer submitted by QPL submittal and $400.00 per material submitted by RAM. All costs for processing additional material sources or manufacturers will be deducted from monies due or that may come due to the Contractor. Subject to a request by the Contractor and a determination by the Engineer the costs for processing may be waived.

### 1-06.6 Recycled Materials

(January 4, 2016 APWA GSP)

Delete this section, including its subsections, and replace it with the following:

The Contractor shall make their best effort to utilize recycled materials in the construction of the project. Approval of such material use shall be as detailed elsewhere in the Standard Specifications.

Prior to Physical Completion the Contractor shall report the quantity of recycled materials that were utilized in the construction of the project for each of the items listed in Section 9-03.21. The report shall include hot mix asphalt, recycled concrete aggregate, recycled glass, steel furnace slag and other recycled materials (e.g. utilization of on-site material and aggregates from concrete returned to the supplier). The Contractor’s report shall be provided on DOT form 350-075 Recycled Materials Reporting.
1-07 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC

1-07.1 Laws to be Observed

(October 1, 2005 APWA GSP)

Supplement this section with the following:

In cases of conflict between different safety regulations, the more stringent regulation shall apply.

The Washington State Department of Labor and Industries shall be the sole and paramount administrative agency responsible for the administration of the provisions of the Washington Industrial Safety and Health Act of 1973 (WISHA).

The Contractor shall maintain at the project site office, or other well-known place at the project site, all articles necessary for providing first aid to the injured. The Contractor shall establish, publish, and make known to all employees, procedures for ensuring immediate removal to a hospital, or doctor’s care, persons, including employees, who may have been injured on the project site. Employees should not be permitted to work on the project site before the Contractor has established and made known procedures for removal of injured persons to a hospital or a doctor’s care.

The Contractor shall have sole responsibility for the safety, efficiency, and adequacy of the Contractor’s plant, appliances, and methods, and for any damage or injury resulting from their failure, or improper maintenance, use, or operation. The Contractor shall be solely and completely responsible for the conditions of the project site, including safety for all persons and property in the performance of the work. This requirement shall apply continuously, and not be limited to normal working hours. The required or implied duty of the Engineer to conduct construction review of the Contractor’s performance does not, and shall not, be intended to include review and adequacy of the Contractor’s safety measures in, on, or near the project site.

1-07.2 State Taxes

Delete this section, including its sub-sections, in its entirety and replace it with the following:

(June 27, 2011 APWA GSP)

The Washington State Department of Revenue has issued special rules on the State sales tax. Sections 1-07.2(1) through 1-07.2(3) are meant to clarify those rules. The Contractor should contact the Washington State Department of Revenue for answers to questions in this area. The Contracting Agency will not adjust its payment if the Contractor bases a bid on a misunderstood tax liability.

The Contractor shall include all Contractor-paid taxes in the unit bid prices or other contract amounts. In some cases, however, state retail sales tax will not be included. Section 1-07.2(2) describes this exception.

The Contracting Agency will pay the retained percentage (or release the Contract Bond if a FHWA-funded Project) only if the Contractor has obtained from the Washington State Department of Revenue a certificate showing that all contract-related taxes have been
paid (RCW 60.28.051). The Contracting Agency may deduct from its payments to the Contractor any amount the Contractor may owe the Washington State Department of Revenue, whether the amount owed relates to this contract or not. Any amount so deducted will be paid into the proper State fund.

1-07.2(1) State Sales Tax — Rule 171
WAC 458-20-171, and its related rules, apply to building, repairing, or improving streets, roads, etc., which are owned by a municipal corporation, or political subdivision of the state, or by the United States, and which are used primarily for foot or vehicular traffic. This includes storm or combined sewer systems within and included as a part of the street or road drainage system and power lines when such are part of the roadway lighting system. For work performed in such cases, the Contractor shall include Washington State Retail Sales Taxes in the various unit bid item prices, or other contract amounts, including those that the Contractor pays on the purchase of the materials, equipment, or supplies used or consumed in doing the work.

1-07.2(2) State Sales Tax — Rule 170
WAC 458-20-170, and its related rules, apply to the constructing and repairing of new or existing buildings, or other structures, upon real property. This includes, but is not limited to, the construction of streets, roads, highways, etc., owned by the state of Washington; water mains and their appurtenances; sanitary sewers and sewage disposal systems unless such sewers and disposal systems are within, and a part of, a street or road drainage system; telephone, telegraph, electrical power distribution lines, or other conduits or lines in or above streets or roads, unless such power lines become a part of a street or road lighting system; and installing or attaching of any article of tangible personal property in or to real property, whether or not such personal property becomes a part of the realty by virtue of installation.

For work performed in such cases, the Contractor shall collect from the Contracting Agency, retail sales tax on the full contract price. The Contracting Agency will automatically add this sales tax to each payment to the Contractor. For this reason, the Contractor shall not include the retail sales tax in the unit bid item prices, or in any other contract amount subject to Rule 170, with the following exception.

Exception: The Contracting Agency will not add in sales tax for a payment the Contractor or a subcontractor makes on the purchase or rental of tools, machinery, equipment, or consumable supplies not integrated into the project. Such sales taxes shall be included in the unit bid item prices or in any other contract amount.

1-07.2(3) Services
The Contractor shall not collect retail sales tax from the Contracting Agency on any contract wholly for professional or other services (as defined in Washington State Department of Revenue Rules 138 and 244).

Sanitation

Health Hazards
Section 1-07.4(2) is revised to read:

(August 7, 2017 WSDOT GSP)
This project site is known to be occupied by transients and therefore contains biological hazards and associated physical hazards. These may include, but not be
limited to violent and dangerous individuals, hypodermic needles, garbage, broken
glass, human and animal excrement, drug paraphernalia, and other hazards.

The Contractor shall take precautions and perform any necessary Work required to
provide and maintain a safe and healthful jobsite for all workers and the public for
the duration of the project in accordance with all applicable laws and contract
requirements.

The Contractor shall ensure that the public, including persons who may be non-
English speaking or those who may not be able to recognize potential safety and
health hazards within the project area, are not harmed by the Contractors activities.

Nothing required by this Specification shall operate as a waiver of the Contractor’s
responsibility for taking all steps necessary to ensure the safety of the public under
Section 1-07.23 or responsibility for liability and damages under Section 1-07.14 or
for any other responsibility under the Contract or as may be required by law.

Health and Safety Plan
The Contractor shall prepare a written Health and Safety Plan. The plan shall
be prepared under the supervision of a certified industrial hygienist and shall
incorporate all required County, State, and Federal health and safety provisions.
The plan shall include requirements of the Federal Occupational Safety and
Health Act of 1970 (OSHA), all amendments, and all other applicable health
regulations.

Preparation of the Health and Safety Plan shall include an initial site assessment
by the industrial hygienist. The plan shall break initial cleanup of the project into
identifiable construction areas. The plan shall be submitted to the Engineer prior
to commencing cleanup Work. At least one copy of the plan shall be posted at
the work site while cleanup Work is in progress. The industrial hygienist shall
perform one or more follow-up site assessments as needed to approve the site
following completion of the initial site cleanup.

Public Notification
The Contractor shall furnish and install the “No Trespassing” signs shown in the
Plans at locations staked by the Engineer at least 72 hours prior to performing
site cleanup or any potentially hazardous Work (such as clearing or operating
equipment).

At the same time that “No Trespassing” signs are posted, provide written
notification of the following to the Engineer and to the chief law enforcement
officer of the local governmental entity where the Work will occur:

1. The precise location of each area that is posted “No Trespassing”;
2. The date and time that each site was posted “No Trespassing”;
3. The date, time, description and duration of the Work to be performed
   at each site.

At least 72 hours prior to performing site cleanup in Work areas containing
campments (such as tents, makeshift dwellings, sleeping sites, or
accumulations of personal property that are not refuse), the Contractor shall post
a notification at each encampment area. Each notice shall:

1. Be weather resistant, and written in both English and Spanish.

2. Be affixed to each dwelling or post mounted within 10-feet of each
campment;

3. State the Prime Contractor’s company name as the entity that
performed the cleanup as required by the Washington State
Department of Transportation;

4. Provide the date that the notice is posted;

5. Provide date(s) and time(s) that cleanup will occur;

6. Provide the telephone number, business hours and physical address
of the location where stored personal property may be claimed.

7. State that personal property will be stored for 70-days from the date of
removal, and if unclaimed within that time, will be disposed of.

At the same time that notifications are posted at encampment areas, provide
written notification of the schedule to perform site cleanup to the Engineer and
to the following advocacy groups:

***
Catholic Community Services          253-502-2748
Gudalupe House                        253-572-6582
1417 S. G St. Tacoma

Lutheran Community Services Northwest  253-272-8433
Network Tacoma                        253-471-9334 x100
5435 S. M St. Tacoma

Project Homeless Connect              253-593-2111
1106 Martin Luther King Jr. Way, Tacoma

Salvation Army of Tacoma              253-682-3401
1521 6th Ave. Tacoma (AP4H)

Society of St. Vincent de Paul         253-474-0519
4009 S. 56th St., Tacoma

Tacoma Homeless Coalition              253-591-5062
747 Market St., Tacoma

***

Acceptance of signs and notifications will be based on visual inspection that the
sign and notifications meet these requirements.

Site Cleanup of Biological and Physical Hazards
An initial cleanup of the site, including all preparatory work required to make the
worksite sanitary and safe in accordance with applicable laws and with the
Contract, shall be completed to remove all individuals, encampments, and
personal property from areas signed “No Trespassing”, and to address all
biological and associated physical hazards present on the project. Necessary
worker training, on and off site preparations, and personal protective equipment shall be provided by the Contractor to complete this Work. If aggressive or violent individuals are encountered, the Contractor shall notify the local law enforcement agency to assist them in clearing the Work area.

Site cleanup of individual areas identified in the Health and Safety Plan shall be performed no more than 30 days in advance of performing other Work in each area.

The refuse generated by the site cleanup shall become the property of the Contractor and shall be removed from the project. Personal property shall be handled as required by this Specification and applicable laws.

**Removal, Storage and Return of Personal Property**

Personal property may include radios, audio and video equipment, sleeping bags, tents, stoves and cooking utensils, lanterns, flashlights, bed rolls, tarps, foam, canvas, mats, blankets, pillows, medication, personal papers, photographs, books and other reading materials, luggage, backpacks or other storage containers, clothing, towels, shoes, toiletries and cosmetics, clocks and watches, and eye glasses. Personal property does not include building materials such as wood products, metal, or rigid plastic.

Personal property items that are not refuse, contaminated, illegal or hazardous shall be removed from the Work area and stored at a location near the project site for return to the property owner. Items shall be placed in large transparent plastic bags and stored in a manner that protects them from adverse weather and theft. Reasonable efforts shall be made to place all items from each encampment into a separate bag. Each bag shall be labeled with an inventory to include a brief description of the contents, a description of the location that it was removed from, and the date that it was removed from the Work area. The Contractor shall not open closed items of personal property unless, in its determination, it is necessary to do so to protect public safety.

The Contractor shall retain the property for 70-days.

If the name and contact information of the owner of a personal property item is identified on that item, then for a period of not less than 10-days after removing the property from the Work area, the Contractor shall attempt to notify the apparent owner of the property and make arrangements for the owner to claim the property.

The Contractor shall release the property to any individual who claims ownership provided they are able to establish ownership by identifying the property and its approximate location. The Contractor shall maintain a record of all property that is claimed. The record shall include a description of the property, the date claimed, and the name of the claimant.

If personal property is not claimed within 70-days of removal from the encampment, then the property shall become the property of the Contractor and shall be removed from the project.
Site Preservation

The Contractor shall preserve the site after initial cleanup of biological and physical hazards.

On a daily basis and prior to performing any Work in areas where pedestrians or encampments may be present, the Contractor shall verify that the Work area is cleared of all persons not associated with the project. Individuals may seek shelter in dumpsters, equipment, under blankets, or other places hidden from view. Individuals may be disabled, or under the influence of alcohol or drugs and it should not be assumed that loud construction noise will wake them.

If the worksite becomes unsanitary or unsafe due to new encampments or new biological and associated physical hazards after initial cleanup is completed, then the Contractor shall perform additional site assessment, additional notification and additional cleanup.

The Engineer may authorize additional site preservation measures. The nature and frequency of these measures will be as agreed to by the Engineer. Additional site preservation measures may include the use of fencing, lighting, or security, provided it is approved in advance by the Engineer. Work performed without Engineer authorization will not be eligible for payment.

Measurement

No trespassing signs will be measured per each.

Payment

Payment will be made for the following bid items when they are included in the proposal:

(******)

"Health and Safety Plan", lump sum.

The lump sum unit contract price for “Health and Safety Plan” shall be full payment for all Work associated with the preparation and implementation of the Health and Safety Plan including the initial and follow up assessment(s) for initial site cleanup, worker training and personal protective equipment, and providing required notifications.

"FA-Site Cleanup of Bio. And Physical Hazards", by force account as provided in Section 1-09.6.

Removal and disposal of biological and physical hazards; removal of individuals and encampments; removal, storage, and return of personal property; disposal of unclaimed personal property; additional site assessment, notifications, worker training and personal protective equipment required after the initial site cleanup is completed; and site preservation Work authorized by the Project Engineer will be paid for by force account in accordance with Section 1-09.6.

For the purpose of providing a common proposal for all bidders, the Contracting Agency has entered an amount for the item “FA-Site Cleanup of Bio. And Physical Hazards” in the bid proposal to become a part of the total bid by the Contractor.
Environmental Regulations
Section 1-07.5 is supplemented with the following:

(September 20, 2010 WSDOT GSP)

Environmental Commitments
The following Provisions summarize the requirements, in addition to those required elsewhere in the Contract, imposed upon the Contracting Agency by the various documents referenced in the Special Provision Permits and Licenses. Throughout the work, the Contractor shall comply with the following requirements:

(******)
The Contractor shall retain a copy of the most recent U.S. Army Corps of Engineers Individual permit and 401 water quality certification, conditions, and permit drawings on the worksite for the life of the Contract (See Special Provision titled Permits and Licenses). The Contractor shall provide copies of the items above listed to all Sub-Contractors involved with the authorized work prior to their commencement of any work.

(February 25, 2013)
Any temporary fills placed must be removed in their entirety and the affected areas returned to their pre-construction elevation.

(******)
The intentional bypass of stormwater from all or any portion of a stormwater treatment system is prohibited without the approval of the Engineer. And must comply with section 402 of the clean water act

(August 3, 2009)
No Contractor staging areas will be allowed within *** 50 feet and must be 200 feet where practical of any waters of the State including wetlands. All staging between 50 feet and 200 feet must be approved in written by the engineer and implement the appropriate BMPS which will be included in the Engineers approval ***

(August 3, 2009 WSDOT GSP)
Payment
All costs to comply with this special provision for the environmental commitments and requirements are incidental to the contract and are the responsibility of the Contractor. The Contractor shall include all related costs in the associated bid prices of the contract.

State Department of Ecology
Section 1-07.5(3) is supplemented with the following:

(April 4, 2016)
9. Should a violation of the CSWGP occur (also referred to as a noncompliance event), the Contractor shall immediately notify the Engineer and WSDOT Form
422-011 Contractor ECAP Report shall be submitted to the Engineer within 48 hours of the violation.

10. Once Physical Completion has been given the Contractor shall prepare a Notice of Termination (Ecology form ECY 020-87). The Contractor shall submit the Notice of Termination electronically to the Engineer in a PDF format a minimum of 7 calendar days prior to submitting the Notice of Termination to Ecology.

11. The Contractor shall submit copies of all correspondence with Ecology electronically to the Engineer in a PDF format within four calendar days.

Permits and Licenses
Section 1-07.6 is supplemented with the following:

(August 3, 2015 WSDOT GSP)
The Contracting Agency has obtained the below-listed permit(s) for this project. A copy of the permit(s) is attached as an appendix for informational purposes. Copies of these permits and a copy of the Transfer of Coverage form submitted to Ecology for the Construction Stormwater General Permit are required to be onsite at all times.

Contact with the permitting agencies, concerning the below-listed permit(s), shall be made through the Engineer with the exception of the Construction Stormwater General Permit where direct communication with the Ecology is allowed. The Contractor shall be responsible for obtaining Ecology’s approval for any Work requiring additional approvals (e.g. Request for Chemical Treatment Form). The Contractor shall obtain additional permits as necessary. All costs to obtain and comply with additional permits shall be included in the applicable Bid items for the Work involved.

***

<table>
<thead>
<tr>
<th>NAME OF DOCUMENT</th>
<th>PERMITTING AGENCY</th>
<th>PERMIT REFERENCE NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of the Army Section 404 Individual Permit</td>
<td>Corps of Engineers Seattle District</td>
<td>NWS-2014-610-DOT</td>
</tr>
<tr>
<td>Section 401 Water Quality Certification</td>
<td>Department of Ecology</td>
<td>Order 13038, Pending</td>
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<tr>
<td>NPDES Construction Stormwater General Permit</td>
<td>Department of Ecology</td>
<td>Modification Issuance: 22 Mar 2017</td>
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<tr>
<td>City of Tacoma Sewer Discharge permit</td>
<td>City of Fife and Tacoma</td>
<td>Pending</td>
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***

Load Limits
Section 1-07.7 is supplemented with the following:

(March 13, 1995 WSDOT GSP)
If the sources of materials provided by the Contractor necessitates hauling over roads other than State Highways, the Contractor shall, at the Contractor’s expense, make all arrangements for the use of the haul routes.

Wages
General
Section 1-07.9(1) is supplemented with the following:

(January 6, 2017 WSDOT GSP)
The Federal wage rates incorporated in this contract have been established by the Secretary of Labor under United States Department of Labor General Decision No. WA170001.

The State rates incorporated in this contract are applicable to all construction activities associated with this contract.

(April 2, 2007 WSDOT GSP)
Application of Wage Rates for the Occupation of Landscape Construction
State prevailing wage rates for public works contracts are included in this contract and show a separate listing for the occupation:

Landscape Construction, which includes several different occupation descriptions such as: Irrigation and Landscape Plumbers, Irrigation and Landscape Power Equipment Operators, and Landscaping or Planting Laborers.

In addition, federal wage rates that are included in this contract may also include occupation descriptions in Federal Occupational groups for work also specifically identified with landscaping such as:

Laborers with the occupation description, Landscaping or Planting, or

Power Equipment Operators with the occupation description, Mulch Seeding Operator.

If Federal wage rates include one or more rates specified as applicable to landscaping work, then Federal wage rates for all occupation descriptions, specific or general, must be considered and compared with corresponding State wage rates. The higher wage rate, either State or Federal, becomes the minimum wage rate for the work performed in that occupation.

Contractors are responsible for determining the appropriate crafts necessary to perform the contract work. If a classification considered necessary for performance of the work is missing from the Federal Wage Determination applicable to the contract, the Contractor shall initiate a request for approval of a proposed wage and benefit rate. The Contractor shall prepare and submit Standard Form 1444, Request for Authorization of Additional Classification and Wage Rate available at http://www.wdol.gov/docs/sf1444.pdf, and submit the completed form to the Project Engineer’s office. The presence of a classification wage on the Washington State Prevailing Wage Rates For Public Works Contracts does not exempt the use of form 1444 for the purpose of determining a federal classification wage rate.

Requirements for Nondiscrimination
Section 1-07.11 is supplemented with the following:

2. The goals and timetables for minority and female participation set by the Office of Federal Contract Compliance Programs, expressed in percentage terms for the Contractor's aggregate work force in each construction craft and in each trade on all construction work in the covered area, are as follows:

   Women - Statewide

<table>
<thead>
<tr>
<th>Timetable</th>
<th>Goal</th>
</tr>
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<tbody>
<tr>
<td>Until further notice</td>
<td>6.9%</td>
</tr>
</tbody>
</table>

Minorities - by Standard Metropolitan Statistical Area (SMSA)

Spokane, WA:
- SMSA Counties:
  - Spokane, WA 2.8
  - WA Spokane.
- Non-SMSA Counties 3.0
  - WA Adams; WA Asotin; WA Columbia; WA Ferry; WA Garfield; WA Lincoln, WA Pend Oreille; WA Stevens; WA Whitman.

Richland, WA
- SMSA Counties:
  - Richland Kennewick, WA 5.4
  - WA Benton; WA Franklin.
- Non-SMSA Counties 3.6
  - WA Walla Walla.

Yakima, WA:
- SMSA Counties:
  - Yakima, WA 9.7
  - WA Yakima.
- Non-SMSA Counties 7.2
  - WA Chelan; WA Douglas; WA Grant; WA Kittitas; WA Okanogan.
Seattle, WA:
  SMSA Counties:
    Seattle Everett, WA  7.2
      WA King; WA Snohomish.
    Tacoma, WA  6.2
      WA Pierce.
  Non-SMSA Counties  6.1
    WA Clallam; WA Grays Harbor; WA Island; WA Jefferson; WA Kitsap;
    WA Lewis; WA Mason; WA Pacific; WA San Juan; WA Skagit; WA
    Thurston; WA Whatcom.

Portland, OR:
  SMSA Counties:
    Portland, OR-WA  4.5
      WA Clark.
  Non-SMSA Counties  3.8
    WA Cowlitz; WA Klickitat; WA Skamania; WA Wahkiakum.

These goals are applicable to each nonexempt Contractor’s total on-site construction
workforce, regardless of whether or not part of that workforce is performing work on
a Federal, or federally assisted project, contract, or subcontract until further notice.
Compliance with these goals and time tables is enforced by the Office of Federal
Contract compliance Programs.

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, in each construction craft 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
goal 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.

3. The Contractor shall provide written notification to the Office of Federal Contract
Compliance Programs (OFCCP) within 10 working days of award of any construction
subcontract in excess of $10,000 or more that are Federally funded, 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 contract is to be performed. The notification shall be
sent to:

U.S. Department of Labor
Office of Federal Contract Compliance Programs Pacific Region
  Attn: Regional Director
  San Francisco Federal Building
  90 – 7th Street, Suite 18-300
4. As used in this Notice, and in the contract resulting from this solicitation, the Covered Area is as designated herein.

(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:
      (1) Black, a person having origins in any of the Black Racial Groups of Africa.
      (2) Hispanic, a fluent Spanish speaking, Spanish surnamed person of Mexican, Puerto Rican, Cuban, Central American, South American, or other Spanish origin.
      (3) Asian or Pacific Islander, a person having origins in any of the original peoples of the Pacific rim or the Pacific Islands, the Hawaiian Islands and Samoa.
      (4) American Indian or Alaskan Native, a person having origins in any of the original peoples of North America, and who maintain cultural identification through tribal affiliation or community recognition.

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 solicitations from which this contract resulted.

3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades...
which have unions participating in the Plan. Contractors must be able to demonstrate
their participation in and compliance with the provisions of any such Hometown Plan.
Each Contractor or Subcontractor participating in an approved Plan is individually
required to comply with its obligations under the EEO clause, and to make a good
faith effort to achieve each goal under the Plan in each trade in which it has
employees. The overall good faith 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 effort to achieve the Plan
goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in
paragraphs 7a through 7p of this Special Provision. 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 minority 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 being performed. The
Contractor is expected to make substantially uniform progress in meeting 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 nonworking 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 action. 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 minority or 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 organizations' 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 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 therefor, 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 opportunity 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 U.S. 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 company 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 of all minority and female personnel 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 company activities are nonsegregated 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 supervisors' 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 the obligations under 7a through 7p of this Special Provision 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, ensure 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 demonstrate 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
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 suspensions,
terminations and cancellations 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 this Special Provision, 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 shall designate a responsible official to monitor all employment
related activity to ensure that the company EEO policy is being carried out, to submit
reports relating to the provisions hereof as may be required by the government and
to keep records. Records shall at least include, for each employee, their 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,
the Contractors will 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. Additional assistance for Federal Construction Contractors on contracts
administered by Washington State Department of Transportation or by Local
Agencies may be found at:

Washington State Dept. of Transportation
Office of Equal Opportunity
PO Box 47314
310 Maple Park Ave. SE
Olympia WA
98504-7314
Ph: 360-705-7090
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(June 1, 2017 WSDOT GSP)

Disadvantaged Business Enterprise Participation

The Disadvantaged Business Enterprise (DBE) requirements of 49 CFR Part 26 and
USDOT's official interpretations (i.e., Questions & Answers) apply to this Contract.
Demonstrating compliance with these Specifications is a Condition of Award (COA) of this
Contract. Failure to comply with the requirements of this Specification may result in your
Bid being found to be nonresponsive resulting in rejection or other sanctions as provided
by Contract.

DBE Abbreviations and Definitions

Broker – A business firm that provides a bona fide service, such as professional,
technical, consultant or managerial services and assistance in the procurement
of essential personnel, facilities, equipment, materials, or supplies required for
the performance of the Contract; or, persons/companies who arrange or
expedite transactions.

Certified Business Description – Specific descriptions of work the DBE is
certified to perform, as identified in the Certified Firm Directory, under the Vendor
Information page.

Certified Firm Directory – A database of all Minority, Women, and
Disadvantaged Business Enterprises, including those identified as a UDBE,
currently certified by Washington State. The on-line Directory is available to
Contractors for their use in identifying and soliciting interest from DBE firms. The
database is located under the Firm Certification section of the Diversity
Management and Compliance System web page at:

Commercially Useful Function (CUF) – 49 CFR 26.55(c)(1) defines
commercially useful function as: “A DBE performs a commercially useful function
when it is responsible for execution of the work of the contract and is carrying
out its responsibilities by actually performing, managing, and supervising the
work involved. To perform a commercially useful function, the DBE must also be
responsible, with respect to materials and supplies used on the contract, for
negotiating price, determining quality and quantity, ordering the material, and
installing (where applicable) and paying for the material itself. To determine
whether a DBE is performing a commercially useful function, you must evaluate
the amount of work subcontracted, industry practices, whether the amount the
firm is to be paid under the contract is commensurate with the work it is actually
performing and the DBE credit claimed for its performance of the work, and other
relevant factors."

**Contract** – For this Special Provision only, this definition supplements Section
1-01.3. 49 CFR 26.5 defines contract as: “… a legally binding relationship
obligating a seller to furnish supplies or services (including, but not limited to,
construction and professional services) and the buyer to pay for them. For
purposes of this part, a lease is considered to be a contract.”

**Disadvantaged Business Enterprise (DBE)** – A business firm certified by the
Washington State Office of Minority and Women’s Business Enterprises, as
meeting the criteria outlined in 49 CFR 26 regarding DBE certification. A
Underutilized Disadvantaged Business Enterprise (UDBE) firm is a subset of
DBE.

**Force Account Work** – Work measured and paid in accordance with Section 1-
09.6.

**Good Faith Efforts** – Efforts to achieve the UDBE COA Goal or other
requirements of this part which, by their scope, intensity, and appropriateness to
the objective, can reasonably be expected to fulfill the program requirement.

**Manufacturer (DBE)** – A DBE firm that operates or maintains a factory or
establishment that produces on the premises the materials, supplies, articles, or
equipment required under the Contract. A DBE Manufacturer shall produce
finished goods or products from raw or unfinished material or purchase and
substantially alters goods and materials to make them suitable for construction
use before reselling them.

**Regular Dealer (DBE)** – A DBE firm that owns, operates, or maintains a store,
warehouse, or other establishment in which the materials or supplies required
for the performance of a Contract are bought, kept in stock, and regularly sold
to the public in the usual course of business. To be a Regular Dealer, the DBE
firm must be an established regular business that engages in as its principal
business and in its own name the purchase and sale of the products in question.
A Regular Dealer in such items as steel, cement, gravel, stone, and petroleum
products need not own, operate or maintain a place of business if it both owns
and operates distribution equipment for the products. Any supplementing of
regular dealers’ own distribution equipment shall be by long-term formal lease
agreements and not on an ad-hoc basis. Brokers, packagers, manufacturers’
representatives, or other persons who arrange or expedite transactions shall not
be regarded as Regular Dealers within the meaning of this definition.

**Underutilized Disadvantaged Business Enterprise (UDBE)** – A DBE Firm
that is underutilized based on WSDOT’s Disparity Study. All UDBEs are DBEs.
UDBE Commitment – The dollar amount the Contractor indicates they will be subcontracting to be applied towards the UDBE Condition of Award Goal as shown on the UDBE Utilization Certification Form for each UDBE Subcontractor. This UDBE Commitment amount will be incorporated into the Contract and shall be considered a Contract requirement. Any changes to the UDBE Commitment require the Engineer’s approval.

UDBE Condition of Award (COA) Goal – An assigned numerical amount specified as a percentage of the Contract. Initially, this is the minimum amount that the Bidder must commit to by submission of the Utilization Certification Form and/or by Good Faith Effort (GFE). This is also the minimum required amount of UDBE participation specified as a percentage of the final Contract amount inclusive of all change orders.

UDBE COA Goal
The Contracting Agency has established a UDBE COA Goal for this Contract in the amount of: *** 8% ***

DBE Eligibility/Selection of DBEs
In order to determine the distinct element(s) of work for which a DBE is certified, Contractors should refer to the Certified Business Description. The Contractor shall not use NAICS codes on the UDBE Utilization Certification.

Crediting DBE Participation
Subcontractors proposed as COA must be certified prior to the due date for bids on the Contract. All non-COA DBE Subcontractors shall be certified before the subcontract on which they are participating is executed.

Be advised that although a firm is listed in the Certified Firm Directory, there are cases where the listed firm is in a temporary suspension status. The Contractor shall review the OMWBE Suspended DBE Firms list. A DBE firm that is included on this list may not enter into new contracts that count towards participation.

DBE participation is only credited upon payment to the DBE.

The following are some definitions of what may be counted as DBE participation.

DBE Prime Contractor
Only take credit for that portion of the total dollar value of the Contract equal to the distinct, clearly defined portion of the Work that the DBE Prime Contractor performs with its own forces and is certified to perform.

DBE Subcontractor
Only take credit for that portion of the total dollar value of the subcontract that is equal to the distinct, clearly defined portion of the Work that the DBE performs with its own forces. The value of work performed by the DBE includes the cost of supplies and materials purchased by the DBE and equipment leased by the DBE, for its work on the contract. Supplies, materials or equipment obtained by a DBE that are not utilized or incorporated in the contract work by the DBE will not be eligible for DBE credit.
The supplies, materials, and equipment purchased or leased from the Contractor or its affiliate, including any Contractor’s resources available to DBE subcontractors at no cost, shall not be credited.

DBE credit will not be given in instances where the equipment lease includes the operator. The DBE is expected to operate the equipment used in the performance of its work under the contract with its own forces. Situations where equipment is leased and used by the DBE, but payment is deducted from the Contractor’s payment to the DBE is not allowed.

When the subcontractor is part of a UDBE Commitment, the following apply:

1. If a UDBE subcontracts a portion of the Work of its contract to another firm, the value of the subcontracted Work may be counted toward the UDBE COA Goal only if the Lower-Tier Subcontractor is also a UDBE.

2. Work subcontracted to a Lower-Tier Subcontractor that is a DBE, but not a UDBE, may be counted as DBE race-neutral participation but not counted toward the UDBE COA Goal.

3. Work subcontracted to a non-DBE does not count towards the UDBE COA Goal nor DBE participation.

**DBE Subcontract and Lower Tier Subcontract Documents**

There must be a subcontract agreement that complies with 49 CFR Part 26 and fully describes the distinct elements of Work committed to be performed by the DBE. The subcontract agreement shall incorporate requirements of the primary Contract. Subcontract agreements of all tiers, including lease agreements shall be readily available at the project site for the Engineer’s review.

**DBE Service Provider**

The value of fees or commissions charged by a DBE Broker, a DBE behaving in a manner of a Broker, or another service provider for providing a bona fide service, such as professional, technical, consultant, managerial services, or for providing bonds or insurance specifically required for the performance of the contract will only be credited as DBE participation, if the fee/commission is determined by the Contracting Agency to be reasonable and the firm has performed a CUF.

**Force Account Work**

When the Contractor elects to utilize force account Work to meet the UDBE COA Goal, as demonstrated by listing this force account Work on the UDBE Utilization Certification Form, for the purposes of meeting UDBE COA Goal, only 50% of the Proposal amount shall be credited toward the Contractors Commitment to meet the UDBE COA Goal.

One hundred percent of the actual amounts paid to the DBE for the force account Work shall be credited towards UDBE COA Goal or DBE participation.

**Temporary Traffic Control**

If the DBE firm is being utilized in the capacity of only “Flagging”, the DBE firm must provide a Traffic Control Supervisor (TCS) and flagger, which are under
the direct control of the DBE. The DBE firm shall also provide all flagging equipment (e.g. paddles, hard hats, and vests).

If the DBE firm is being utilized in the capacity of “Traffic Control Services”, the DBE firm must provide a TCS, flaggers, and traffic control items (e.g., cones, barrels, signs, etc.) and be in total control of all items in implementing the traffic control for the project. In addition, if the DBE firm utilizes the Contractor’s equipment, such as Transportable Attenuators and Portable Changeable Message Signs (PCMS) no DBE credit can be taken for supplying and operating the items.

**Trucking**

DBE trucking firm participation may only be credited as DBE participation for the value of the hauling services, not for the materials being hauled unless the trucking firm is also certified as a supplier. In situations where the DBE’s work is priced per ton, the value of the hauling service must be calculated separately from the value of the materials in order to determine DBE credit for hauling.

The DBE trucking firm must own and operate at least one licensed, insured and operational truck on the contract. The truck must be of the type that is necessary to perform the hauling duties required under the contract. The DBE receives credit for the value of the transportation services it provides on the Contract using trucks it owns or leases, licenses, insures, and operates with drivers it employs.

The DBE may lease additional trucks from another DBE firm.

The trucking Work subcontracted to any non-DBE trucking firm will not receive credit for Work done on the project. The DBE may lease trucks from a non-DBE truck leasing company, but can only receive credit towards DBE participation if the DBE uses its own employees as drivers.

DBE credit for a truck broker is limited to the fee/commission that the DBE receives for arranging transportation services.

Truck registration and lease agreements shall be readily available at the project site for the Engineer review.

When Trucking is a UDBE Commitment, the following apply:

1. If the trucking firm is a UDBE, participation may count towards the UDBE COA Goal.

2. The Work that a UDBE trucking firm performs with trucks it leases from other certified UDBE trucking firms qualify for 100% credit towards the UDBE COA Goal.

3. The UDBE may lease trucks from a non-UDBE truck leasing company, but can only receive credit towards UDBE participation if the UDBE uses its own employees as drivers.
DBE Manufacturer and DBE Regular Dealer

One hundred percent (100%) of the cost of the manufactured product obtained from a DBE manufacturer can count as DBE participation. If the DBE manufacturer is a UDBE, participation may count towards the UDBE COA Goal.

Sixty percent (60%) of the cost of materials or supplies purchased from a DBE Regular Dealer may be credited as DBE Participation. If the role of the DBE Regular Dealer is determined to be that of a pass-through, then no DBE credit will be given for its services. If the role of the DBE Regular Dealer is determined to be that of a Broker, then DBE credit shall be limited to the fee or commission it receives for its services. Regular Dealer status and the amount of credit is determined on a Contract-by-Contract basis. If the DBE regular dealer is a UDBE, participation may count towards the UDBE COA Goal.

Regular Dealer DBE firms, including UDBEs must be approved before being used on a project. The WSDOT Approved Regular Dealer list published on WSDOT’s Office of Equal Opportunity (OEO) web site must include the specific project for which approval is being requested. For purposes of the UDBE COA Goal participation, the Regular Dealer must submit the Regular Dealer Status Request form a minimum of five days prior to bid opening.

Purchase of materials or supplies from a DBE which is neither a manufacturer nor a regular dealer, (i.e. Broker) only the fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on a job site, can count as DBE participation provided the fees are not excessive as compared with fees customarily allowed for similar services. Documentation will be required to support the fee/commission charged by the DBE. The cost of the materials and supplies themselves cannot be counted toward as DBE participation.

Note: Requests to be listed as a Regular Dealer will only be processed if the requesting firm is a material supplier certified by the Office of Minority and Women’s Business Enterprises in a NAICS code that falls within the 42XXXX NAICS Wholesale code section.

Underutilized Disadvantaged Business Enterprise Utilization

The requirements of this section apply to projects with a UDBE COA Goal. To be eligible for award of the Contract, the Bidder shall properly complete and submit an Underutilized Disadvantaged Business Enterprise (UDBE) Utilization Certification with the Bidder’s sealed Bid Proposal, as specified in Section 1-02.9 Delivery of Proposal. The Bidder’s UDBE Utilization Certification must clearly demonstrate how the Bidder intends to meet the UDBE COA Goal. A UDBE Utilization Certification (WSDOT Form 272-056 EF) is included in your Proposal package for this purpose as well as instructions on how to properly fill out the form.

The Bidder is advised that the items listed below when listed in the Utilization Certification must have their amounts reduced to the percentages shown and those reduced amounts will be the amount applied towards meeting the UDBE COA Goal.

- Force account at 50%
- Regular dealer at 60%
In the event of arithmetic errors in completing the UDBE Utilization Certification, the amount listed to be applied towards the UDBE COA Goal for each UDBE shall govern and the UDBE total amount shall be adjusted accordingly.

Note: The Contracting Agency shall consider as non-responsive and shall reject any Bid Proposal submitted that does not contain a UDBE Utilization Certification Form that accurately demonstrates how the Bidder intends to meet the UDBE COA Goal.

Underutilized Disadvantaged Business Enterprise Written Confirmation Document(s)
The requirements of this section apply to projects with a UDBE COA Goal. The Bidder shall submit an Underutilized Disadvantaged Business Enterprise (UDBE) Written Confirmation Document (completed and signed by the UDBE) for each UDBE firm listed in the Bidder’s completed UDBE Utilization Certification submitted with the Bid. Failure to do so will result in the associated participation being disallowed, which may cause the Bid to be determined to be nonresponsive resulting in Bid rejection.

The Confirmation Documents provide confirmation from the UDBEs that they are participating in the Contract as provided in the Contractor’s Commitment. The Confirmation Documents must be consistent with the Utilization Certification.

A UDBE Written Confirmation Document (form No. 422-031 EF) is included in your Proposal package for this purpose.

The form(s) shall be received as specified in the special provisions for Section 1-02.9 Delivery of Proposal.

It is prohibited for the Bidder to require a UDBE to submit a Written Confirmation Document with any part of the form left blank. Should the Contracting Agency determine that an incomplete Written Confirmation Document was signed by a UDBE, the validity of the document comes into question. The associated UDBE participation may not receive credit.

Selection of Successful Bidder/Good Faith Efforts (GFE)
The requirements of this section apply to projects with a UDBE COA Goal. The successful Bidder shall be selected on the basis of having submitted the lowest responsive Bid, which demonstrates a good faith effort to achieve the UDBE COA Goal. The Contracting Agency, at any time during the selection process, may request a breakdown of the bid items and amounts that are counted towards the overall contract goal for any of the UDBEs listed on the UDBE Utilization Certification.

Achieving the UDBE COA Goal may be accomplished in one of two ways:

1. **By meeting the UDBE COA Goal**
   Submission of the UDBE Utilization Certification and supporting UDBE Written Confirmation Document(s) showing the Bidder has obtained enough UDBE participation to meet or exceed the UDBE COA Goal.

2. **By documentation that the Bidder made adequate GFE to meet the UDBE COA Goal**
The Bidder may demonstrate a GFE in whole or part through GFE documentation ONLY IN THE EVENT a Bidder’s efforts to solicit sufficient UDBE participation have been unsuccessful. The Bidder must supply GFE documentation in addition to the UDBE Utilization Certification, and supporting UDBE Written Confirmation Document(s).

Note: In the case where a Bidder is awarded the contract based on demonstrating adequate GFE, the advertised UDBE COA Goal will not be reduced. The Bidder shall demonstrate a GFE during the life of the Contract to attain the advertised UDBE COA Goal.

GFE documentation shall be submitted as specified in Section 1-02.9.

The Contracting Agency will review the GFE documentation and will determine if the Bidder made an adequate good faith effort.

**Good Faith Effort (GFE) Documentation**

GFE is evaluated when:

1. Determining award of a Contract that has COA goal,
2. When a COA UDBE is terminated and substitution is required, and
3. Prior to Physical Completion when determining whether the Contractor has satisfied its UDBE commitments.

49 CFR Part 26, Appendix A is intended as general guidance and does not, in itself, demonstrate adequate good faith efforts. The following is a list of types of actions, which would be considered as part of the Bidder’s GFE to achieve UDBE participation. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.

1. Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified UDBEs who have the capability to perform the Work of the Contract. The Bidder must solicit this interest within sufficient time to allow the UDBEs to respond to the solicitation. The Bidder must determine with certainty if the UDBEs are interested by taking appropriate steps to follow up initial solicitations.
2. Selecting portions of the Work to be performed by UDBEs in order to increase the likelihood that the UDBE COA Goal will be achieved. This includes, where appropriate, breaking out contract Work items into economically feasible units to facilitate UDBE participation, even when the Contractor might otherwise prefer to perform these Work items with its own forces.
3. Providing interested UDBEs with adequate information about the Plans, Specifications, and requirements of the Contract in a timely manner to assist them in responding to a solicitation.
a. Negotiating in good faith with interested UDBEs. It is the Bidder’s responsibility to make a portion of the Work available to UDBE subcontractors and suppliers and to select those portions of the Work or material needs consistent with the available UDBE subcontractors and suppliers, so as to facilitate UDBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of UDBEs that were considered; a description of the information provided regarding the Plans and Specifications for the Work selected for subcontracting; and evidence as to why additional agreements could not be reached for UDBEs to perform the Work.

b. A Bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm’s price and capabilities as well as the UDBE COA Goal into consideration. However, the fact that there may be some additional costs involved in finding and using UDBEs is not in itself sufficient reason for a Bidder’s failure to meet the UDBE COA Goal, as long as such costs are reasonable. Also, the ability or desire of a Contractor to perform the Work of a Contract with its own organization does not relieve the Bidder of the responsibility to make Good Faith Efforts. Contractors are not, however, required to accept higher quotes from UDBEs if the price difference is excessive or unreasonable.

4. Not rejecting UDBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The Contractor’s standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the Contractor’s efforts to meet the UDBE COA Goal.

5. Making efforts to assist interested UDBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or Contractor.

6. Making efforts to assist interested UDBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.

7. Effectively using the services of available minority/women community organizations; minority/women contractors’ groups; local, State, and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of UDBEs.

8. Documentation of GFE must include copies of each UDBE and non-DBE subcontractor quotes submitted to the Bidder when a non-DBE subcontractor is selected over a UDBE for Work on the Contract. (ref. updated DBE regulations – 26.53(b)(2)(vi) & App. A)

Administrative Reconsideration of GFE Documentation
A Bidder has the right to request reconsideration if the GFE documentation submitted with their Bid was determined to be inadequate.
• The Bidder must request within 48 hours of notification of being nonresponsive or forfeit the right to reconsideration.

• The reconsideration decision on the adequacy of the Bidder’s GFE documentation shall be made by an official who did not take part in the original determination.

• Only original GFE documentation submitted as a supplement to the Bid shall be considered. The Bidder shall not introduce new documentation at the reconsideration hearing.

• The Bidder shall have the opportunity to meet in person with the official for the purpose of setting forth the Bidder’s position as to why the GFE documentation demonstrates a sufficient effort.

• The reconsideration official shall provide the Bidder with a written decision on reconsideration within five working days of the hearing explaining the basis for their finding.

**Procedures between Award and Execution**

After Award and prior to Execution, the Contractor shall provide the additional information described below. Failure to comply shall result in the forfeiture of the Bidder’s Proposal bond or deposit.

1. A UDBE Bid Item Breakdown is required which shall contain the following information for all UDBEs as shown on the UDBE Utilization Certification:
   a. Correct business name, federal employee identification number (if available), and mailing address.
   b. List of all Bid items assigned to each UDBE with a clear description of Work to be performed for each Bid item and the dollar value of the Work to be performed by the UDBE.
   c. Description of partial items (if any) to be sublet to each UDBE specifying the Work committed under each item to be performed and including the dollar value of the UDBE portion.
   d. Total amounts shown for each UDBE shall match the amount shown on the UDBE Utilization Certification. A UDBE Bid Item Breakdown that does not conform to the UDBE Utilization Certification or that demonstrates a different amount of UDBE participation than that included in the UDBE Utilization Certification will be returned for correction.

2. A list of all firms who submitted a bid or quote in attempt to participate in this project whether they were successful or not. Include the business name and mailing address.

**Note:** The firms identified by the Contractor may be contacted by the Contracting Agency to solicit general information as follows: age of the firm and average of its gross annual receipts over the past three-years.
Procedures after Execution

Commercially Useful Function (CUF)

The Contractor may only take credit for the payments made for Work performed by a DBE that is determined to be performing a CUF. Payment must be commensurate with the work actually performed by the DBE. This applies to all DBEs performing Work on a project, whether or not the DBEs are COA, if the Contractor wants to receive credit for their participation. The Engineer will conduct CUF reviews to ascertain whether DBEs are performing a CUF. A DBE performs a CUF when it is carrying out its responsibilities of its contract by actually performing, managing, and supervising the Work involved. The DBE must be responsible for negotiating price; determining quality and quantity; ordering the material, installing (where applicable); and paying for the material itself. If a DBE does not perform “all” of these functions on a furnish-and-install contract, it has not performed a CUF and the cost of materials cannot be counted toward UDBE COA Goal. Leasing of equipment from a leasing company is allowed. However, leasing/purchasing equipment from the Contractor is not allowed. Lease agreements shall be readily available for review by the Engineer.

In order for a DBE traffic control company to be considered to be performing a CUF, the DBE must be in control of its work inclusive of supervision. The DBE shall employ a Traffic Control Supervisor who is directly involved in the management and supervision of the traffic control employees and services.

The DBE does not perform a CUF if its role is limited to that of an extra participant in a transaction, contract, or project through which the funds are passed in order to obtain the appearance of DBE participation.

The following are some of the factors that the Engineer will use in determining whether a DBE trucking company is performing a CUF:

- The DBE shall be responsible for the management and supervision of the entire trucking operation for which it is responsible on the contract. The owner demonstrates business related knowledge, shows up on site and is determined to be actively running the business.

- The DBE shall with its own workforce, operate at least one fully licensed, insured, and operational truck used on the Contract. The drivers of the trucks owned and leased by the DBE must be exclusively employed by the DBE and reflected on the DBE’s payroll.

- Lease agreements for trucks shall indicate that the DBE has exclusive use of and control over the truck(s). This does not preclude the leased truck from working for others provided it is with the consent of the DBE and the lease provides the DBE absolute priority for use of the leased truck.

- Leased trucks shall display the name and identification number of the DBE.
DBE Utilization Plan

The DBE Bid Item Breakdown is the initial plan for Bid Item work committed to DBE firms. When a Contractor identifies a change in the plan, an update shall be submitted within 7 calendar days between Execution and Physical Completion. Plan updates shall not make changes to the Commitment or the DBE Utilization Certification.

Joint Checking

A joint check is a check between a Subcontractor and the Contractor to the supplier of materials/supplies. The check is issued by the Contractor as payer to the Subcontractor and the material supplier jointly for items to be incorporated into the project. The DBE must release the check to the supplier, while the Contractor acts solely as the guarantor.

A joint check agreement must be approved by the Engineer and requested by the DBE involved using the DBE Joint Check Request Form (form # 272-053) prior to its use. The form must accompany the DBE Joint Check Agreement between the parties involved, including the conditions of the arrangement and expected use of the joint checks.

The approval to use joint checks and the use will be closely monitored by the Engineer. To receive DBE credit for performing a CUF with respect to obtaining materials and supplies, a DBE must “be responsible for negotiating price, determining quality and quantity, ordering the material, installing and paying for the material itself.” The Contractor shall submit DBE Joint Check Request Form for the Engineer approval prior to using a joint check.

Material costs paid by the Contractor directly to the material supplier are not allowed. If proper procedures are not followed or the Engineer determines that the arrangement results in lack of independence for the DBE involved, no DBE credit will be given for the DBE’s participation as it relates to the material cost.

Prompt Payment

Prompt payment to all subcontractors shall be in accordance with Section 1-08.1. Prompt payment requirements apply to progress payments as well as return of retainage.

Reporting

The Contractor and all subcontractors/suppliers/service providers that utilize DBEs to perform work on the project, shall maintain appropriate records that will enable the Engineer to verify DBE participation throughout the life of the project.

Refer to Section 1-08.1 for additional reporting requirements associated with this contract.

Changes in COA Work Committed to UDDE

The Contractor shall utilize the COA UDDEs to perform the work and supply the materials for which each is committed unless approved by the Engineer. The Contractor shall not be entitled to any payment for work or material completed by the Contractor or subcontractors that was committed to be completed by the COA UDDEs.
Owner Initiated Changes
Where the Engineer makes changes that result in changes to Work that was committed to a COA UDBE. The Contractor may be directed to substitute for the Work in such instances.

Contractor Initiated Changes
The Contractor cannot reduce the amount of work committed to a COA UDBE without good cause. Reducing UDBE Commitment is viewed as partial UDBE termination, and therefore subject to the termination procedures below.

Original Quantity Underruns
In the event that Work committed to a UDBE firm as part of the COA underruns the original planned quantities the Contractor may be required to substitute other remaining Work to another UDBE.

Contractor Proposed DBE Substitutions
Requests to substitute a COA UDBE must be for good cause (see UDBE termination process below), and requires prior written approval of the Engineer. After receiving a termination with good cause approval, the Contractor may only replace a UDBE with another certified UDBE. When any changes between Contract Award and Execution result in a substitution of COA UDBE, the substitute UDBE shall be certified prior to the bid opening on the Contract.

UDBE Termination
Termination of a COA UDBE (or an approved substitute UDBE) is only allowed in whole or in part with prior written approval of the Engineer. If the Contractor terminates a COA UDBE without the written approval of the Engineer, the Contractor shall not be entitled to credit towards the UDBE COA Goal for any payment for work or material performed/supplied by the COA UDBE. In addition, sanctions may apply as described elsewhere in this specification.

The Contractor must have good cause to terminate a COA UDBE.

Good cause typically includes situations where the UDBE Subcontractor is unable or unwilling to perform the work of its subcontract. Good cause may exist if:

- The UDBE fails or refuses to execute a written contract.
- The UDBE fails or refuses to perform the Work of its subcontract in a way consistent with normal industry standards.
- The UDBE fails or refuses to meet the Contractor’s reasonable nondiscriminatory bond requirements.
- The UDBE becomes bankrupt, insolvent, or exhibits credit unworthiness.
- The UDBE is ineligible to work on public works projects because of suspension and debarment proceedings pursuant to federal law or applicable State law.
• The UDBE voluntarily withdraws from the project, and provides written notice of its withdrawal.

• The UDBE’s work is deemed unsatisfactory by the Engineer and not in compliance with the Contract.

• The UDBE’s owner dies or becomes disabled with the result that the UDBE is unable to complete its Work on the Contract.

Good cause does not exist if:

• The Contractor seeks to terminate a COA UDBE so that the Contractor can self-perform the Work.

• The Contractor seeks to terminate a COA UDBE so the Contractor can substitute another DBE contractor or non-DBE contractor after Contract Award.

• The failure or refusal of the COA UDBE to perform its Work on the subcontract results from the bad faith or discriminatory action of the Contractor (e.g., the failure of the Contractor to make timely payments or the unnecessary placing of obstacles in the path of the UDBE’s Work).

Prior to requesting termination, the Contractor shall give notice in writing to the UDBE with a copy to the Engineer of its intent to request to terminate UDBE Work and the reasons for doing so. The UDBE shall have five (5) days to respond to the Contractor’s notice. The UDBE’s response shall either support the termination or advise the Engineer and the Contractor of the reasons it objects to the termination of its subcontract.

When a COA UDBE is terminated, or fails to complete its work on the Contract for any reason, the Contractor shall substitute with another UDBE or provide documentation of GFE. A plan to achieve the COA UDBE Commitment shall be submitted to the Engineer within 2 days of the approval of termination or the Contract shall be suspended until such time the substitution plan is submitted.

Decertification
When a DBE is “decertified” from the DBE program during the course of the Contract, the participation of that DBE shall continue to count as DBE participation as long as the subcontract with the DBE was executed prior to the decertification notice. The Contractor is obligated to substitute when a DBE does not have an executed subcontract agreement at the time of decertification.

Consequences of Non-Compliance
Breach of Contract
Each contract with a Contractor (and each subcontract the Contractor signs with a Subcontractor) must include the following assurance clause:

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.

Notice
If the Contractor or any Subcontractor, Consultant, Regular Dealer, or service
provider is deemed to be in non-compliance, the Contractor will be informed in
writing, by certified mail by the Engineer that sanctions will be imposed for failure
to meet the UDBE COA Commitment and/or submit documentation of good faith
efforts. The notice will state the specific sanctions to be imposed which may
include impacting a Contractor or other entity’s ability to participate in future
contracts.

Sanctions
If it is determined that the Contractor’s failure to meet all or part of the UDBE COA
Commitment is due to the Contractor’s inadequate good faith efforts throughout the
life of the Contract, including failure to submit timely, required Good Faith Efforts
information and documentation, the Contractor may be required to pay DBE penalty
equal to the amount of the unmet Commitment, in addition to the sanctions outlined
in Section 1-07.11(5).

Payment
Compensation for all costs involved with complying with the conditions of this
Specification and any other associated DBE requirements is included in payment for
the associated Contract items of Work, except otherwise provided in the
Specifications.

(April 3, 2017 WSDOT GSP)
Special Training Provisions
General Requirements
The Contractor’s equal employment opportunity, affirmative action program shall
include the requirements set forth below. The Contractor shall provide on-the-job
training aimed at developing trainees to journeyman status in the trades involved.
The number of training hours shall be *** 2000 ***. Trainees shall not be assigned
less than 400 hours. The Contractor may elect to accomplish training as part of the
work of a subcontractor, however, the Prime Contractor shall retain the responsibility
for complying with these Special Provisions. The Contractor shall also ensure that
this training provision is made applicable to any subcontract that includes training.

Trainee Approval
The Federal government requires Contracting Agencies to include these training
provisions as a condition attached to the receipt of Federal highway funding. The
Federal government has determined that the training and promotion of members of
certain minority groups and women is a primary objective of this training provision. The Contractor shall make every effort to enroll minority groups and women trainees to the extent such persons are available within a reasonable recruitment area. This training provision is not intended and shall not be used to discriminate against any applicant for training, whether that person is a minority, woman or otherwise. A non-minority male trainee or apprentice may be approved provided the following requirements are met:

1. The Contractor is otherwise in compliance with the contract’s Equal Employment Opportunity and On-the-Job Training requirements and provides documentation of the efforts taken to fill the specific training position with either minorities or females

2. or, if not otherwise in compliance, furnishes evidence of his/her systematic and direct recruitment efforts in regard to the position in question and in promoting the enrollment and/or employment of minorities and females in the craft which the proposed trainee is to be trained

3. and the Contractor has made a good faith effort towards recruiting of minorities and women. As a minimum this good faith effort shall consist of the following:

   - Distribution of written notices of available employment opportunities with the Contractor and enrollment opportunities with its unions. Distribution should include but not be limited to; minority and female recruitment sources and minority and female community organizations;

   - Records documenting the Contractor’s efforts and the outcome of those efforts, to employ minority and female applicants and/or refer them to unions;

   - Records reflecting the Contractor’s efforts in participating in developing minority and female on-the-job training opportunities, including upgrading programs and apprenticeship opportunities;

   - Distribution of written notices to unions and training programs disseminating the Contractor’s EEO policy and requesting cooperation in achieving EEO and OJT obligations.

No employee shall be employed as a trainee in any classification in which the employee has successfully completed a training course leading to journeyman status or in which the employee has been employed as a journeyman. The Contractor’s records shall document the methods for determining the trainee’s status and findings in each case. When feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

For the purpose of this specification, acceptable training programs are those employing trainees/apprentices registered with the following:
1. Washington State Department of Labor & Industries — State Apprenticeship Training Council (SATC) approved apprenticeship agreement:
   
a. Pursuant to RCW 49.04.060, an apprenticeship agreement shall be;
   
   i. an individual written agreement between an employer and apprentice
   
   ii. a written agreement between (an employer or an association of employers) and an organization of employees describing conditions of employment for apprentices
   
   iii. a written statement describing conditions of employment for apprentices in a plant where there is no bona fide employee organization.

   All such agreements shall conform to the basic standards and other provisions of RCW Chapter 49.


   Or

3. Trainees participating in a non-ATELS/SATC program, which has been approved by the contracting agency for the specific project.

4. For assistance in locating trainee candidates, the Contractor may call WSDOT’s OJT Support Services Technical Advisor at (360) 704-6314.

Obligation to Provide Information
Upon starting a new trainee, the Contractor shall furnish the trainee a copy of the approved program the Contractor will follow in providing the training. Upon completion of the training, the Contractor shall provide the Contracting Agency with a certification showing the type and length of training satisfactorily completed by each trainee.

Training Program Approval
The Training Program shall meet the following requirements:

1. The Training Program (DOT Form 272-049) must be submitted to the Engineer for approval prior to commencing contract work and shall be resubmitted when modifications to the program occur.

2. The minimum length and type of training for each classification will be as established in the training program as approved by the Contracting Agency.

3. The Training Program shall contain the trades proposed for training, the number of trainees, the hours assigned to the trade and the estimated beginning work date for each trainee.
4. Unless otherwise specified, Training Programs will be approved if the proposed number of training hours equals the training hours required by contract and the trainees are not assigned less than 400 hours each.

5. After approval of the training program, information concerning each individual trainee and good faith effort documentation shall be submitted on (DOT Form 272-050.)

6. In King County, laborer trainees or apprentices will not be approved on contracts containing less than 2000 training hours as specified in this Section. In King County, no more than twenty percent (20%) of hours proposed for trainees or apprentices shall be in the laborer classification when the contract contains 2000 or more hours of training as specified in this Section. Trainees shall not be assigned less than 400 hours.

7. Flagging programs will not be approved. Other programs that include flagging training will only be approved if the flagging portion is limited to an orientation of not more than 20 hours.

8. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Some off-site training is permissible as long as the training is an integral part of an approved training program.

9. It is normally expected that a trainee will begin training on the project as soon as feasible after start of work, utilizing the skill involved and remain on the project as long as training opportunities exist in the work classification or upon completion of the training program. It is not required that all trainees be on board for the entire length of the contract. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

10. Wage Progressions: Trainees will be paid at least the applicable ratios or wage progressions shown in the apprenticeship standards published by the Washington State Department of Labor and Industries. In the event that no training program has been established by the Department of Labor and Industries, the trainee shall be paid in accordance with the provisions of RCW 39.12.021 which reads as follows:

   Apprentice workmen employed upon public works projects for whom an apprenticeship agreement has been registered and approved with the State Apprenticeship Council pursuant to RCW 49.04, must be paid at least the prevailing hourly rate for an apprentice of that trade. Any workman for whom an apprenticeship agreement has not been registered and approved by the State Apprenticeship Council shall be considered to be a fully qualified journeyman, and, therefore, shall be paid at the prevailing hourly rate for journeymen.
Compliance
In the event that the Contractor is unable to accomplish the required training hours but can demonstrate a good faith effort to meet the requirements as specified, then the Contracting Agency will adjust the training goals accordingly.

Requirements for Non ATELS/SATC Approved Training Programs
Contractors who are not affiliated with a program approved by ATELS or SATC may have their training program approved provided that the program is submitted for approval on DOT Form 272-049, and the following standards are addressed and incorporated in the Contractor’s program:

- The program establishes minimum qualifications for persons entering the training program.
- The program shall outline the work processes in which the trainee will receive supervised work experience and training on-the-job and the allocation of the approximate time to be spent in each major process. The program shall include the method for recording and reporting the training completed shall be stated.
- The program shall include a numeric ratio of trainees to journeymen consistent with proper supervision, training, safety, and continuity of employment. The ratio language shall be specific and clear as to application in terms of job site and workforce during normal operations (normally considered to fall between 1:10 and 1:4).
- The terms of training shall be stated in hours. The number of hours required for completion to journeyman status shall be comparable to the apprenticeship hours established for that craft by the SATC. The following are examples of programs that are currently approved:

<table>
<thead>
<tr>
<th>CRAFT</th>
<th>HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laborer</td>
<td>4,000</td>
</tr>
<tr>
<td>Ironworker</td>
<td>6,000</td>
</tr>
<tr>
<td>Carpenter</td>
<td>5,200-8,000</td>
</tr>
<tr>
<td>Construction Electrician</td>
<td>8,000</td>
</tr>
<tr>
<td>Operating Engineer</td>
<td>6,000-8,000</td>
</tr>
<tr>
<td>Cement Mason</td>
<td>5,400</td>
</tr>
<tr>
<td>Teamster</td>
<td>2,100</td>
</tr>
</tbody>
</table>

- The method to be used for recording and reporting the training completed shall be stated.

Measurement
The Contractor may request that the total number of “training” hours for the contract be increased subject to approval by the Contracting Agency. This reimbursement will be made even though the Contractor receives additional training program funds from other sources, provided such other sources do not prohibit other reimbursement. Reimbursement to the Contractor for off-site training as indicated previously may only be made when the Contractor does one or more of the following and the trainees are concurrently employed on a Federal-aid project:
• contributes to the cost of the training,
• provides the instruction to the trainee,
• pays the trainee’s wages during the off-site training period.

Reimbursement will be made upon receipt of a certified invoice that shows the related payroll number, the name of trainee, total hours trained under the program, previously paid hours under the contract, hours due this estimate, and dollar amount due this estimate. The certified invoice shall show a statement indicating the Contractor’s effort to enroll minorities and women when a new enrollment occurs. If a trainee is participating in a SATC/ATELS approved apprenticeship program, a copy of the certificate showing apprenticeship registration must accompany the first invoice on which the individual appears. Reimbursement for training occurring prior to approval of the training program will be allowed if the Contractor verbally notifies the Engineer of this occurrence at the time the apprentice/trainee commences work. A trainee/apprentice, regardless of craft, must have worked on the contract for at least 20 hours to be eligible for reimbursement.

Payment
The Contractor will be reimbursed under the item “Training” per hour for each hour of training for each employee.

Federal Agency Inspection
Section 1-07.12 is supplemented with the following:

(January 25, 2016 WSDOT GSP)
Required Federal Aid Provisions
The Required Contract Provisions Federal Aid Construction Contracts (FHWA 1273) Revised May 1, 2012 and the amendments thereto supersede any conflicting provisions of the Standard Specifications and are made a part of this Contract; provided, however, that if any of the provisions of FHWA 1273, as amended, are less restrictive than Washington State Law, then the Washington State Law shall prevail.

The provisions of FHWA 1273, as amended, included in this Contract require that the Contractor insert the FHWA 1273 and amendments thereto in each Subcontract, together with the wage rates which are part of the FHWA 1273, as amended. Also, a clause shall be included in each Subcontract requiring the Subcontractors to insert the FHWA 1273 and amendments thereto in any lower tier Subcontracts, together with the wage rates. The Contractor shall also ensure that this section, REQUIRED FEDERAL AID PROVISIONS, is inserted in each Subcontract for Subcontractors and lower tier Subcontractors. For this purpose, upon request to the Project Engineer, the Contractor will be provided with extra copies of the FHWA 1273, the amendments thereto, the applicable wage rates, and this Special Provision.

Utilities and Similar Facilities
Section 1-07.17 is supplemented with the following:

(April 2, 2007 WSDOT GSP)
Locations and dimensions shown in the Plans for existing facilities are in accordance with available information obtained without uncovering, measuring, or other verification.
The following addresses and telephone numbers of utility companies known or suspected of having facilities within the project limits are supplied for the Contractor's convenience:

**

City of Fife Water  
Arthur Gregg  
Main: (253) 922-9315  
Fax: (253) 922-9688  
agregg@cityoffife.org  
3725 Pacific Highway East  
Fife, WA 98424

CenturyLink  
Gary Fallis  
Main: (206) 733-8866  
Cell: (206) 344-0349  
7850B S. Trafton St Bldg. B  
Tacoma, WA 98410

City of Fife Sanitary Sewer  
Ken Gill  

Comcast  
Jim LeCompte  
Office: (253) 896-5688  
Jim.LeCompte@cable.comcast.com  
1225 Sylvan  
Bremerton, WA 98310

TerraTech  
Tom Brown  
Subconsultant to CenturyLink  
(206) 799-2989  
tbrown@terratechllc.net

Tacoma Public Utilities  
Margie Villanueva  
(253) 502-8371  
mvillanu@cityoftacoma.org  
3628 South 35th St.  
Tacoma, WA 98409-3192

City of Fife Stormwater  
Ken Gill  

Integra/Electric Lightwave  
Bob Knight  
Office: (425) 289-0802  
Cell: (206) 427-4252  
Bob.knight@electriclightwave.com

City of Fife Electrical Contractor  
Ken Gill  

CLICK Network  
Margie Villanova  
(253) 502-8371  
mvillanu@cityoftacoma.org  
3628 South 35th St.  
Tacoma, WA 98409-3192

Puget Sound Gas  
Francisco Reyna  
Office: (425) 456-2234  
Cell: (206) 471-9742  
francisco.reyna@pse.com  
10885 NE 4th St. PSE09S  
Bellevue, WA 98004

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(April 2, 2007 WSDOT GSP)
Locations and dimensions shown in the Plans for existing facilities are in accordance with available information obtained without uncovering, measuring, or other verification.

Public and private utilities, or their Contractors, will furnish all work necessary to adjust, relocate, replace, or construct their facilities unless otherwise provided for in the Plans or these Special Provisions. Such adjustment, relocation, replacement, or construction will be done during the prosecution of the work for this project. It is anticipated that utility adjustment, relocation, replacement or construction within the project limits will be completed as follows:

***

Contractor shall afford Owner and other contractors working in the area reasonable opportunity for the introduction and storage of their materials and the execution of their respective work and shall properly connect and coordinate Contractor’s work with theirs.

No planned interruption to an existing system shall be allowed on Fridays, weekends, the day before holidays, or holidays unless specifically agreed to in writing by the Contracting Agency. Where services are to be shut down, affected parties shall be notified in writing by the Contractor (i.e., door hangers) at least 48 hours and not more than 72 hours in advance of the time and period of shut down. The Contractor shall make every effort to keep shut down schedules to periods of anticipated minimum usage and for the least period of time.

The Contractor shall conduct a pre-construction meeting with the Engineer and all the associated utility companies prior to starting any utility construction work.

Puget Sound Energy (PSE) – Gas

Puget Sound Energy gas will install their gas line in two separate phases of work as described below.

First Phase - Puget Sound Energy gas will install two segments of deep gas lines (lowered to 7-feet of cover) along 34th Ave E to connect to the relocated gas line described in the paragraph below. The first gas line segment is a 1-inch steel gas line that crosses over the entire roadway cross section perpendicular to the D-Line at about Station D-Line 33+05 to serve Love’s Truck Stop. The second gas line segment is a 6-inch steel gas line that runs parallel to the east side of 34th Ave E from about D-Line Station 34+35 to 35+15. This phase of work performed by PSE is anticipated to require 15 working days.

Second Phase - PSE gas will install a new 6-inch steel gas line along the east side of 34th Ave E between approximate stations D-Line 28+00 to the deep gas line installed above at Station 34+35. The new gas line alignment will follow the path of the existing storm drain which will be removed by the Contractor prior to PSE’s Second Phase work. PSE will also tie over (4) existing gas services to existing properties. This phase of work performed by PSE is anticipated to require 30 working days. The Contractor will remove the existing gas line between approximate stations D-Line 27+82 to 35+04.

- 10 Working days lead time for staging materials at project site
- 3 Working days lead time for inspections
- 10 Working days lead time to utility to install deep gas lines for connection to Love’s and for connections at the north end of 34th Ave East.
- 10 Working days lead time for utility to install new gas line and complete cut over work.
- 5 Working days lead time for any other activities

Work performed by City Electrical Contractor, CenturyLink-Telecommunications, Tacoma Public Utilities – Power, Comcast Telecommunications and CLICK Networks is anticipated to require 100 working days after completion and acceptance of the joint utility trench and vaults.

**City Electrical Contractor**

The City of Fife has contracted with others to provide the electrical service connections between the right of way line and the businesses. This work includes excavation, bedding, backfilling, installation of conduit in service trenches and placement of vaults/pedestals provided by others. The contractor shall provide a 5 working days advance notice to the City for each service connection. The City reserves the right to re-schedule the connection if the work area is not ready at the scheduled time for connections.

**CenturyLink – Telecommunications**

For CenturyLink existing underground facilities that are being relocated, the utility will supply all miscellaneous material necessary for vault, handhole, pedestal and duct installation. The contractor shall install the provided vaults, handholes, pedestals, conduit, trace wire, warning tape, etc. The existing underground facilities are denoted on the plans.

For CenturyLink existing aerial facilities that are being undergrounded, the contractor will furnish and install the vaults, pedestals, conduits and all miscellaneous material necessary for vault and duct installation such as but not limited to couplings, conduit fittings, bends, sweeps, risers, riser attachments, glue, warning tape, spacers, pull string, trace wire, controlled density fill (CDF) and fluidized thermal backfill (FTB). The existing aerial facilities are denoted on the plans.

The contractor shall install the conduits and vaults per the contract plans and specifications. CenturyLink will require the following lead times:

- 10 Working days lead time for staging materials at project site
- 3 Working days lead time for inspections
- 10 Working days lead time for installing cable
- 10 Working days lead time for cut over work
- 10 Working days lead time for removal of existing facilities
- 5 Working days lead time for any other activities

Once the conduits and vaults have been installed for the entire length of the project and the installation approved by CenturyLink, CenturyLink will pull new cable/fiber, energize the system, cut over the new services, de-energize the old system and remove existing facilities. CenturyLink will remove the existing utility poles that they lease.

**Tacoma Public Utilities (TPU) – Distribution Power**

The contractor will supply the conduit and vaults for the relocation of the distribution system for the project. The contractor will supply all miscellaneous material necessary for duct and vault installation such as but not limited to couplings, conduit fittings, bends, sweeps, risers, riser attachments, glue, warning tape, spacers, pull string, trace wire, controlled density fill (CDF) and fluidized thermal backfill (FTB). The contractor shall install the conduits and vaults per the contract plans and specifications. All work shall conform to TPU’s Electric Distribution Trench/Duct/Vault Construction Standards.
• 3 Business days lead time for inspections
• 10 Business days lead time for installing wire
• 10 Business days lead time for cut over work
• 10 Business days lead time for temporary pole relocations and/or pole support systems
• 10 Business days lead time to hold poles
• 10 Business days lead time for removal of existing facilities
• 5 Working days lead time for any other activities

Once the conduits and vaults have been installed for the entire length of the project and the installation approved by TPU, TPU will pull new wires, energize the system, cut over the new services, de-energize the old system, remove existing facilities and remove the existing utility poles that they own.

Comcast (CC) – Telecommunications
CC will supply the conduit and vaults for the undergrounding of the overhead system for the project. CC will supply all miscellaneous material necessary for duct and vault installation such as but not limited to couplings, conduit fittings, bends, sweeps, risers, riser attachments, glue, warning tape, spacers, pull string and trace wire. The contractor will install the conduits and vaults per the contract plans and specifications.
CC will require the following lead times:

• 10 Business days lead time for staging materials at project site
• 3 Business days lead time for inspections
• 10 Business days lead time for installing cable
• 10 Business days lead time for cut over work
• 10 Business days lead time for removal of existing facilities
• 5 Business days lead time for any other activities

Once the conduits and vaults have been installed for the entire length of the project and the installation approved by Comcast, Comcast will pull new cable/fiber, energize the system, cut over the new services, de-energize the old system and remove existing facilities.

CLICK Networks
The Contractor will supply the conduit and vaults for the relocation of the telecommunication system for the project. The contractor will supply all miscellaneous material necessary for duct and vault installation such as but not limited to couplings, conduit fittings, bends, sweeps, risers, riser attachments, glue, warning tape, spacers, pull string, trace wire, controlled density fill (CDF) and fluidized thermal backfill (FTB). The contractor shall install the conduits and vaults per the contract plans and specifications.
CLICK Networks will require the following lead times:

• 10 Working days lead time for staging materials at project site
• 3 Working days lead time for inspections
• 10 Working days lead time for installing cable
• 10 Working days lead time for cut over work
• 10 Working days lead time for removal of existing facilities
• 5 Working days lead time for any other activities
Once the conduits and vaults have been installed for the entire length of the project and the installation approved by CLICK, CLICK will pull new cable/fiber, energize the system, cut over the new services, de-energize the old system and remove existing facilities.

Notifications Relative to Contractor’s Activities
Contractor shall notify the Engineer, in the manner described below, prior to commencement of the work, and submit to the Engineer:

1. The name(s) of the construction superintendent in responsible charge, and other individuals having full authority to execute the orders or directions of Engineer, in the event of an emergency.
2. The time of the commencement and completion of work.
3. Names of streets or locations of alleys to be closed.
4. Schedule of operations.
5. Routes of detours where possible.
6. Planned utility shutdown times and locations.
7. Construction staging.

Notification shall be written, with a copy delivered to Engineer five (5) days prior to the commencement of work on the project.

Contractor must notify the Engineer, in writing, of all changes to any of the above items during the project.

Contractor shall notify all property owners at least three (3) working days prior to any work that will affect access to the property owner’s property including, but not limited to, construction/reconstruction of the property owner’s driveway, or removal/construction in front of the property owner’s property. The Engineer will be provided a written record of this notification. Failure to provide this notice to property owners or Engineer will preclude the Contractor from working in this area until three (3) working days’ notice has been provided. All costs any time delays due to this lack of notice will be borne by the Contractor.

The Contractor shall attend a mandatory utility preconstruction meeting with the Engineer, all affected Subcontractors, and all utility owners and their Contractors prior to beginning onsite work.

The following addresses and telephone numbers of utility companies or their Contractors that will be adjusting, relocating, replacing, or constructing utilities within the project limits are supplied for the Contractor’s use:

City of Fife Water  CenturyLink
Arthur Gregg  Gary Fallis
Main: (253) 922-9315  Main: (206) 733-8866
Fax: (253) 922-9688  Cell: (206) 344-0349
agregg@cityoffife.org  7850B S. Trafton St Bldg. B
3725 Pacific Highway East  Tacoma, WA 98410
Fife, WA 98424

City of Fife Sanitary Sewer  Comcast
Ken Gill  Jim LeCompte
Existing utilities indicated in the Plans have been plotted from the information available to Engineer. Information and data shown or indicated in the Contract Documents with respect to existing underground utilities or services at or contiguous to the project site are based on information and data furnished to Owner and Engineer by owners of such underground facilities or others, and Owner and Engineer do not assume responsibility for the accuracy or completeness thereof. It is to be understood that other aboveground or underground facilities not shown in the Plans may be encountered during the course of the work. Some of the existing utilities have been potholed. The pothole data is included in Appendix G.

The Contractor shall arrange for TPU to support existing poles that are needed to remain in service to serve TPU customers with cranes or boom trucks where the clear distance between the nearest sides of trench excavations to install new underground utilities and the nearest sides of the poles is less than 3.0 feet. Alternative means to temporarily support these poles may be utilized as approved by the Engineer.

All utility valves, manholes, vaults, or pull boxes which are buried shall be conspicuously marked in a fashion acceptable to the Owner and Engineer by the Contractor to allow their location to be determined by the Engineer or utility personnel under adverse conditions, (inclement weather or darkness).
Where underground utilities, such as water, gas, sewer, electric power, or telephone, are shown on the Plans, the Contractor, for the purpose of preparing his bid, shall assume that every property parcel will be served by a service connection for each type of utility.

Contractor shall check with the utility companies concerning any possible conflict prior to commencing excavation in any area. Contractor shall resolve all crossing and clearance problems with the utility company concerned. No excavation shall begin until all known facilities, in the vicinity of the excavation area, have been located and marked.

In addition to Contractor having all utilities field marked before starting work, Contractor shall have all utilities field marked after they are relocated in conjunction with this project.

Call Before You Dig
The 48 Hour Locators
1-800-424-5555

At least 2 and not more than 10 working days prior to commencing any excavations for utility potholing (per Section 8-05) or for any other purpose under this Contract, Contractor shall notify the Underground Utilities Location Center by telephone of the planned excavation and progress schedule. Contractor is also warned that there may be utilities on the project that are not part of the One Call system. They must be contacted directly by Contractor for locations.

Contractor shall make arrangements 72 hours in advance with respective utility owners to have a representative present when their utility is exposed or modified, if the utility chooses to do so.

Contractor shall be entirely responsible for coordination with the utility companies and arranging for the movement or adjustment, either temporary or permanent, of their facilities within the project limits. See also Section 1-05.14 of these Special Provisions.

If or when utility conflicts occur, Contractor shall continue the construction process on other aspects of the project whenever possible. No additional compensation will be made to Contractor for reason of delay caused by the actions of any utility company and the Contractor shall consider such costs to be incidental to the other items in the Contract. The Contractor shall provide written notification to the Engineer whenever an adjustment to the new sewer line location or grade is known to be required in order to avoid conflicts.

Locations and dimensions shown in the plans for existing buried facilities are in accordance with available information obtained without uncovering, measuring, or other verification. The Contractor shall be responsible for determining their exact location. If the Contractor elects to pothole utilities, the Contractor shall arrange to do this potholing a sufficient time in advance of his construction efforts for pipe excavation, removal, and laying operation to allow adjustments to be made as necessary to avoid conflicts. These arrangements shall include time for review and approval of the potholing by the Engineer.

Public and private utilities, or their contractors, will furnish all work necessary to replace, or construct their facilities unless otherwise provided for in the Plans or these Special Provisions. Such replacement, or construction will be done during the prosecution of the work for this project. The Contractor shall coordinate his work with their work at no cost to the Contracting Agency.
**Interruption of Services**

Whenever in the course of the construction operation it becomes necessary to cause an outage of utilities, it shall be Contractor's responsibility to notify the affected users and Engineer not less than 48 hours in advance of such outage. Contractor shall make reasonable effort to minimize the duration of outages, and shall estimate the length of time service will be interrupted and so notify the users. In the case of any utility outage that has exceeded or will exceed four hours, user contact shall again be made. Temporary service, if needed, will be arranged by Contractor at no cost to Owner.

All cost to Contractor for providing temporary overhead lighting to meet above requirements shall be incidental to the various unit and lump sum items of the Contract; no separate payment will be made.

***

**1-07.18 Public Liability and Property Damage Insurance**

Delete this section in its entirety, and replace it with the following:

**1-07.18 Insurance**

(January 4, 2016 APWA GSP)

### 1-07.18(1) General Requirements

A. The Contractor shall procure and maintain the insurance described in all subsections of section 1-07.18 of these Special Provisions, from insurers with a current A. M. Best rating of not less than A-: VII and licensed to do business in the State of Washington. The Contracting Agency reserves the right to approve or reject the insurance provided, based on the insurer's financial condition.

B. The Contractor shall keep this insurance in force without interruption from the commencement of the Contractor's Work through the term of the Contract and for thirty (30) days after the Physical Completion date, unless otherwise indicated below.

C. If any insurance policy is written on a claims made form, its retroactive date, and that of all subsequent renewals, shall be no later than the effective date of this Contract. The policy shall state that coverage is claims made, and state the retroactive date. Claims-made form coverage shall be maintained by the Contractor for a minimum of 36 months following the Completion Date or earlier termination of this Contract, and the Contractor shall annually provide the Contracting Agency with proof of renewal. If renewal of the claims made form of coverage becomes unavailable, or economically prohibitive, the Contractor shall purchase an extended reporting period (“tail”) or execute another form of guarantee acceptable to the Contracting Agency to assure financial responsibility for liability for services performed.

D. The Contractor's Automobile Liability, Commercial General Liability and Excess or Umbrella Liability insurance policies shall be primary and non-contributory insurance as respects the Contracting Agency's insurance, self-insurance, or self-insured pool coverage. Any insurance, self-insurance, or self-insured pool coverage maintained by the Contracting Agency shall be excess of the Contractor's insurance and shall not contribute with it.
E. The Contractor shall provide the Contracting Agency and all additional insureds with written notice of any policy cancellation, within two business days of their receipt of such notice.

F. The Contractor shall not begin work under the Contract until the required insurance has been obtained and approved by the Contracting Agency.

G. Failure on the part of the Contractor to maintain the insurance as required shall constitute a material breach of contract, upon which the Contracting Agency may, after giving five business days’ notice to the Contractor to correct the breach, immediately terminate the Contract or, at its discretion, procure or renew such insurance and pay any and all premiums in connection therewith, with any sums so expended to be repaid to the Contracting Agency on demand, or at the sole discretion of the Contracting Agency, offset against funds due the Contractor from the Contracting Agency.

H. All costs for insurance shall be incidental to and included in the unit or lump sum prices of the Contract and no additional payment will be made.

1-07.18(2) Additional Insured
All insurance policies, with the exception of Workers Compensation, and of Professional Liability and Builder’s Risk (if required by this Contract) shall name the following listed entities as additional insured(s) using the forms or endorsements required herein:
- the Contracting Agency and its officers, elected officials, employees, agents, and volunteers
  - WSDOT
  - City of Tacoma
The above-listed entities shall be additional insured(s) for the full available limits of liability maintained by the Contractor, irrespective of whether such limits maintained by the Contractor are greater than those required by this Contract, and irrespective of whether the Certificate of Insurance provided by the Contractor pursuant to 1-07.18(4) describes limits lower than those maintained by the Contractor.

For Commercial General Liability insurance coverage, the required additional insured endorsements shall be at least as broad as ISO forms CG 20 10 10 01 for ongoing operations and CG 20 37 10 01 for completed operations.

1-07.18(3) Subcontractors
The Contractor shall cause each Subcontractor of every tier to provide insurance coverage that complies with all applicable requirements of the Contractor-provided insurance as set forth herein, except the Contractor shall have sole responsibility for determining the limits of coverage required to be obtained by Subcontractors.

The Contractor shall ensure that all Subcontractors of every tier add all entities listed in 1-07.18(2) as additional insureds, and provide proof of such on the policies as required by that section as detailed in 1-07.18(2) using an endorsement as least as broad as ISO CG 20 10 10 01 for ongoing operations and CG 20 37 10 01 for completed operations.

Upon request by the Contracting Agency, the Contractor shall forward to the Contracting Agency evidence of insurance and copies of the additional insured endorsements of each Subcontractor of every tier as required in 1-07.18(4) Verification of Coverage.
1-07.18(4) Verification of Coverage
The Contractor shall deliver to the Contracting Agency a Certificate(s) of Insurance and endorsements for each policy of insurance meeting the requirements set forth herein when the Contractor delivers the signed Contract for the work. Failure of Contracting Agency to demand such verification of coverage with these insurance requirements or failure of Contracting Agency to identify a deficiency from the insurance documentation provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

Verification of coverage shall include:
1. An ACORD certificate or a form determined by the Contracting Agency to be equivalent.
2. Copies of all endorsements naming Contracting Agency and all other entities listed in 1-07.18(2) as additional insured(s), showing the policy number. The Contractor may submit a copy of any blanket additional insured clause from its policies instead of a separate endorsement.
3. Any other amendatory endorsements to show the coverage required herein.
4. A notation of coverage enhancements on the Certificate of Insurance shall not satisfy these requirements – actual endorsements must be submitted.

Upon request by the Contracting Agency, the Contractor shall forward to the Contracting Agency a full and certified copy of the insurance policy(s). If Builders Risk insurance is required on this Project, a full and certified copy of that policy is required when the Contractor delivers the signed Contract for the work.

1-07.18(5) Coverages and Limits
The insurance shall provide the minimum coverages and limits set forth below. Contractor’s maintenance of insurance, its scope of coverage, and limits as required herein shall not be construed to limit the liability of the Contractor to the coverage provided by such insurance, or otherwise limit the Contracting Agency’s recourse to any remedy available at law or in equity.

All deductibles and self-insured retentions must be disclosed and are subject to approval by the Contracting Agency. The cost of any claim payments falling within the deductible or self-insured retention shall be the responsibility of the Contractor. In the event an additional insured incurs a liability subject to any policy’s deductibles or self-insured retention, said deductibles or self-insured retention shall be the responsibility of the Contractor.

1-07.18(5A) Commercial General Liability
Commercial General Liability insurance shall be written on coverage forms at least as broad as ISO occurrence form CG 00 01, including but not limited to liability arising from premises, operations, stop gap liability, independent contractors, products-completed operations, personal and advertising injury, and liability assumed under an insured contract. There shall be no exclusion for liability arising from explosion, collapse or underground property damage.

The Commercial General Liability insurance shall be endorsed to provide a per project general aggregate limit, using ISO form CG 25 03 05 09 or an equivalent endorsement.
Contractor shall maintain Commercial General Liability Insurance arising out of the Contractor’s completed operations for at least three years following Substantial Completion of the Work.

Such policy must provide the following minimum limits:

- $1,000,000 Each Occurrence
- $2,000,000 General Aggregate
- $2,000,000 Products & Completed Operations Aggregate
- $1,000,000 Personal & Advertising Injury each offence
- $1,000,000 Stop Gap / Employers’ Liability each accident

1-07.18(5)B Automobile Liability
Automobile Liability shall cover owned, non-owned, hired, and leased vehicles; and shall be written on a coverage form at least as broad as ISO form CA 00 01. If the work involves the transport of pollutants, the automobile liability policy shall include MCS 90 and CA 99 48 endorsements.

Such policy must provide the following minimum limit:

- $1,000,000 Combined single limit each accident

1-07.18(5)C Workers’ Compensation
The Contractor shall comply with Workers’ Compensation coverage as required by the Industrial Insurance laws of the State of Washington.

1-07.18(5)D Excess or Umbrella Liability
(January 4, 2016 APWA GSP)

The Contractor shall provide Excess or Umbrella Liability insurance with limits of not less than $10 million each occurrence and annual aggregate. This excess or umbrella liability coverage shall be excess over and as least as broad in coverage as the Contractor’s Commercial General and Auto Liability insurance.

All entities listed under 1-07.18(2) of these Special Provisions shall be named as additional insureds on the Contractor’s Excess or Umbrella Liability insurance policy.

This requirement may be satisfied instead through the Contractor’s primary Commercial General and Automobile Liability coverages, or any combination thereof that achieves the overall required limits of insurance.

1-07.18(5)J Pollution Liability
(January 4, 2016 APWA GSP)

The Contractor shall provide a Contractors Pollution Liability policy, providing coverage for claims involving bodily injury, property damage (including loss of use of tangible property that has not been physically injured), cleanup costs, remediation, disposal or other handling of pollutants, including costs and expenses incurred in the investigation, defense, or settlement of claims, arising out of any one or more of the following:

- Contractor’s operations related to this project.
• Remediation, abatement, repair, maintenance or other work with lead-based paint or materials containing asbestos.

• Transportation of hazardous materials away from any site related to this project.

All entities listed under 1-07.18(2) of these Special Provisions shall be named by endorsement as additional insureds on the Contractors Pollution Liability insurance policy.

Such Pollution Liability policy shall provide the following minimum limits:

$1,000,000 each loss and annual aggregate

Public Convenience and Safety

Construction Under Traffic

Section 1-07.23(1) is supplemented with the following:

(January 2, 2012 WSDOT GSP)

Work Zone Clear Zone

The Work Zone Clear Zone (WZCZ) applies during working and nonworking hours. The WZCZ applies only to temporary roadside objects introduced by the Contractor’s operations and does not apply to preexisting conditions or permanent Work. Those work operations that are actively in progress shall be in accordance with adopted and approved Traffic Control Plans, and other contract requirements.

During nonworking hours equipment or materials shall not be within the WZCZ unless they are protected by permanent guardrail or temporary concrete barrier. The use of temporary concrete barrier shall be permitted only if the Engineer approves the installation and location.

During actual hours of work, unless protected as described above, only materials absolutely necessary to construction shall be within the WZCZ and only construction vehicles absolutely necessary to construction shall be allowed within the WZCZ or allowed to stop or park on the shoulder of the roadway.

The Contractor’s nonessential vehicles and employees private vehicles shall not be permitted to park within the WZCZ at any time unless protected as described above.

Deviation from the above requirements shall not occur unless the Contractor has requested the deviation in writing and the Engineer has provided written approval.

Minimum WZCZ distances are measured from the edge of traveled way and will be determined as follows:
**Minimum Work Zone Clear Zone Distance**

<table>
<thead>
<tr>
<th>Regulatory Posted Speed</th>
<th>Distance From Traveled Way (Feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>35 mph or less</td>
<td>10 *</td>
</tr>
<tr>
<td>40 mph</td>
<td>15</td>
</tr>
<tr>
<td>45 to 55 mph</td>
<td>20</td>
</tr>
<tr>
<td>60 mph or greater</td>
<td>30</td>
</tr>
</tbody>
</table>

* or 2-feet beyond the outside edge of sidewalk

There shall be no restrictions or interruptions to traffic on the day prior to a holiday or holiday weekend through the last day of the holiday or holiday weekend. Holidays that occur on Friday, Saturday, Sunday or Monday are considered a holiday weekend. A holiday weekend includes Saturday, Sunday and the holiday. If July 4th occurs on a Tuesday, the prior Monday and Friday are considered to be part of a holiday weekend. If July 4th occurs on a Thursday, the following Friday and Monday are considered to be part of a holiday weekend.

Lane restrictions shall be held to a minimum time and length needed for each operation. If the Project Engineer determines that the lane restrictions are causing congestion, the Contractor will be required to open all lanes to traffic until the congestion is eliminated.

Should high volume hours differ from those specified, as determined by the Project Engineer, the Contractor will be required to adjust the hours of work accordingly.

All work activities that require vehicles 10,000 GVW or greater to enter or exit the work area shall be required to use lane restriction and associated work hours. Traffic control vehicles are excluded from the gross vehicle weight requirement.

If placing construction signings will restrict traveled lanes, then the work will be permitted during the hours stated below.

**WSDOT**  
**Lane, Shoulder, Ramp, and Roadway Closures**

Work requiring lane or shoulder restrictions will be permitted only during the following hours (listed in 24 hour format):

1–5 SB Mainline Lane Closure(s):

**Single Lane Closure (Minimum 3 through lanes open):**

<table>
<thead>
<tr>
<th>Day</th>
<th>Start Time</th>
<th>End Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>2100</td>
<td>to Tuesday 0600</td>
</tr>
<tr>
<td>Tuesday</td>
<td>2100</td>
<td>to Wednesday 0600</td>
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<td>Wednesday</td>
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<td>to Thursday 0600</td>
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<td>Thursday</td>
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<tr>
<td>Friday</td>
<td>2300</td>
<td>to Saturday 0800</td>
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<tr>
<td>Saturday</td>
<td>2300</td>
<td>to Sunday 0900</td>
</tr>
<tr>
<td>Sunday</td>
<td>2100</td>
<td>to Monday 0600</td>
</tr>
</tbody>
</table>

**Double Lane Closure (Minimum 2 through lanes open):**

<table>
<thead>
<tr>
<th>Day</th>
<th>Start Time</th>
<th>End Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>2300</td>
<td>to Tuesday 0600</td>
</tr>
<tr>
<td>Tuesday</td>
<td>2300</td>
<td>to Wednesday 0600</td>
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<tr>
<td>Day</td>
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<tr>
<td>Monday</td>
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<tr>
<td>Sunday</td>
<td>2300</td>
<td>Monday</td>
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</tbody>
</table>

**Triple Lane Closure (Minimum 1 through lanes open):**

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Day</th>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td>Monday</td>
<td>0100</td>
<td>Monday</td>
<td>0500</td>
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<tr>
<td>Tuesday</td>
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<tr>
<td>Sunday</td>
<td>0130</td>
<td>Monday</td>
<td>0500</td>
</tr>
</tbody>
</table>

**I-5 SB Ramp Closure with Detour:**

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Day</th>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td>Monday</td>
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<td>2300</td>
<td>Monday</td>
<td>0500</td>
</tr>
</tbody>
</table>

**I-5 SB Extended Ramp Closure with Detour**

(I-5 SB off-ramp or I-5 SB on-ramp):

The Contractor will be permitted Two (2) extended weekend ramp closures, (1) per ramp, for final tie-ins of the new Ramp alignment.

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<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Day</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friday</td>
<td>2400</td>
<td>Monday</td>
<td>0500</td>
</tr>
</tbody>
</table>

Notification of this closure shall be submitted in writing to the Project Engineer a minimum of 30 calendar days in advance of the begin and end of the closure.

**Port of Tacoma Road Lane Closure(s) within WSDOT Right of Way:**

**Single Lane Closure (Minimum 1 lane open in each direction):**

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<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Day</th>
<th>Time</th>
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</thead>
<tbody>
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<td>Monday</td>
<td>0500</td>
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</tbody>
</table>

Notification of this closure shall be submitted in writing to the Project Engineer a minimum of 7 calendar days in advance of the begin and end of the closure.
**General Restrictions** - Exceptions to these restrictions may be considered by the Project Engineer on a case by case basis following a written request by the Contractor.

No shoulder closure operations will be allowed between the hours of 6:00am to 9:00am and 3:00pm to 6:00pm daily.

There shall be no delay to medical, fire, police, or other emergency vehicles with flashing lights or sirens. The Contractor shall alert all flaggers and personnel of this requirement.

Only one ramp at an interchange may be closed at a time.

No two consecutive on-ramps shall be closed at the same time, and no two consecutive off-ramps shall be closed at the same time.

Roads or ramps that are designated as part of a Detour shall not be closed or restricted during the implementation of that detour.

Multiple Detours shall not be implemented at the same time if the detour signing or detour routes conflict. If Multiple Detours are allowed at the same time, the Traffic Control Devices shall be coordinated for the site conditions of the closures. Contractor shall coordinate with other contractors in adjacent work zones so concurrent closures do not conflict or overwhelm the route during the shown closure hours. Closure hours may need adjusting if more than 1 closure is needed concurrently.

All channelization for lane shifts, per direction of travel, shall be completed within the same work shift.

Special events that generate increased traffic volumes through the work area may occur during the life of this project. Lane restrictions may be denied if severe traffic congestion is expected.

Miscellaneous scheduled special events are as follows:
  - Washington State Fairgrounds – Fall Fair

**Notifications**

The Contractor shall install advance notification signing (7) calendar days in advance of ramp or roadway closure(s) that require a detour or involves a major traffic switch to a temporary or new alignment, unless specifically shown otherwise in these Specials, the plans, or approved in writing by the Project Engineer. The Advance notice sign shall include the month and date of the closure, the closing time to opening time, and be legible from a minimum distance of 500’.

The Contractor shall notify the Project Engineer a minimum of (7) calendar days prior to any lane, ramp, or sidewalk closures, or flagging operations, unless specifically noted otherwise in these Specials, the plans, or approved in writing by the Project Engineer.
City of Fife

Lane Closure Restrictions

- 34th Street East will be restricted to one-way northbound for local traffic only from Pacific Highway to 12th St East
- One northbound lane of traffic on 34th Street East from Pacific Highway to 12th St East and westbound on 12th St East from 34th Street East to Port of Tacoma Road will be maintained at all times for local traffic.
- Lateral utility or other trenches across 34th Street East and/or 12th St East shall be constructed so that one lane of traffic can reach the Port of Tacoma Road or Pacific Highway at all times.
- 12th St East will be restricted to one way westbound for local traffic only from 34th Street East to Port of Tacoma Road
- Access from Love’s Truck Stop onto 12th Street East shall be maintained until access from Love’s Truck Stop onto 34th Ave East has been provided.
- Pacific Highway restrictions:
  - Single lane open to traffic in each direction allowed during the following hours:
    - Sunday to Thursday 2100 to 0500
    - Friday to Saturday 2200 to 0700
  - All other times, two lanes of traffic in each direction shall be maintained.

City of Tacoma

Lane Closure Restrictions

- Port of Tacoma Road shall have one northbound through lane and two southbound through / left turn lanes maintained at all times at the intersection of 12th Street and Port of Tacoma Road.

(April 14, 2014)

Physical reductions of the width of thru travelling lanes are subject to the following restrictions:

The Contractor shall not reduce the travelled way to a single lane with a clear width of less than 16 feet for a duration that exceeds 4 calendar days without prior approval of the Engineer. The Contractor shall submit a request for a width reduction that exceeds 4 calendar days to the Engineer no later than 30 calendar days prior to the start of the proposed width reduction. At a minimum, this request shall include:

1. Schedule showing the planned beginning date and end date of the width reduction.
2. Plans showing the limits and cross-sections showing the clear distance provided during the width reduction.
3. Details of available detour routes.
4. Plan to provide temporary windows of a minimum 16 foot width periodically during the width reduction, where possible.

The Engineer will reply, in writing, to the request within 7 calendar days. The Contractor shall immediately notify the Engineer if there are any changes to the schedule for the width reduction.
Delete this section and replace it with the following:

Street Right of Way lines, limits of easements, and limits of construction permits are indicated in the Plans. The Contractor’s construction activities shall be confined within these limits, unless arrangements for use of private property are made.

Generally, the Contracting Agency will have obtained, prior to bid opening, all rights of way and easements, both permanent and temporary, necessary for carrying out the work. Exceptions to this are noted in the Bid Documents or will be brought to the Contractor’s attention by a duly issued Addendum.

Whenever any of the work is accomplished on or through property other than public Right of Way, the Contractor shall meet and fulfill all covenants and stipulations of any easement agreement obtained by the Contracting Agency from the owner of the private property. Copies of the easement agreements may be included in the Contract Provisions or made available to the Contractor as soon as practical after they have been obtained by the Engineer.

Whenever easements or rights of entry have not been acquired prior to advertising, these areas are so noted in the Plans. The Contractor shall not proceed with any portion of the work in areas where right of way, easements or rights of entry have not been acquired until the Engineer certifies to the Contractor that the right of way or easement is available or that the right of entry has been received. If the Contractor is delayed due to acts of omission on the part of the Contracting Agency in obtaining easements, rights of entry or right of way, the Contractor will be entitled to an extension of time. The Contractor agrees that such delay shall not be a breach of contract.

Each property owner shall be given 48 hours notice prior to entry by the Contractor. This includes entry onto easements and private property where private improvements must be adjusted.

The Contractor shall be responsible for providing, without expense or liability to the Contracting Agency, any additional land and access thereto that the Contractor may desire for temporary construction facilities, storage of materials, or other Contractor needs. However, before using any private property, whether adjoining the work or not, the Contractor shall file with the Engineer a written permission of the private property owner, and, upon vacating the premises, a written release from the property owner of each property disturbed or otherwise interfered with by reasons of construction pursued under this contract. The statement shall be signed by the private property owner, or proper authority acting for the owner of the private property affected, stating that permission has been granted to use the property and all necessary permits have been obtained or, in the case of a release, that the restoration of the property has been satisfactorily accomplished. The statement shall include the parcel number, address, and date of signature. Written releases must be filed with the Engineer before the Completion Date will be established.
1-08 PROSECUTION AND PROGRESS

Add the following new section:

1-08.0 Preliminary Matters
(May 25, 2006 APWA GSP)

Add the following new section:

1-08.0(1) Preconstruction Conference
(October 10, 2008 APWA GSP)

Prior to the Contractor beginning the work, a preconstruction conference will be held between the Contractor, the Engineer and such other interested parties as may be invited. The purpose of the preconstruction conference will be:

1. To review the initial progress schedule;
2. To establish a working understanding among the various parties associated or affected by the work;
3. To establish and review procedures for progress payment, notifications, approvals, submittals, etc.
4. To establish normal working hours for the work;
5. To review safety standards and traffic control; and
6. To discuss such other related items as may be pertinent to the work.

The Contractor shall prepare and submit at the preconstruction conference the following:

1. A breakdown of all lump sum items;
2. A preliminary schedule of working drawing submittals; and
3. A list of material sources for approval if applicable.

Add the following new section:

1-08.0(2) Hours of Work
(December 8, 2014 APWA GSP)

Except in the case of emergency or unless otherwise approved by the Engineer, the normal working hours for the Contract shall be any consecutive 8-hour period between 7:00 a.m. and 6:00 p.m. Monday through Friday, exclusive of a lunch break. If the Contractor desires different than the normal working hours stated above, the request must be submitted in writing prior to the preconstruction conference, subject to the provisions below. The working hours for the Contract shall be established at or prior to the preconstruction conference.

All working hours and days are also subject to local permit and ordinance conditions (such as noise ordinances).

If the Contractor wishes to deviate from the established working hours, the Contractor shall submit a written request to the Engineer for consideration. This request shall state what hours are being requested, and why. Requests shall be
submitted for review no later than 72 hours prior to the day(s) the Contractor is requesting to change the hours.

If the Contracting Agency approves such a deviation, such approval may be subject to certain other conditions, which will be detailed in writing. For example:

1. On non-Federal aid projects, requiring the Contractor to reimburse the Contracting Agency for the costs in excess of straight-time costs for Contracting Agency representatives who worked during such times. (The Engineer may require designated representatives to be present during the work. Representatives who may be deemed necessary by the Engineer include, but are not limited to: survey crews; personnel from the Contracting Agency’s material testing lab; inspectors; and other Contracting Agency employees or third party consultants when, in the opinion of the Engineer, such work necessitates their presence.)

2. Considering the work performed on Saturdays, Sundays, and holidays as working days with regard to the contract time.

3. Considering multiple work shifts as multiple working days with respect to contract time even though the multiple shifts occur in a single 24-hour period.

4. If a 4-10 work schedule is requested and approved the non-working day for the week will be charged as a working day.

5. If Davis Bacon wage rates apply to this Contract, all requirements must be met and recorded properly on certified payroll

Subcontracting
Section 1-08.1 is supplemented with the following:

(October 12, 1998 WSDOT GSP)
Prior to any subcontractor or lower tier subcontractor beginning work, the Contractor shall submit to the Engineer a certification (WSDOT Form 420-004 EF) that a written agreement between the Contractor and the subcontractor or between the subcontractor and any lower tier subcontractor has been executed. This certification shall also guarantee that these subcontract agreements include all the documents required by the Special Provision Federal Agency Inspection.

A Subcontractor or lower tier Subcontractor will not be permitted to perform any work under the contract until the following documents have been completed and submitted to the Engineer:

1. Request to Sublet Work (Form 421-012 EF), and
2. Contractor and Subcontractor or Lower Tier Subcontractor Certification for Federal-aid Projects (Form 420-004 EF).

The Contractor's records pertaining to the requirements of this Special Provision shall be open to inspection or audit by representatives of the Contracting Agency during the life of the contract and for a period of not less than three years after the date of acceptance of the contract. The Contractor shall retain these records for that period. The Contractor shall also guarantee that these records of all Subcontractors and lower tier Subcontractors shall be available and open to similar inspection or audit for the same time period.
The Contractor shall submit a preliminary Type B Progress Schedule and Projected Progress Payments schedule at or prior to the preconstruction conference. The preliminary Type B Progress Schedule shall comply with all of these requirements and the requirements of Section 1-08.3(1), except that it may be limited to only those activities occurring within the first 60-working days of the project.

The Projected Progress Payments schedule shall be a breakdown of estimated costs on a monthly basis for the duration of the project. The file format shall be submitted electronically in excel. The Contractor shall update and submit the Projected Progress Payments schedule with each schedule update.

The Contractor shall submit 3 copies of a Type B Progress Schedule no later than 21-calendar days after the preconstruction conference.

1-08.3(5) Payment

Revise the first four paragraphs in Section 1-08.3(5) to read:

(******)

Payment will be made for the following Bid items.

Bid Schedule A - “Type B Progress Schedule”, lump sum
Bid Schedule B - “Type B Progress Schedule”, lump sum

The lump sum price for Type B Progress Schedule shall be full pay for all costs for furnishing the Type B Progress Schedule and preliminary Type B Progress Schedule. Payment for the Type B Progress Schedule will be provided in the two pay items listed above.

Payment of 80 percent of the lump sum price will be made upon approval of the Progress Schedule.

Payment will be increased to 100 percent of the lump sum price upon completion of 80 percent of the original Contract Award amount.

1-08.4 Prosecution of Work

Delete this section and replace it with the following:

1-08.4 Notice to Proceed and Prosecution of Work

(******)

Notice to Proceed will be given after the contract has been executed and the contract bond and evidence of insurance have been approved and filed by the Contracting Agency. The Contractor shall not commence with the work until the Notice to Proceed has been given by the Engineer. The Contractor shall commence construction activities on the
project site within ten days of the Notice to Proceed Date, unless otherwise approved in writing. Voluntary shutdown or slowing of operations by the Contractor shall not relieve the Contractor of the responsibility to complete the work within the time(s) specified in the contract.

When shown in the Plans, the first order of work shall be the installation of high visibility fencing to delineate all areas for protection or restoration, as described in the Contract. Installation of high visibility fencing adjacent to the roadway shall occur after the placement of all necessary signs and traffic control devices in accordance with 1-10.1(2). Upon construction of the fencing, the Contractor shall request the Engineer to inspect the fence. No other work shall be performed on the site until the Contracting Agency has accepted the installation of high visibility fencing, as described in the Contract.

Section 1-08.4 is supplemented with the following:

The Work has been divided into payment schedules. Work within the City of Fife Right-of-Way (and City of Tacoma right-of-way at 12th Street E and Port of Tacoma Road) are identified in Bid Schedules A, C, D & F. Work within the WSDOT right-of-way are identified in Bid Schedules B & E.

Work within the City of Fife right-of-way including Pacific Highway, 34th Ave E and 12th St E has been coordinated with a project to redevelop Love’s Truck Stop. Love’s Truck Stop will be closed during their 8-month reconstruction work. It will be beneficial to the City’s road project and to traffic congestion on 34th Ave E and 12th St E to have as much of the Work as possible within the City of Fife right-of-way completed during the same time Love’s Truck Stop is closed. Therefore, Work in the City right-of-way has been coordinated to maximize the overlap with the reconstruction of Love’s Truck Stop. Accordingly, an interim completion date for this work has been established in Section 1-08.5.

1-08.5 Time for Completion
(September 12, 2016 APWA GSP, Option A)

Revise the third and fourth paragraphs to read:

Contract time shall begin on the first working day following the Notice to Proceed Date.

Each working day shall be charged to the contract as it occurs, until the contract work is physically complete. If substantial completion has been granted and all the authorized working days have been used, charging of working days will cease. Each week the Engineer will provide the Contractor a statement that shows the number of working days: (1) charged to the contract the week before; (2) specified for the physical completion of the contract; and (3) remaining for the physical completion of the contract. The statement will also show the nonworking days and any partial or whole day the Engineer declares as unworkable. Within 10 calendar days after the date of each statement, the Contractor shall file a written protest of any alleged discrepancies in it. To be considered by the Engineer, the protest shall be in sufficient detail to enable the Engineer to ascertain the basis and amount of time disputed. By not filing such detailed protest in that period, the Contractor shall be deemed as having accepted the statement as correct. If the Contractor is approved to work 10 hours a day and 4 days a week (a 4-10 schedule) and the fifth day of the week in which a 4-10 shift is worked would ordinarily be
charged as a working day then the fifth day of that week will be charged as a working
day whether or not the Contractor works on that day.

Revise the sixth paragraph to read:

The Engineer will give the Contractor written notice of the completion date of the contract
after all the Contractor’s obligations under the contract have been performed by the
Contractor. The following events must occur before the Completion Date can be
established:

1. The physical work on the project must be complete; and

2. The Contractor must furnish all documentation required by the contract and required
by law, to allow the Contracting Agency to process final acceptance of the contract.
The following documents must be received by the Project Engineer prior to
establishing a completion date:

a. Certified Payrolls (per Section 1-07.9(5)).
b. Material Acceptance Certification Documents
c. Monthly Reports of Amounts Credited as DBE Participation, as required by the
d. Final Contract Voucher Certification
e. Copies of the approved “Affidavit of Prevailing Wages Paid” for the Contractor
and all Subcontractors
f. Property owner releases per Section 1-07.24

Section 1-08.5 is supplemented with the following:

(******)

The Contract work shall be physically complete within 530 working days from NTP.

The Contract work under Bid Schedules A, C, D and F shall be substantially complete by
15 October 2019. Love’s Truck Stop has a construction project to reconfigure their facility
during which their facility will be closed. The duration of their construction is estimated to
be about 8 months. This completion date maximizes the overlap in construction with
Love’s project and allots sufficient time for third party utilities and the City electrical
contractor to complete their work. Installation of the traffic signal at 34th Ave E and Pacific
Highway is to be complete, but the signal is not to be activated until the I-5 southbound
off-ramp tying into this intersection is complete.

Item number 2 of the sixth paragraph of Section 1-08.5 is supplemented with the following:

(January 5, 2015 WSDOT GSP)

f. A copy of the Notice of Termination sent to the Washington State Department of
Ecology (Ecology); the elapse of 30 calendar days from the date of receipt of the
Notice of Termination by Ecology; and no rejection of the Notice of Termination by
Ecology. This requirement will not apply if the Construction Stormwater General
Permit is transferred back to the Contracting Agency in accordance with Section 8-
01.3(16)
1-08.9 Liquidated Damages

(******)

Revise the fourth paragraph to read:

When the Contract Work has progressed to Substantial Completion as defined in the Contract, the Engineer may determine that the work is Substantially Complete. The Engineer will notify the Contractor in writing of the Substantial Completion Date. For overruns in Contract time occurring after the date so established, the formula for liquidated damages shown above will not apply. For overruns in Contract time occurring after the Substantial Completion Date, liquidated damages shall be assessed on the basis of direct engineering and related costs assignable to the project until the actual Physical Completion Date of all the Contract Work. The Contractor shall complete the remaining Work as promptly as possible. Upon request by the Project Engineer, the Contractor shall furnish a written schedule for completing the physical Work on the Contract.

Section 1-08.9 is supplemented with the following:

Delayed completion of work under Bid Schedules A, C, D and F will result in impacts to the City of Fife, added congestion along 34th Ave E and 12th Street East, added congestion exiting Love’s Truck Stop, increased fuel consumption, increased vehicle operating costs, increased pollution, and cause other inconveniences and harm.

Accordingly, the Contractor agrees:

1. To pay $3,000 liquidated damages per day for each day prorated to the nearest day that the work is not completed as specified in Section 1-08.5

2. To authorize the Engineer to deduct these liquidated damages from any money due or coming due the Contractor.

(******)

Traffic Signal Operation Impacts

Planned and unplanned disruptions to Traffic Signal System operations will result in impacts to the traveling public, increase fuel consumption, vehicle operating costs, pollution, and other inconveniences due to inefficient operation of the affected Traffic Signal Systems.

Accordingly, the Contractor agrees to authorize the Project Engineer to deduct from any money due or coming due to the Contractor the following interim liquidated damages for failure to restore normal Traffic Signal System operations:

$500.00 liquidated damages per 15 minutes for each 15 minute period (prorated to nearest 5 minutes) that any Traffic Signal System detector (loop or video camera) is disabled beyond the time allotment as specified in the Special Provision INDUCTION LOOP VEHICLE DETECTORS.
$500.00 liquidated damages per 15 minutes for each 15 minute period (prorated to nearest 5 minutes) beyond 48 hours that the Contractor fails to restore all Traffic Signal System detection following an unplanned disruption.

(******)

Failure to Open Lanes and Roadway

The closure of lanes on Interstate 5 and ramps R1 13639 and SR 13569 will result in impacts to the traveling public, increase fuel consumption, increase vehicle operating costs, increase pollution, and cause other inconveniences and harm.

Accordingly, the Contractor agrees to authorize the Engineer to deduct from any money due or coming due to the Contractor the following interim liquidated damages for failure to open the traveled way as specified:

1. To pay $8,000 liquidated damages per 15 minutes for each fifteen-minute period prorated to the nearest five minutes that all lanes of SR 5 SB are not open by the scheduled opening time following a lane closure.

2. To pay $150 liquidated damages per 15 minutes for each fifteen-minute period prorated to the nearest five minutes that ramp R1 13639 is not open by the scheduled opening time following a nightly ramp closure.

3. To pay $200 liquidated damages per 15 minutes per ramp for each fifteen-minute period prorated to the nearest five minutes that an extended closure of ramp R1 13639 or ramp S1 13569 continues beyond the scheduled opening time.

(******)

ITS Impacts

Planned and unplanned disruptions to Intelligent Transportation System (ITS) equipment will result in traffic impacts. These cause delays to the traveling public, reduce the effective operation of the state highway system, delay incident response and verification, complicate travel planning, and other inconveniences.

Accordingly, the Contractor agrees to authorize the Project Engineer to deduct from any money due or coming due to the Contractor the following interim liquidated damages for failure to restore normal ITS operations:

$250.00 liquidated damages per 15 minutes for each 15 minute period (prorated to nearest 5 minutes) that the Fiber Optic communication link is disabled beyond the time allotment as specified in the Special Provision EXISTING SYSTEM DISRUPTION AND RESTORATION.

$250.00 liquidated damages per 15 minutes for each 15 minute period that the Contractor fails to restore the proper operation of the existing ITS system following an unplanned disruption.
1-09 MEASUREMENT AND PAYMENT

1-09.6 Force Account

(October 10, 2008 APWA GSP)

Supplement this section with the following:

The Contracting Agency has estimated and included in the Proposal, dollar amounts for all items to be paid per force account, only to provide a common proposal for Bidders. All such dollar amounts are to become a part of Contractor’s total bid. However, the Contracting Agency does not warrant expressly or by implication, that the actual amount of work will correspond with those estimates. Payment will be made on the basis of the amount of work actually authorized by Engineer.

Payment For Material On Hand

The last paragraph of Section 1-09.8 is revised to read:

(August 3, 2009 WSDOT GSP)

The Contracting Agency will not pay for material on hand when the invoice cost is less than $2,000. As materials are used in the work, credits equaling the partial payments for them will be taken on future estimates. Each month, no later than the estimate due date, the Contractor shall submit a letter to the Project Engineer that clearly states: 1) the amount originally paid on the invoice (or other record of production cost) for the items on hand, 2) the dollar amount of the material incorporated into each of the various work items for the month, and 3) the amount that should be retained in material on hand items. If work is performed on the items and the Contractor does not submit a letter, all of the previous material on hand payment will be deducted on the estimate. Partial payment for materials on hand shall not constitute acceptance. Any material will be rejected if found to be faulty even if partial payment for it has been made.

1-09.9 Payments

(March 13, 2012 APWA GSP)

Supplement this section with the following:

Lump sum item breakdowns are not required when the bid price for the lump sum item is less than $20,000.

Delete the first four paragraphs and replace them with the following:

The basis of payment will be the actual quantities of Work performed according to the Contract and as specified for payment.

The Contractor shall submit a breakdown of the cost of lump sum bid items at the Preconstruction Conference, to enable the Project Engineer to determine the Work performed on a monthly basis. A breakdown is not required for lump sum items that include a basis for incremental payments as part of the respective Specification. Absent a lump sum breakdown, the Project Engineer will make a determination based on information available. The Project Engineer’s determination of the cost of work shall be final.
Progress payments for completed work and material on hand will be based upon progress estimates prepared by the Engineer. A progress estimate cutoff date will be established at the preconstruction conference.

The initial progress estimate will be made not later than 30 days after the Contractor commences the work, and successive progress estimates will be made every month thereafter until the Completion Date. Progress estimates made during progress of the work are tentative, and made only for the purpose of determining progress payments. The progress estimates are subject to change at any time prior to the calculation of the final payment.

The value of the progress estimate will be the sum of the following:

1. Unit Price Items in the Bid Form — the approximate quantity of acceptable units of work completed multiplied by the unit price.
2. Lump Sum Items in the Bid Form — based on the approved Contractor’s lump sum breakdown for that item, or absent such a breakdown, based on the Engineer’s determination.
3. Materials on Hand — 100 percent of invoiced cost of material delivered to Job site or other storage area approved by the Engineer.
4. Change Orders — entitlement for approved extra cost or completed extra work as determined by the Engineer.

Progress payments will be made in accordance with the progress estimate less:

1. Retainage per Section 1-09.9(1), on non FHWA-funded projects;
2. The amount of progress payments previously made; and
3. Funds withheld by the Contracting Agency for disbursement in accordance with the Contract Documents.

Progress payments for work performed shall not be evidence of acceptable performance or an admission by the Contracting Agency that any work has been satisfactorily completed. The determination of payments under the contract will be final in accordance with Section 1-05.1.

Retainage
Section 1-09.9(1) content and title is deleted and replaced with the following:

(June 27, 2011 WSDOT GSP)
Vacant

Disputes and Claims
Section 1-09.11 is revised to read:

1-09.11(3) Time Limitation and Jurisdiction
(July 23, 2015 APWA GSP)

Revise this section to read:
For the convenience of the parties to the Contract it is mutually agreed by the parties that any claims or causes of action which the Contractor has against the Contracting Agency arising from the Contract shall be brought within 180 calendar days from the date of final acceptance (Section 1-05.12) of the Contract by the Contracting Agency; and it is further agreed that any such claims or causes of action shall be brought only in the Superior Court of the county where the Contracting Agency headquarters is located, provided that where an action is asserted against a county, RCW 36.01.05 shall control venue and jurisdiction. The parties understand and agree that the Contractor’s failure to bring suit within the time period provided, shall be a complete bar to any such claims or causes of action. It is further mutually agreed by the parties that when any claims or causes of action which the Contractor asserts against the Contracting Agency arising from the Contract are filed with the Contracting Agency or initiated in court, the Contractor shall permit the Contracting Agency to have timely access to any records deemed necessary by the Contracting Agency to assist in evaluating the claims or action.

1-09.13(3) Claims $250,000 or Less
(October 1, 2005 APWA GSP)

Delete this section and replace it with the following:

The Contractor and the Contracting Agency mutually agree that those claims that total $250,000 or less, submitted in accordance with Section 1-09.11 and not resolved by nonbinding ADR processes, shall be resolved through litigation unless the parties mutually agree in writing to resolve the claim through binding arbitration.

1-09.13(3)A Administration of Arbitration
(July 23, 2015 APWA GSP)

Revise the third paragraph to read:

The Contracting Agency and the Contractor mutually agree to be bound by the decision of the arbitrator, and judgment upon the award rendered by the arbitrator may be entered in the Superior Court of the county in which the Contracting Agency’s headquarters is located, provided that where claims subject to arbitration are asserted against a county, RCW 36.01.05 shall control venue and jurisdiction of the Superior Court. The decision of the arbitrator and the specific basis for the decision shall be in writing. The arbitrator shall use the Contract as a basis for decisions.

1-10 TEMPORARY TRAFFIC CONTROL

1-10.2 Traffic Control Management

General
Section 1-10.2(1) is supplemented with the following:

(January 3, 2017 WSDOT GSP)
Only training with WSDOT TCS card and WSDOT training curriculum is recognized in the State of Washington. The Traffic Control Supervisor shall be certified by one of the following:

The Northwest Laborers-Employers Training Trust
27055 Ohio Ave.
Kingston, WA 98346
(360) 297-3035

Evergreen Safety Council
12545 135th Ave. NE
Kirkland, WA 98034-8709
1-800-521-0778

The American Traffic Safety Services Association
15 Riverside Parkway, Suite 100
Fredericksburg, Virginia 22406-1022
Training Dept. Toll Free (877) 642-4637
Phone: (540) 368-1701

(January 5, 2015)
The primary TCS shall have a minimum of 500 hours of experience providing traffic control as a TCS or traffic control labor on multilane highways with a speed limit of 55 mph or greater. The Contractor shall submit a certification of the TCS's experience with the TCS designation. Documentation of experience shall be available upon request by the Project Engineer.

Traffic Control Management
Section 1-10.2(1)A is supplemented with the following:

Work on this Project will impact Pierce Transit facilities. Impacts include access to bus stops, pullouts, or shelters, and signing. The Contractor shall notify the Project Engineer 10 working days prior to the date when each transit facility will be affected.

1-10.3 Traffic Control Labor, Procedures, and Devices
1-10.3(1) Traffic Control Labor

1-10.3(1)A Flaggers
Section 1-10.3(1)A is supplemented with the following:

Traffic stops during daytime hours for tree falling shall be five minutes or less.
Short term traffic stops during daytime hours for truck ingress/egress shall be one minute or less.
DIVISION 2 - EARTHWORK

2-02 REMOVAL OF STRUCTURES AND OBSTRUCTIONS

2-02.3 Construction Requirements
Section 2-02.3 is supplemented with the following:

(February 17, 1998 WSDOT GSP)
Removal of Obstructions

***
The Contractor shall remove and dispose of all items shown on the site preparation plans and other minor items necessary to complete the work. The following partial list of items to be removed and disposed of is provided for the convenience of the contractor. The contractor shall review the plans, specifications and project site to verify other items to be removed.

Schedule A:
- 12 In. Pipe 1952 LF
- 15 In. Pipe 23 LF
- 10 In. Pipe 46 LF
- 8 In. Pipe 21 LF
- 6 In. Culvert 12 LF
- Wheel Blocks 24 EA
- Gravity Block Wall Block 26 EA
- SEW Retaining Wall Block 1,101 SF
- Sign – Single Post 17 EA
- Drainage Structures 18 EA
- Remove and Replace Structure 2 EA
- Remove Gas Line 772 LF
- The Contractor shall anticipate buried rubblized concrete roadway under existing pavement at Pacific Hwy E. as shown in the plans. Approximate thickness of the existing rubblized concrete is 8-inches.
- Payment for removal of pipe and drainage structures includes excavation necessary for removal and backfilling with gravel borrow up to the subgrade elevation shown on the plans.

Schedule B:
- 24 In.Pipe 113 LF
- 12 In. Pipe 306 LF
- 8 In. Pipe 43 LF
- 36 In. CMP 45 LF
- 24 In. CMP 247 LF
- 12 In. CMP 48
- 18 In. Culvert 18 LF
- Sign – Single Post 34 EA
- Sign – Double Post 3 EA
- Sign – Triple Post 1 EA
- Drainage Structures 6 EA
- Remove and Replace Structure 1 EA
- Remove End Wall 8 EA
- Remove Trash Rack 1 EA
- SEW Retaining Wall Block 4,480 SF
- SEW Traffic Barrier 570 LF

Payment for removal of pipe and drainage structures includes backfilling the area excavated with gravel borrow up to the subgrade elevation shown on the plans.

Schedule C:
- Sign – Single Post 1 EA

Schedule D:
- Abandon or remove existing asbestos cement water main at 34th Avenue E as necessary to construct proposed utilities.
- Abandon in place and fill with CDF existing 8 inch hydrant lateral at the intersection of Pacific Highway and 34th Avenue E.
- Abandon in place and fill with CDF existing 2 inch meter service at the intersection of Pacific Highway and 34th Avenue E.

***

(* *****)

Removal and Disposal of Hazardous Material

There are two cases for hazardous material on this project. There is one area (defined below and on the plans) where the Contractor shall expect to encounter hazardous material because hazardous material was encountered during preconstruction environmental testing. There are also multiple adjacent properties where environmental research indicates an increased potential for encountering hazardous material. These areas and/or properties are noted in the SWPPP. These areas are noted for the Contractor’s information only. Other than the area noted where the Contractor shall expect to encounter hazardous materials, no other areas (regardless of the notation for increased potential or not) shall require special consideration for excavation and disposal of soil and/or dewatering unless visual or odor evidence indicates the possible presence of contaminated soil or water.

The approximate limits of where the Contractor shall expect to encounter contaminated soil and groundwater is within an area approximately bounded by D-Line Station 26+50, 35-feet left, D-Line Station 28+50, 35-feet left, D-Line Station 28+50, 10-feet right, and D-Line Station 26+50, 35-feet right. The site history, prior studies and/or test results indicate a potential for encountering *** gasoline range organics, diesel range organics, VOCs, and RCRA 8 metals ***.

The Contracting Agency has prepared a Hazardous Waste Management Plan to identify procedures and potential staging areas for hazardous waste (soil) and possible contaminated water. This plan is included in Appendix H. Copies of the environmental testing reports are part of this plan and are included in Appendix H. Prior to beginning any excavation, the Contractor shall submit his Hazardous Waste Management Plan to the Engineer for approval. The Contractor is responsible for all work, records, and reports required to perform the work described in this section. The Contractor will perform all testing of suspected hazardous or contaminated material.

The Contractor shall notify the Engineer 10 working days prior to beginning work in the area identified above. The Contractor shall notify the Engineer immediately if contamination is discovered in areas outside of the one identified through observations such as an oily sheen or odors.
**Contaminated Soil and Hazardous Material**

For the area where contaminated soil is expected to be encountered and designated on the plans as contaminated, and any other areas where visual or odor evidence indicates the possibility of contamination, the Engineer will determine the limits of excavation required. All material that is designated by the Engineer to be removed shall be handled and stored in a manner that prevents the spread of contamination to adjacent soil or water. Separate stockpiles shall be maintained for known and/or suspected hazardous or contaminated material. The Contractor shall be responsible for testing this stockpiled soil and shall provide the results to the Engineer. Soil tested with results below MTCA Method A Soil Cleanup Levels for Unrestricted Sites (use WAC 173-340-900-Table 740-1), can be disposed of in accordance with the NPDES Permit and City of Tacoma or City of Fife Sewer Discharge Permit. The Contractor shall transport hazardous or contaminated material and dispose of it at a permitted facility. The Contractor shall provide the Engineer with a copy of the shipping manifest or bill of lading indicating the amount of material hauled to disposal, and bearing the disposal site operator’s confirmation for receipt of the material.

**Contaminated Water**

All water that is removed from the area listed above where the Contractor shall expect to encounter contaminated soil and groundwater and all areas of excavation where visual or odor evidence indicates the possibility of contamination, including free water that leaches from contaminated soil stockpiles or water that is suspected of being contaminated, shall be collected, handled and stored in a manner that prevents the spread of contamination to adjacent soil or water. The Contractor shall treat and dispose of contaminated water with results above MTCA Method A Soil Cleanup levels for Groundwater (use WAC 173-340-900-Table 720-1), in accordance with Section 2-10 of the Special Provisions.

**Removal of Pavement, Sidewalks, Curbs, and Gutters**

Section 2-02.3(3) is supplemented with the following:

(September 8, 1997 WSDOT GSP)

The approximate thickness of the *** asphalt concrete *** pavement is *** 8 inches ***.

(******)

Where shown in the plans or where designated by the Engineer, the Contractor shall remove asphalt concrete pavement.

Prior to removal, the Contractor shall make a full-depth sawcut to delineate the areas of pavement removal from those areas of pavement to remain. The Engineer shall approve the equipment and procedures used to make the full-depth sawcut. No wastewater from the sawcutting operation shall be released directly to any stream or storm sewer system.

The removed pavement shall become the property of the Contractor and shall be removed from the project. Damage caused to portions of the pavement to remain, due to the Contractor’s operation, shall be repaired by the Contractor at the Contractor’s expense and to the satisfaction of the Engineer.
2-02.4 Measurement
Section 2-02.4 is supplemented with the following:

(September 8, 1997 WSDOT GSP)
Pavement removal will be measured by the square yard.

(October 25, 1999 WSDOT GSP)
Sidewalk removal will be measured by the square yard.

(******)
Sawcutting will be measured by the lineal foot. Measurement will be made along the length of the existing pavement of the asphalt cut.

Removing Conc. Barrier will be measured by the linear foot.

Removing Raised Pavement Marker will be measured by the hundred.

Removing Chain Link Fence will be measured by the linear foot.

Removing Conc. Island will be measured by the square yard.

2-02.5 Payment
Section 2-02.5 is supplemented with the following:

(September 30, 1996 WSDOT GSP)
"Removing *** Asphalt Conc. *** Pavement", per square yard.

(November 3, 1999 WSDOT GSP)
"Removing *** Cement Conc. Sidewalk *** ", per square yard.

(November 3, 1999 WSDOT GSP)
"Removing *** Asphalt Conc. Sidewalk *** ", per square yard.

(******)
"Sawcutting", per linear foot.

"Removing Conc. Barrier", per linear foot.
The unit Contract price for “Removing Conc. Barrier” shall be full payment for removing and disposing of concrete barrier as shown in the plans.

"Removing Raised Pavement Marker", per hundred.
The unit Contract price for “Removing Raised Pavement Marker” shall be full payment for removing and disposing of the pavement markers as shown in the plans.

"Removing Chain Link Fence", per linear foot.
The unit Contract price for “Removing Chain Link Fence” shall be full payment for removing and disposing of the chain link fence as shown in the plans.

"Removing Conc. Island", per square yard.
The unit Contract price for “Removing Conc. Island” shall be full payment for removing and disposing of the concrete island as shown in the plans.

“Hazardous Material Handling And Disposal”, by force account as provided in Section 1-09.6.

All costs associated with storing stockpiled hazardous waste and contaminated soils, testing those stockpiles, loading the stockpiled material into the hauling conveyance for transport to the disposal site, and transporting and disposing of hazardous or contaminated materials at an approved facility will be paid by force account under the item “Hazardous Material Handling And Disposal”.

To provide a common basis for all bidders, the Contracting Agency has entered an amount in the proposal to become a part of the Contractor’s total bid.
2-03 ROADWAY EXCAVATION AND EMBANKMENT

2-03.2 Materials
Replace Section 2-03.2 with the following:

(******)
Construction Geotextile for Separation shall meet the requirements of Section 9-33.2(1) Table 3, Woven, of the Washington State Department of Transportation Standard Specifications. Quarry Spalls shall meet the requirements of Section 9-13.6 of the Washington State Department of Transportation Standard Specifications.

2-03.3 Construction Requirements

2-03.3(7) Disposal of Surplus Material

2-03.3(7)B Haul
Section 2-03.3(7)B is supplemented with the following:

(******)
Haul and disposal of surplus or unsuitable materials is incidental to and included in the unit contract price for the associated excavation bid item involved.

2-03.3(14) Embankment Construction

Excavation of Channels and Ditches
The second paragraph of Section 2-03.3(14)M is revised to read:

(******)
Ditch Excavation includes open excavations with a bottom that are shown as a bio-filtration swale or ditch in the Plans, but excludes ditches that are a part of the Roadway. Ditch excavation also includes excavation for outfalls that require construction geotextile for permanent erosion control, and quarry spalls in ditches and for splash pads.

2-03.4 Measurement
Section 2-03.4 is supplemented with the following:

(March 13, 1995 WSDOT GSP)
Only one determination of the original ground elevation will be made on this project. Measurement for roadway excavation and embankment will be based on the original ground elevations recorded previous to the award of this contract.

If discrepancies are discovered in the ground elevations which will materially affect the quantities of earthwork, the original computations of earthwork quantities will be adjusted accordingly.

Earthwork quantities will be computed, either manually or by means of electronic data processing equipment, by use of the average end area method or by the finite element analysis method utilizing digital terrain modeling techniques.
Copies of the ground cross-section notes will be available for the bidder's inspection, before the opening of bids, at the Project Engineer's office and at the Region office.

Upon award of the contract, copies of the original ground cross-sections will be furnished to the successful bidder on request to the Project Engineer.

2-03.5 Payment

The second paragraph of Section 2-03.5 is supplemented with the following:

(******)
As a basis of bid, the Contractor shall assume that all excavated soil has a detectable level of contamination that is less than the MTCA Method A Cleanup Levels for Unrestricted Sites (use WAC 173-340-900 Table 740-1) and shall be disposed at an appropriate facility. This material cannot be disposed at facilities with threshold acceptance criteria of "no detectable contaminants" without additional sampling and analysis. All sampling and analysis of this material will be at the Contractor's expense.

2-05 Embankment and Surcharge (New Section)

(******)

2-05.1 Description:

The Contractor shall provide embankment construction and preloading of the southbound I-5 off-ramp and on-ramp as shown in the plans and as specified in these provisions.

The Contractor shall place the roadway embankment, surcharge fill and geosynthetic retaining wall as shown in the plans and described in these special provisions. This also includes placement and monitoring of settlement monitoring devices which will allow the Contracting Agency to satisfactorily determine when the embankment has completed 90% of the primary settlement. The estimated settlement is expected to occur in a period of 18 weeks.

2-05.2 Materials

Roadway embankment and surcharge shall be constructed with Gravel Borrow conforming to Section 9-03.14(1), except within the limits of wall backfill. Backfill for geosynthetic retaining walls within the embankment and surcharge limits shall conform to Section 9-03.14(4). Construction Geotextile for Separation shall conform to Section 9-33.2(1), Table 3, Woven. Quarry spalls shall conform to Section 9-13.6.

Optical Settlement Monitoring Points and Remote Settlement Monitors

Settlement monitoring will consist of either optical monitoring or remote settlement monitors.

Optical Monitoring

1. Optical Monitoring points shall be securely affixed to the exterior of the geosynthetic walls, placed in accordance with manufacturer's recommendation and protected from any damage

2. The Optical Monitoring points shall be located not more than 3-feet or 25-percent of wall height above bottom of wall.
Remote Settlement Monitors

Remote Settlement Monitors shall be made from one of the three following manufacturers or approved equal:

Sisgeo - Multipoint Settlement Systems
Via F. Serpero 4/F1
20060 Masate (MI) Italy

Geokon – Model 4660 Settlement Systems
48 Spencer St
Lebanon, NH 03766

GeotechTronics – Hydrostatic Settlement Profiler (TES-HP-30)
181 Manningham Rd Templestowe Lower, Melbourne

2-05.3 Construction Requirements

2-05.3(1) Embankment and Surcharge Construction Requirements

After all ground improvements are complete the Engineer will inspect for areas of unsuitable materials. If loose and/or wet, spongy soil zones are identified; the soils shall be removed and replaced with either Quarry Spalls or Gravel Borrow as designated by the Engineer.

Settlement monitoring systems shall be installed prior to placing the Construction Access material. Remote settlement monitors shall be placed near the center of the footprint of the embankment as shown in the plans or directed by the Engineer. At the geosynthetic retaining walls, the optical survey monitoring points shall be used and spaced at no more than 100 feet apart. Monitoring points shall be bedded and installed in accordance with the manufacturer’s recommendations. Signal cables and liquid lines must be protected from damage. The fluid reservoir and readout terminal must be located in a stable location away from construction traffic.

After installation of the remote settlement monitoring devices is complete the subgrade of the embankment shall be covered with Construction Geotextile for Soil Separation in accordance with Section 2-12. A suggested construction access plan is shown with a 1-foot layer of quarry spalls placed over the geotextile prior to placement of the Gravel Borrow fill. In areas of fill walls the quarry spalls shall be covered with Construction Geotextile for Soil Stabilization If the contractor proposes using stabilization materials other than what is shown in the plans, the contractor must submit Type 2 Working Drawings. Any materials placed that do not meet the requirements of the embankment above shall be removed prior to placement of embankment.

The surcharge fills shall be placed and compacted in accordance with Section 2-03.3(14)C, Method C to the lines and grades shown on the plans. No soil shall be left un-compacted and exposed to moisture. A smooth-drum vibratory roller, or equivalent, shall roll the surface at the end of each shift or more often as needed to seal out as much water as practical.
2-05.3(2) Settlement Monitoring Devices Construction Requirements

Remote settlement monitoring devices shall be located at the centerline of the embankment. They shall be placed at the highest fill points and evenly spaced at no more than 250-feet between points.

Optical monitoring devices on the wall shall be evenly spaced at no more than 100-feet between points and affixed to the face of the geosynthetic retaining wall.

2-05.3(3) Settlement Monitoring

Remote Settlement Monitoring

After the remote settlement monitoring devices have been installed and the ground surface reestablished, the remote settlement device initial elevation shall be determined to within ±0.01 foot prior to beginning construction of the access and subsequent embankment.

1. At the beginning or the end of each shift, the Contractor shall record the elevation of the settlement, embankment fill and each wall. Following complete placement of the fill including surcharge, settlement readings shall be obtained weekly or at other critical times if significant movement is indicated or as designated by the Engineer.

2. Elevations of the settlement devices and fill shall be provided to the Engineer the day they are recorded and determined.

Optical Monitoring

1. As the geosynthetic retaining walls are constructed, the contractor shall secure optical monitoring devices to the wall. The optical monitoring devices shall be no higher than 3-feet or higher than 25% of the total wall height.

2-05.4 Measurement

(*)

Gravel Borrow will be measured by the cubic yard in place determined by the neat line limits shown in the Plans. Neat line limits are defined by the final Roadway limits up to subgrade. No allowance will be made for embankment compaction or re-working the fill material after the settlement period to achieve the final elevations shown in the Plans.

2-05.5 Payment

(*)

Payment will be made in accordance with Section 1-04.1 (Intent of the Contract) for the following bid items:

“Gravel Borrow Including Haul”, per cubic yard
“Gravel Borrow for Structural Earth Wall”, per cubic yard

The unit Contract price for “Gravel Borrow Incl. Haul” and “Gravel Borrow for Structural Earth Wall” shall include, but not limited to, all costs necessary to furnish, process, haul, place and compact the roadway embankments and the wall backfill material as shown in the Plans. 1) furnishing, placing, compacting, removing and disposing of surcharge; 2) removing, placing, and re-compacting the gravel borrow to accommodate the drainage and utility installation after the completion of the settlement period; shall be incidental to
and included in the unit contract price for “Gravel Borrow Incl. Haul” and “Gravel Backfill for Structural Earth Wall”.

Payment shall also include the additional material placed outside the neat line limits as described above and in the Contract Plans. The anticipated settlement is shown in the “Geotechnical Engineering Services Final Report - Interstate 5 Port of Tacoma Road Interchange” The Contractor shall use the geotechnical report to determine the quantity of gravel borrow necessary to account for the settlement and surcharge. The approximate quantity of material needed, beyond the neat line limits shown on the plans, to compensate for the anticipated settlement is estimated to be 17,000 cubic yards. This was estimated using the average of the high and low Total Estimated Settlement in Figures 14, 15 and 16 of the “Geotechnical Engineering Services Final Report - Interstate 5 Port of Tacoma Road Interchange”. The estimation assumed a linear section across the cross-section of embankment from toe of fill to toe of fill. This quantity excludes the 1-foot depth of quarry spalls assumed for the construction access stabilization. This is only for estimating purposes, and the Contractor is responsible for quantifying the volume of material to be placed beyond the neat line limits defined on the plans to account for all settlement. The additional material shall be included in the unit Contract price per cubic yard “Gravel Borrow Incl. Haul” and “Gravel Backfill for Structural Earth Wall”.

(******)

“Settlement Device Installation and Survey”, lump sum.

The lump sum Contract price for “Settlement Device Installation and Survey” shall be full pay for all labor, equipment, materials and work as described above, and as shown in the Plans, and herein specified, including any maintenance, repair, modifications, replacement, survey control re-establishment and coordination efforts with the Engineer. The lump sum Contract price shall also include maintaining in operation for the duration of the fill placement and settlement monitoring period and then removing and salvaging each settlement monitoring device including. The lump sum Contract price shall also be full pay for all cost to perform the survey monitoring of the settlement, embankment and walls as described above for the entire period of work from the initial location of the plates and monitoring of the elements of work throughout the duration of the fill placement and settlement period.

(******)


The lump sum Contract price for “Construction Access Stabilization” shall be full payment for furnishing all materials, labor and equipment to design, construct and maintain construction access as determined by the Contractor to build the project. Construction access is limited to the areas shown in the plans. The lump sum bid item includes all costs to furnish all materials including construction geotextile for separation, to construct and maintain Construction Access Stabilization as shown in the plans or needed by the contractor to access construction areas and remove and dispose materials after completion. The lump sum Contract price shall also include all costs associated with maintaining the access roads in accordance with plans, special provisions and permit requirements including but not limited to indemnity and insurance for property owners, project signs, and all necessary BMPs required to stabilize disturbed areas. Possible temporary access routes and temporary utility crossings are shown in the plans. The lump sum Contract price shall include all costs to remove and dispose the Construction Access Stabilization outside of the footprint of the embankment fill sections.
2-08 DEWATERING

Replace this section with the following:

2-08.1 Description

This Section specifies the definition, responsibilities, and execution for control of groundwater. Control of groundwater shall consist of the design, furnishing, installation, operation, maintenance and removal of a groundwater control system to achieve proper completion of all Work performed under this Contract.

Groundwater conditions are presented in reports available in the appendices. The use of the available data and information in no way relieves the Contractor from the sole responsibility for proper installation, operation, maintenance, and any failure of any component of the dewatering systems for the duration of this Contract.

Anticipated dewatering volumes for shallow excavations along 34th Ave E, 12th Street, and Pacific Hwy, approximately less than 4-feet during the wet season, is estimated at 100 gallons per minute.

Anticipated dewatering volumes for deep excavations, up to 8-feet during the wet season, is estimated at 200 gallons per minute. This estimate assumes dewatering from the highest observed groundwater elevation in monitoring well to a depth of 3-feet below the bottom of excavation, which would require about 9.8-feet of drawdown.

Anticipated dewatering volumes for stormwater excavations in WSDOT’s right of way during the wet season, is estimated at 300 gallons per minute.

The Contractor shall also provide, operate, maintain, and decommission whatever supplemental water control systems are necessary to complete the Work specified in the Contract.

2-08.2 Vacant

2-08.3 Construction Requirements

2-08.3(1) General

The Contractor shall be fully responsible for acquainting itself with the environmental reports that are available for review, existing site conditions, and all regulatory requirements prior to commencing with groundwater control activities.

The Contractor shall provide, operate, maintain, and decommission groundwater control systems as needed for all excavations deeper than the groundwater table. The groundwater control system shall be adequate to keep excavations sufficiently free of water to prevent destabilization of soils and to allow for placement of backfill materials after soil cleanup in dry conditions. The groundwater control system will maintain the groundwater in a hydrostatically-controlled condition during excavation, and shall dewater and dispose of the water so as not to cause injury to public or private property, or to cause a nuisance or a menace to the public.
The Contractor shall employ materials, equipment, and construction methods commonly used and proven as suitable for operation of construction dewatering systems. The Contractor shall provide submittals and/or product data that demonstrate the suitability of the materials and equipment proposed for use on these systems. The Contractor shall test the dewatering system to the reasonable satisfaction of the Engineer and make operational any deficiency prior to acceptance and payment.

If utilized, dewatering well or well point construction and abandonment shall be in accordance with WAC 173-160. The Contractor shall obtain variances as required to construct dewatering systems that achieve the level of groundwater control specified.

The Contractor shall notify the Engineer thirty (30) calendar days prior to installation of any dewatering wells or well points. The Contractor shall provide the Engineer with a well log and formation samples at 5-foot intervals for each of the wells.

Dewatering wells, well points, or sump pumps shall be operated continuously for as long as they are needed in the area. Turning off wells or pumps at night and turning them back on the next day will not be allowed in order to prevent rapid drawdown conditions in the soils causing caving and sloughing of excavation slopes. Additionally, the pumping rate shall be set low enough to minimize the silt mobilization during dewatering.

The Contractor shall provide backup systems for all ordinary emergencies, including power outage and flooding, and shall have available at all times competent workers for the continuous and successful operation of the groundwater control system. The Contractor shall not disable or shut down this system between shifts, on holidays, or weekends, or during Work stoppages, without written permission from the Engineer. The Contractor shall be responsible for maintaining all electric power service connections to the dewatering system components; the Contractor shall be responsible for the cost of electric power used in the operation of the dewatering system.

During excavation, the Contractor shall also control surface runoff so as to prevent entry or collection of water in excavations or in other isolated areas of the site.

The Contractor shall maintain operation logs for the dewatering system(s), including date/time pumping is initiated, interrupted, restarted, decommissioned and abandoned. The Contractor shall provide the Engineer with an updated copy of the operation log every day that a change occurs while the systems are in operation.

During operation of the dewatering systems, after reaching target drawdowns, the Contractor shall notify the Engineer within 4 hours of any water level change in any pumping and/or observation well that exceeds 2 feet, any flow rates from any discharge point that exceeds 50 gallons per minute (gpm) and any water quality readings that do not meet specification within a 24 hour period.

2-08.3(2) Submittals
Within 30 calendar days of notice to proceed the Contractor shall submit three copies of a project reference list to the Engineer for approval verifying the successful completion by the Contractor or Subcontractor of at least three separate dewatering projects with a scope similar to this project including similar soils and groundwater conditions. The Contractor shall include a brief description of each project, including the Owner’s contact name and current phone number. The Engineer will approve or reject the Contractors submittal within ten (10) working days after receipt of the submission. Work shall not commence until the qualifications have been approved by the Engineer.

Within 30 calendar days of anticipated system installation the Contractor shall submit a detailed Groundwater Control Plan (GWCP) and operation schedule for the dewatering operations developed by a licensed engineer or hydrogeologist with experience in the design of ground water control systems. The GWCP and all inclusions will consist of a single document. Any changes or amendments to the GWCP will include revisions to the original GWCP and all inclusions submitted as a single document. The Contractor’s GWCP is subject to review by the Engineer. The GWCP shall include design drawings and complete design data, methods, schedule, materials and equipment the Contractor proposes for the dewatering systems, water treatment systems, monitoring systems, and a detailed description of how the GWCP conforms to these specifications and schedule. The GWCP shall provide information sufficient for the Engineer to understand the various systems designs and operation, and include at a minimum, but not be limited to, the following:

Verification of levels of ground water at the areas of excavation by the Contractor prior to or during preparation of the Groundwater Control Plan. This shall be accomplished by test pit or construction bore holes to at or below the lowest groundwater level listed in the Geotechnical Report. This may also include conducting pumping test to ensure the Contractor has sufficient information to determine system components. The Contractor shall notify the Engineer in accordance with Standard Specification 1-04.7 if the ground water level is different than the levels listed in the Geotechnical Report.

Design drawings indicating the location, size, and depth of dewatering system including pumped wells, vacuum wellpoints, groundwater cut-offs, sumps, dewatering trenches, treatment facilities, discharge lines, and observation wells.

Calculations and information supporting the dewatering systems’ performance capability and adequacy of dewatering system pumped wells, capacities of
pumps (head and volume), prime movers, standby equipment, discharge pipe sizes and capacities (i.e. friction loss calculations etc.), filters/gravel packs, screens, observation wells and water quality treatment facilities.

Information supporting the dewatering system’s capability and capacity to support sump pumping volumes.

Dewatering systems installation schedule, phasing and sequencing, dewatering operations schedule, maintenance schedule, and removal and abandonment of the dewatering system.

Specifications and manufacturer’s literature of the materials and methods proposed for pumped wells, vacuum wellpoints, sumps, pumps, prime movers, standby equipment, discharge pipes, filters/gravel packs, screens, observation wells and water treatment facilities elements.

Design drawings and description for the water treatment facilities or treatment measures including operations, maintenance and monitoring, treatment rates, points of discharge, and sampling methods for compliance with water quality standards for discharge from the dewatering system.

 Depths and locations of cut-off walls if applicable.

A well maintenance plan for wells that lose efficiency.

Prior to installation of the dewatering system, the Contractor shall obtain acceptance by the Engineer for the design, materials, method, installation, and operation and maintenance of the dewatering system. Acceptance by the Engineer shall not in any way relieve the Contractor from responsibility for errors therein or from the entire responsibility for complete and adequate design, materials, installation, operation, maintenance and performance of the dewatering system.

2-08.3(3) Treatment and Discharge of Water

The Contractor shall treat and discharge all dewatering effluent as specified herein, and in accordance with the environmental permits.

The Contractor shall provide in-line, totalizing flow meters on the discharge pipe for each discharge point or diversion of discharge. The flow meters will read in gallons per minute for the range of flows pumped, and the Contractor shall provide evidence that the flow meters are calibrated and installed to the manufacturer’s Specifications.

The Contractor shall extend discharge piping to discharge point(s) approved by the Engineer and consistent with requirements of the discharge permits.

The quality of the groundwater discharged from the dewatering system shall not be allowed to degrade the water quality of any surface waters. The Contractor shall provide a water treatment system to meet storm or sanitary sewer Discharge Permit criteria for contaminants, turbidity and suspended solids per Section 2-10.3(3) of the Special Provisions.
2-08.3(4) Operation of Dewatering System
The Contractor shall design, construct, operate, and maintain any groundwater control system such that foundation soils, natural or engineered, will not experience fines removal upon pumping.

The Contractor shall bear full responsibility for all damages to Work in the excavation area and for damages to any other area caused by the Contractor’s failure to maintain and operate the system properly.

The Contractor shall use electrical generators or obtain electrical service from the utility company and shall pay application fees. The Contractor shall pay for power usage fees throughout the Contract period. The Contractor shall use this electric service solely to power the groundwater control system, separate from all other power needs.

2-08.3(5) System Removal
Upon written authorization of the Engineer, the Contractor shall remove from the site all groundwater control system elements. The Contractor shall assume ownership and responsibility for the disposal of all dewatering pumps, pipes and other assorted system hardware. The Contractor shall be or shall employ the services of a Washington licensed water well Contractor for any well abandonment.

2-08.5 Payment
Payment will be made in accordance with Section 1-04.1, for the following Bid item when it is included in the Proposal:

“Dewatering”, lump sum

The lump sum Contract price for “Dewatering” shall be full compensation for all Work to dewater excavations, including to design the system and submittal of a Dewatering Plan; furnishing, installing, operation and removal of a dewatering system to control groundwater as specified; and all Work to handle, store, test, settle or filter, and discharge collected groundwater from dewatering operations for solids or turbidity to meet storm or sanitary sewer Discharge Permit criteria in Section 2-10.3(3) of the Special Provisions. No additional payment will be made for treatment permits or delays encountered for controlling and/or discharging groundwater. This is inclusive of all bid schedules.

2-09 STRUCTURE EXCAVATION

2-09.3 Construction Requirements

2-09.3(1) General Requirements

Backfilling
The second sentence of Section 2-09.3(1)E is replaced with the following:

(******)
Backfill material shall meet the requirements of Section 9-03.14(1) Gravel Borrow.
Shoring And Cofferdams
Section 2-09.3(3)D is supplemented with the following:

(March 13, 1995)
The Contractor shall protect the existing pavement from damage due to the Contractor's operations and shall shore all excavation adjacent to the existing pavement.

2-09.5 Payment
The third paragraph of Section 2-09.5 is supplemented with the following:

******
As a basis of bid, the Contractor shall assume that all excavated soil has a detectable level of contamination that is less than the MTCA Method A Cleanup Levels for Unrestricted Sites (use WAC 173-340-900 Table 740-1) and shall be disposed at an appropriate facility. This material cannot be disposed at facilities with threshold acceptance criteria of "no detectable contaminants" without additional sampling and analysis. All sampling and analysis of this material will be at the Contractor's expense.

2-10 DEWATERING TREATMENT AND DISCHARGE – CONTAMINATED WATER

Replace this section with the following:

2-10.1 Description
Groundwater that enters excavations or that is pumped from sumps, dewatering wells or well points may be contaminated with petroleum hydrocarbons, chlorinated solvents, metals, or other compounds. This Work covers treatment and disposal of groundwater that contains contaminants.

2-10.2 Vacant

2-10.3 Construction Requirements

2-10.3(1) General
Due to the potential of contaminated groundwater, the Contracting Agency has obtained a permit from City of Tacoma to discharge collected groundwater from dewatering operations into the City of Tacoma sewer system. Discharge to the sewer system will be via manholes or other approved City of Tacoma or Contracting Agency Structures. An example of this permit is provided in Appendix B. This permit is based upon groundwater volumes and means and methods identified in the Geotechnical Report provided in Appendix A. Should the Contractor elect to utilize different means and methods for handling groundwater that affects conditions in the permit, the Contractor will obtain a permit from the City of Tacoma.

The Contractor shall provide and maintain a water treatment system that is capable of treating and discharging water to the storm or sanitary sewer system in accordance with the discharge permit(s). The Contractor shall provide a water treatment system with the treatment and storage capacity to manage collected groundwater from dewatering operations without causing construction delays. The
Contractor shall keep on hand, or have immediate access to, spare components to prevent any breakdown of water treatment. The materials and equipment used for the water treatment system may be new or used but must be suitable for the Work and be maintained in good condition. The Contractor shall provide a system capable of performing any or all of the following unit process functions, as required by site conditions encountered and need to meet discharge limits to the sanitary sewer or storm system:

1. Separation and recovery of all separate-phase, immiscible liquids or droplets recovered with the water.
2. Removal of suspended solids by gravity separation, flocculation, and/or filtration.
3. Removal of any dissolved contaminants such as petroleum and chlorinated solvents.
4. Effluent water storage and discharge flow metering.

The Contractor shall provide sufficient storage tanks for storing dewatering water pending receipt of test results and implementation of any treatment, and subsequent retesting as required to satisfy the permitting agency that the water to be discharged meets required discharge limits.

The Contractor shall provide and maintain at all times a flow meter to record water discharged to the sewer system. The flow meter shall record instantaneous and totalized flow. The Engineer reserves the right to install a redundant flow meter in series with the Contractors meter. The Contractor shall choose the type and size of equipment and components needed to accomplish the functions designated.

The Contractor shall connect to the sewer or storm system for discharge of the treated water in accordance with the requirements of the permit(s) to discharge. The Contractor shall consult and arrange the connection location with the Contracting or Permitting Agency as applicable.

The Contractor shall provide all materials, labor, traffic control, permits, and all other Work for connecting to the sewer.

2-10.3(2) Waste Treatment Systems Control
The Contractor shall provide adequate system controls to permit unattended operation with occasional operator checks for monitoring and adjustments. The Contractor shall provide a notification system to alert an operator if the water treatment system experiences conditions that will potentially cause the system to shut down. The Contractor shall provide high-level alarms on tanks to prevent overflow conditions. Alarms may cause automatic actions to relieve the condition or may warn the operator.

The control system is subject to review and approval by the Engineer. If an upset condition occurs, which may result in a release or non-conformance with the discharge permit, the Contractor shall immediately suspend operation and notify the Engineer.

2-10.3(3) Waste Testing
The Contractor shall be responsible for all testing consistent with City of Tacoma discharge criteria and for meeting the requirements of the Discharge Permit prior to
discharge to the sanitary sewer or storm drain, as applicable. Testing shall be required whether Contractor is treating dewatering water for contaminants or not. The Contractor shall provide sampling ports and the necessary valves for collecting water samples, in accordance with the discharge permit for water discharged to the storm sewer. All test results and volumes discharged shall be provided to the Engineer on a daily basis, and reported as required by the Discharge Permit(s).

If collected groundwater from dewatering operations after storage, settling, decanting, filtering, and treatment to meet turbidity or suspended solids content criteria does not meet the Discharge Permit criteria for dissolved chemical (e.g., petroleum or solvents) constituents, the Contractor shall arrange for treatment and discharge or off-site disposal of contaminated water.

Discharge Permit criteria, subject to change based on permits obtained, are summarized below. These pollutants and concentration limits for discharge to the sanitary sewer listed below may also be found in the City of Tacoma Municipal Code – Chapter 12.08.040.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Discharge Limit (mg/l)</th>
<th>EPA Analysis Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum Hydrocarbons as Silica Gel Treated-Hexane Extractable Material (SGT-HEM)</td>
<td>50 mg/l</td>
<td>1664</td>
</tr>
<tr>
<td>Total arsenic</td>
<td>0.1 mg/l</td>
<td>200.7</td>
</tr>
<tr>
<td>Total cadmium</td>
<td>0.25 mg/l</td>
<td>200.7</td>
</tr>
<tr>
<td>Total chromium</td>
<td>1.0 mg/l</td>
<td>200.7</td>
</tr>
<tr>
<td>Hexavelent chromium(^1)</td>
<td>0.25 mg/l</td>
<td>200.7</td>
</tr>
<tr>
<td>Total copper</td>
<td>1.0 mg/L</td>
<td></td>
</tr>
<tr>
<td>Total cyanide</td>
<td>0.2 mg/L</td>
<td></td>
</tr>
<tr>
<td>Total Lead</td>
<td>0.4 mg/l</td>
<td>200.7</td>
</tr>
<tr>
<td>Total mercury</td>
<td>0.05 mg/l</td>
<td>245.1 or 245.2</td>
</tr>
<tr>
<td>Total molybdenum</td>
<td>1.0 mg/L</td>
<td></td>
</tr>
<tr>
<td>Total nickel</td>
<td>1.0 mg/l</td>
<td>200.7</td>
</tr>
<tr>
<td>Total silver</td>
<td>0.2 mg/l</td>
<td>200.7</td>
</tr>
<tr>
<td>Total zinc</td>
<td>2.0 mg/l</td>
<td>200.7</td>
</tr>
<tr>
<td>pH</td>
<td>5.5 – 11.0</td>
<td>150.1</td>
</tr>
<tr>
<td>BETX(^2)</td>
<td>10 mg/l</td>
<td>624</td>
</tr>
<tr>
<td>Other organic pollutants(^4)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^1\)Hexavelent chromium shall be analyzed when total chromium exceeds 0.25 mg/l.

\(^2\)Discharge limit is sum of concentrations of benzene, ethylbenzene, toluene, and xylene. Benzene may not exceed 0.5 mg/l.

\(^3\)Measured as silica gel treated, hexane extractable materials (SGT-HEM)

\(^4\)If other organic pollutants are expected to be present, a scan may be required. The total concentration of all detected organics may not exceed 2.13 mg/L.

2-10.3(4) Waste Treatment

The Contractor shall furnish all labor, materials and equipment, and perform all operations required to design, furnish, install, test, operate, and maintain the water treatment equipment, including: storage tanks, pumps, process equipment, water
treatment chemicals, water meters, process controls, operator alarms, piping to
discharge point, dikes, sandbags, electric power supply and distribution, domestic
water supply and distribution as required to treat the collected water.

The Contractor shall treat the water collected by the dewatering system to the meet
the discharge permit requirements and these Provisions. The Contractor shall be
responsible for managing the treatment media in the system, e.g., spent filtration and
granular activated carbon adsorption media.

The Contractor shall locate water treatment and discharge equipment at a location
onsite as approved by the Engineer. Protection of off-site facilities and designated
on-site facilities, during water treatment Work shall be solely the Contractor’s
responsibility.

The Contractor shall be responsible for providing enough water storage capacity
such that the Work schedule is not adversely impacted. Any moving of tanks required
to continue with Work on the project site shall be the responsibility of the Contractor.

The Contractor shall provide a qualified operator to supervise the water treatment
operation. Adequate freeze protection is required for all water treatment equipment.
The Contractor shall provide spill containment for any water treatment chemicals
used on the site, and will provide all necessary safety equipment and personnel
protective equipment for safe handling of contaminated water and water treatment
chemicals.

2-10.3(5) Tank Cleaning

Tank cleaning shall be the responsibility of the Contractor. The Contractor shall
manage sediments separated from the discharge water for disposal with excavated
contaminated soils ensuring that they meet Paint Filter Liquids Test (EPA SW-846
Method 9095B) criteria (no free liquids) in accordance with all transportation laws
and regulations and the receiving landfill requirements.

2-10.5 Payment

Payment will be made in accordance with Section 1-04.1, for the following Bid item when it is
included in the Proposal:

“Contaminated Dewatering Treatment and Discharge”, by force account as provided in
Section 1-09.6.

All costs associated with treating, storing, discharging and/or disposing of contaminated
groundwater as specified, including tank cleaning will be paid by force account under the
item “Contaminated Dewatering Treatment and Discharge.” To provide a common
Proposal for all Bidders, the Contracting Agency has entered an amount in the Proposal
to become a part of the Contractor’s total Bid.

All Work to handle, storage, test, settle or filter, and discharge collected groundwater from
dewatering operations for solids or turbidity to meet storm or sanitary sewer discharge
criteria from dewatering operations shall be included in the lump sum Contract price for
Dewatering, and no additional payment will be made.
2-12 CONSTRUCTION GEOSYNTHETIC

2-12.1 Description

Section 2-12.1 is supplemented with the following:

(******)

This work shall consist of furnishing and installing geogrid base reinforcement at the bottom of the base course section to the lines, grades, dimensions, and details at the locations shown on the plans, in accordance with the Manufacturer’s recommendations and as designated by the Project Manager. The Contractor shall furnish all materials, storage, handling, tools, equipment, labor, and other appurtenances necessary to complete the work.

2-12.2 Materials

Section 2-12.2 is supplemented with the following:

(******)

The geogrid shall be one of the following or an approved equal:

- Tensar BX1200
- Stratabase SB12
- Layfield Plastic RX1200

2-12.3 Construction Requirements

Section 2-12.3 is supplemented with the following:

(******)

The subgrade soil shall be prepared as indicated on the construction drawings or as designated by the Engineer. The geogrid shall be placed at the proper elevation and alignment as shown in the construction drawings. The geogrid shall be installed longitudinally along the roadway alignment in accordance with these plans, specifications and any installation guidelines provided by the manufacturer, or as designated by the Engineer. The geogrid may be temporarily secured in place with plastic zip ties, aggregate base or fill backfill as required by fill properties. Adjacent rolls of geogrid shall be overlapped a minimum of 1 foot. Softer subgrade conditions may require up to 3 feet of overlap.

Granular fill material shall be placed, spread, and compacted in such a manner that minimizes the development of wrinkles in the geogrid and/or movement of the geogrid. A minimum loose fill thickness of 6 inches is required prior to operation of tracked vehicles over the geogrid. Turning of tracked vehicles should be kept to a minimum to prevent tracks from displacing the fill and damaging the geogrid. When underlying substrate is trafficable with minimal rutting, rubber-tired equipment may pass over the geogrid reinforcement at slow speeds (less than 10 mph). Sudden braking and sharp turning movements shall be avoided. Any damaged or defective geogrid (i.e. frayed coating, separated junctions, separated layers, tears, etc.) will be repaired/replaced. Any roll of geogrid damaged before, during and after installation shall be replaced by the Contractor at no additional cost to the Owner. Proper replacement shall consist of replacing the affected area adding

Post-construction trenching through the geogrid shall be accomplished with conventional trenching equipment. Repairs to the trenched section shall be accomplished using a full
structural replacement of the displaced materials (e.g. compacted structural fill, flowable fill, etc.) or with a repaired section that is identical to the original section. If the section is repaired to match the original, the trench backfill must be compacted to the same or higher density and the geogrid must be overlapped a minimum of 3-inches at the proper geogrid elevation.

2-12.3(5) Submittals

Submit the manufacturer’s certificate of compliance and certified test results on the product, tested within six months of the submittal date. Additionally, the following shall be included in the submittal:

1. Manufacturer’s name, current address, and telephone number.
3. Full product name by trademark and product number.
4. Geogrid polymer type(s).
5. Installation instructions.

2-12.3(6) Delivery, Storage and Handling

The Contractor shall check the geogrid upon delivery to assure the proper material has been received. The Contractor shall prevent excessive mud, wet concrete, epoxy, or other deleterious materials from coming into contact with and affixing to the geogrid materials. The geogrid shall be stored at temperatures above -20 degrees F (-29 degrees C). Rolled materials may be laid flat or stood on end. Do not expose geogrid materials to direct sunlight for a period longer than recommended by the manufacturer.

2-12.4 Measurement

Section 2-12.4 is supplemented with the following:

(*****)

Geogrid will be measured by the square yard for the ground surface area actually covered.

2-12.5 Payment

Section 2-12.5 is supplemented with the following:

(*****)

“Geogrid” per square yard.
The unit Contract price per square yard for “Geogrid” shall be full pay for performing the work as specified.
DIVISION 4 - BASES

4-04 BALLAST AND CRUSHED SURFACING

4-04.3 Construction Requirements
Section 4-04.3 is supplemented with the following:

(******)
Compaction of the existing aggregates at the driveway locations along 34th Avenue East as shown in the plans shall conform to Section 4-04.3(5).

4-04.3(5) Shaping and Compaction
This section is supplemented with the following:

(******)
Immediately following spreading and final shaping each layer of surfacing shall be lightly compacted in one lift to a firm and unyielding condition.

Roadway Ballast Base Course shall be seated until no visible movement of aggregate is observed and approved by Engineer.

4-04.4 Measurement
Section 4-04.4 is supplemented with the following:

(******)
Roadway ballast will be measured by the ton.

Measurement for Compact Existing Aggregate will be by the square yard.

4-04.5 Payment
Section 4-04.5 is supplemented with the following:

(******)
Payment will be made for each of the following Bid items that are included in the Proposal:
“Roadway Ballast”, per ton.

“Compact Existing Aggregate”, per square yard.
The unit Contract price for “Compact Existing Aggregate” shall be full payment for all labor, equipment and materials to compact the existing aggregate shown on the plans to the required specifications.
DIVISION 5 - SURFACE TREATMENTS AND PAVEMENTS

Hot Mix Asphalt

Materials

Mix Design – Obtaining Project Approval
Section 5-04.2(2) is supplemented with the following:

(January 3, 2011)
ESAL’s

<table>
<thead>
<tr>
<th></th>
<th>15-Year (2017 to 2032) Estimated Design Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-5 Port of Tacoma Road Off Ramp</td>
<td>14 Million</td>
</tr>
<tr>
<td>34th Ave East</td>
<td>14 Million</td>
</tr>
<tr>
<td>12th Street East</td>
<td>14 Million</td>
</tr>
<tr>
<td>WSDOT R/W</td>
<td>14 Million</td>
</tr>
</tbody>
</table>

Construction Requirements
Section 5-04.3 is supplemented with the following:

HMA Compaction Acceptance
The column in Table 14 of Section 5-04.3(10), titled “Statistical Evaluation of HMA Compaction is Required for”, is supplemented with the following:

(April 3, 2017)
• Any HMA for which the specified course thickness is greater than 0.10 feet and the HMA is placed in the shoulder.

HMA Compaction – Visual Evaluation
The last sentence in Section 5-04.3(10)D is revised to read:

(April 4, 2016)
HMA that is used for preleveling shall be compacted with a pneumatic tire roller unless otherwise approved by the Engineer.

Planing Bituminous Pavement
Section 5-04.3(14) is supplemented with the following:

(January 5, 2004)
The Contractor shall perform the planing operations no more than *** 0 *** calendar days ahead of the time the planed area is to be paved with HMA, unless otherwise allowed by the Engineer in writing.

(January 5, 2004)
At the start of the planing operation the Contractor shall plane a 500 foot test section to be evaluated by the Engineer for compliance with the surface tolerance requirements. The test section shall have a minimum width of 10 feet. If the planing
is in accordance with the surface tolerance requirements, the Contractor may begin production planing. If the planing is not in conformance with the surface tolerance requirements, the Contractor shall make adjustments to the planing operation and then plane another test section.

If at any time during the planing operation the Engineer determines the required surface tolerance is not being achieved, the Contractor shall stop planing. Planing shall not resume until the Engineer is satisfied that specification planing can be produced or until successful completion of another test section. The forward speed during production planing shall not exceed the speed used for the test section.

The completed surface after planing and prior to paving shall not vary more than 1/4 inch from the lower edge of a 10-foot straightedge placed on the surface parallel or transverse to the centerline. The planed surface shall have a matted texture and the difference between the high and low of the matted surface shall not exceed 1/8 inch.

Pavement repair operations, when required, shall be accomplished prior to planing.

(March 13, 1995)
Vertical Edge Planing
During planing of bituminous pavement in the travelled lanes, the Contractor shall coordinate the planing and paving operations such that the planed roadway surface shall not remain unpaved at the end of the work day. The Contractor shall have a contingency plan to ensure that no planed areas remain unpaved due to equipment breakdown or other emergency.

Payment
Section 5-04.5 is supplemented with the following:

(August 5, 2013)
Asphalt Cost Price Adjustment
The Contracting Agency will make an Asphalt Cost Price Adjustment, either a credit or a payment, for qualifying changes in the reference cost of asphalt binder. The adjustment will be applied to partial payments made according to Section 1-09.9 for the following bid items when they are included in the proposal:

"HMA Cl. ___ PG ___"
"HMA for Approach Cl. ___ PG ___"
"HMA for Preleveling Cl. ___ PG ___"
"HMA for Pavement Repair Cl. ___ PG ___"
"Commercial HMA"

The adjustment is not a guarantee of full compensation for changes in the cost of asphalt binder. The Contracting Agency does not guarantee that asphalt binder will be available at the reference cost.

The Contracting Agency will establish the asphalt binder reference cost twice each month and post the information on the Agency website at:

http://www.wsdot.wa.gov/Business/Construction/EscalationClauses.htm
The reference cost will be determined using posted prices furnished by Poten & Partners, Inc. If the selected price source ceases to be available for any reason, then the Contracting Agency will select a substitute price source to establish the reference cost.

The base cost established for this contract is the reference cost posted on the Agency website for the period immediately preceding the bid opening date.

Adjustments will be based on the most current reference cost for Western Washington or Eastern Washington as posted on the Agency website, depending on where the work is performed. For work completed after all authorized working days are used, the adjustment will be based on the posted reference cost during which contract time was exhausted. The adjustment will be calculated as follows:

No adjustment will be made if the reference cost is within 5% of the base cost.

If the reference cost is greater than or equal to 105% of the base cost, then
\[
\text{Adjustment} = (\text{Current Reference Cost} - (1.05 \times \text{Base Cost})) \times (Q \times 0.056).
\]

If the reference cost is less than or equal to 95% of the base cost, then
\[
\text{Adjustment} = (\text{Current Reference Cost} - (0.95 \times \text{Base Cost})) \times (Q \times 0.056).
\]

Where \( Q = \) total tons of all classes of HMA paid in the current month's progress payment.

"Asphalt Cost Price Adjustment", by calculation.

"Asphalt Cost Price Adjustment" will be calculated and paid for as described in this section. For the purpose of providing a common proposal for all bidders, the Contracting Agency has entered an amount in the proposal to become a part of the total bid by the Contractor.

5-05 CEMENT CONCRETE PAVEMENT

5-05.1 Description

Section 5-05.1 is supplemented with the following:

(August 6, 2012 WSDOT GSP)
This Work consists of furnishing and placing pigmented, textured, or textured and pigmented cement concrete pavement at the locations and depth as shown in the Plans.

5-05.2 Materials

Section 5-05.2 is supplemented with the following:

(October 20, 2017 WSDOT GSP)
Pigment color for cement concrete pavement shall be one chosen from the manufactures and colors listed below:

Primary Pigment – Black:

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Pigment Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Davis Colors</td>
<td>“Graphite”, 8084</td>
</tr>
<tr>
<td>Increte Systems</td>
<td>“Dark Gray”, CC230/4</td>
</tr>
</tbody>
</table>
Solomon Colors "Lunar Eclipse", 908

Primary Pigment – White:

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Pigment Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cemex</td>
<td>&quot;White Portland Cement&quot;</td>
</tr>
<tr>
<td>Federal White Cement</td>
<td>&quot;White Portland Cement&quot;</td>
</tr>
<tr>
<td>Lehigh White Cement</td>
<td>&quot;White Portland Cement&quot;</td>
</tr>
</tbody>
</table>

The pigment shall be incorporated in accordance with the manufacturer’s recommendations.

5-05.3 Construction Requirements

Section 5-05.3 is supplemented with the following:

**5-05.3(1) Concrete Mix Design for Paving**

Section 5-05.3(1) is supplemented with the following:

(October 20, 2017 WSDOT GSP)

**Aggregate for Textured Cement Concrete Pavement**

Coarse aggregate for Textured Cement Concrete Pavement shall conform to Section 9-03.1(4), AASHTO grading No. 7 for ‘Black Pigment Color’. An alternate for combined gradation for Textured Cement Concrete Pavement conforming to Section 9-03.1(5) may be proposed, that has a nominal maximum aggregate size of ½ inch sieve.

Aggregates for ‘White Pigment Color’ concrete shall meet requirements of ASTM C33 or C330 for fine aggregates and shall conform to grading No. 8. for course aggregates. Aggregates shall be white or bright white, washed, clean and free from clay, mineral dust, organic impurities and particles containing iron oxide. White aggregates shall be natural or manufactured and consist of crushed limestone, quartz, marble or granite.

**5-05.3(17) Opening to Traffic**

Section 5-05.3(17) is revised to read:

(August 7, 2017 WSDOT GSP)

**Maturity Testing for Concrete Pavement**

The pavement shall not be opened to traffic until the Strength-Maturity Relationship (SMR) demonstrates the pavement has a minimum compressive strength of 2,500 psi and approval of the Engineer. The pavement shall be cleaned prior to opening to traffic.
The Contractor shall establish a Maturity Value on the approved concrete mix through the use of a testing program following the WSDOT Maturity Method Test Procedure for estimating concrete strength.

The Contractor shall establish the SMR at least 14 calendar days prior to the production pours. The Contractor shall notify the Engineer 7 days prior to performing the SMR as to the time, date and location where the SMR will be performed. The Contractor shall allow WSDOT the opportunity to place maturity loggers in the test cylinders in order to calibrate the WSDOT maturity meter. A SMR shall be developed for each mix used on the project. Referenced SMRs from previous projects will not be allowed.

The Contractor shall be responsible for the installation of the maturity logger/sensors within the concrete pavement pour area. For panel replacements performed under Section 5-01, place a minimum of four loggers/sensors at two different locations. Two in one of the first few panel replacements and two in the last panel replacement of the day, each day. For continuous concrete paving operations performed under Section 5-05, place a minimum of four loggers/sensors, two at the beginning and two at the end of the concrete pour, each day. The Contractor shall maintain the integrity of the logger/sensors and wires during concrete pouring, finishing and curing operations or until the maturity information is no longer needed.

The Contractor shall perform the Quality Control Procedure to Verify the Strength-Maturity Relationship on days 1 and 2 of concrete placement as indicated in the test procedure.

The Contractor shall develop a Quality Control Plan based on the Strength-Maturity Relationship to monitor and provide remedial action to ensure the concrete meets design strengths.

Any alteration in mix proportions or source or type of any material, in excess of those tolerable by batching variability shall require the development of a new SMR prior to its use at the Contractors time and expense. Alterations include a change in type, source, or proportion of cement, fly ash, coarse aggregate, fine aggregate, or admixtures. A change in water-to-cementitious material ratio greater than 5.0 percent requires the development of a new SMR.

**Maturity Method Test Procedure**

This test method provides a procedure for estimating concrete strength by means of the maturity method. The maturity method is based on strength gain as a function of temperature and time. This method is a modification of ASTM C1074 covering the procedures for estimating concrete strength by means of the maturity method.

The maturity method consists of three steps:

- Develop Strength-Maturity Relationship
- Estimate in-place strength
- Verify Strength-Maturity Relationship.

The Nurse-Saul “temperature-time factor (TTF)” maturity index shall be used in this test method, with a datum temperature of 0 °C (32 °F).
Apparatus

- If the maturity meter has input capability for datum temperature, verify that the proper value of the datum temperature has been selected prior to each use.
- Intellirock maturity system (or approved equivalent). This system shall include the logger/sensor, handheld reader, and software.
- The data obtained from the maturity meter shall be unalterable and uninterruptible.
- The same brand and type of maturity meters shall be used in the field as those used to develop and verify the strength-maturity relationship.
- Logger/sensor wire grade shall be larger than or equal to 20 awg.

Contractors Procedure to Develop Strength-Maturity Relationship

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>For every concrete design that will be evaluated by the maturity method, prepare a minimum of 21 cylinders in accordance with FOP for AASHTO T 23. Additional cylinders should be cast to avoid having to repeat the procedure. The mixture proportions and constituents of the concrete shall be the same as those of the job concrete whose strength will be estimated using this practice. The minimum size of each batch shall be approximately 3 m³ (4 yd³). A mobile mixer may be used for batching provided it is to be used on the project. Calibration documentation shall be provided to the Engineer prior to batching.</td>
</tr>
<tr>
<td>2</td>
<td>Fresh concrete testing for each batch shall include concrete placement temperature, slump, and air content in accordance with FOP for AASHTO T 309, FOP for AASHTO T 119, and FOP for AASHTO T 152.</td>
</tr>
<tr>
<td>3</td>
<td>Embed loggers/sensors in at least two cylinders. Loggers/sensors shall be placed 2-4 inches from any surface. Activate the loggers/sensors.</td>
</tr>
<tr>
<td>4</td>
<td>Cure the cylinders in accordance with FOP for AASHTO T 23.</td>
</tr>
<tr>
<td>5</td>
<td>Perform compression strength tests in accordance with FOP for AASHTO T 22 to target 2,500 psi for opening to traffic. In targeting the opening to traffic requirement and to properly characterize and validate the maturity calibration curve at least three target cylinder breaks must be broken prior to 2,500 psi. Test three cylinders at each age and compute the average strength. The cylinders with loggers/sensors may be tested if additional cylinders are needed. If a cylinder is obviously defective (for example, out of round, not square, damaged due to handling), the cylinder shall be discarded. If an individual cylinder strength is greater than 10 percent outside the average of three cylinders, the cylinder can be considered defective and be discarded. When two of the three cylinders are defective, a new batch must be evaluated unless additional acceptable cylinders are available.</td>
</tr>
<tr>
<td>6</td>
<td>At each test age, record the individual and average values of maturity and strength for each batch on a permanent data sheet</td>
</tr>
<tr>
<td>7</td>
<td>Plot the average strengths as a function of the average maturity values, with data points shown. Using a computer spreadsheet program such as Microsoft Excel, calculate a point-to-point interpolation through the data. The resulting curve is the strength-maturity relationship to be used for estimating the strength of the concrete mixture placed in the field.</td>
</tr>
</tbody>
</table>
When developing the SMR, the spreadsheet software allows the Contractor to develop the corresponding maturity equation, which defines the SMR. The Engineer should carefully examine the data for “outliers”, faulty cylinder breaks, or faulty maturity readings. The Engineer should use judgment to determine if certain points should be discarded, or retested, or whether the entire SMR should be regenerated.

### Contractors Procedure to Estimate In-Place Strength

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Prior to or at the time of concrete placement, install loggers/sensors at the frequency specified. Loggers/sensors shall be placed a minimum of 2 ft. from a panel edge 4 to 5 inches from the panel surface. Loggers/sensors may be tied to reinforcing steel, but should not be in direct contact with the reinforcing steel or formwork.</td>
</tr>
<tr>
<td>2</td>
<td>As soon as practical after concrete placement, connect and activate the maturity meter(s).</td>
</tr>
<tr>
<td>3</td>
<td>The Contractor shall provide to the Engineer, prior to opening the pavement to traffic, encrypted data files (with software to read the files) of the maturity data from the loggers/sensors. Data shall be provided until the maturity is at a value that is equal to or greater than the required strength for that concrete mixture, as determined by the SMR. Additionally, data shall be provided on a record log.</td>
</tr>
</tbody>
</table>

### Contractors Quality Control Procedure to Verify Strength-Maturity Relationship

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>1</td>
<td>At the specified verification interval make three cylinders in accordance with FOP for AASHTO T 23.</td>
</tr>
<tr>
<td>2</td>
<td>Embed a logger/sensor in one cylinder. Loggers/sensors shall be placed 2-4 inches from any surface. Activate the logger/sensor as soon as possible.</td>
</tr>
<tr>
<td>3</td>
<td>Cure the cylinders in accordance with FOP for AASHTO T 23.</td>
</tr>
<tr>
<td>4</td>
<td>Perform compression strength tests on all three of the cylinders in accordance with FOP for AASHTO T 22 to verify strength and time to reach 2,500 psi for opening to traffic. Compute the average strength of the cylinders. If a cylinder is obviously defective (for example, out of round, not square, damaged due to handling), the cylinder shall be discarded. If any individual cylinder strength is greater than 10 percent outside the average of three cylinders, that cylinder will be considered defective and be discarded. When two of the three cylinders are defective, the verification procedure will have to be repeated starting at step 1.</td>
</tr>
<tr>
<td>5</td>
<td>Record on a permanent data sheet the maturity value at the time of compression testing and individual and average strengths established from the cylinder breaks. Also record the predicted strength based on the SMR established for that particular concrete design, and the percent difference between average and predicted values. The SMR is verified when the predicted strength established from the average SMR and the cylinder breaks are within 10 percent. A copy of the data sheet and an encrypted file for the maturity data shall be provided to the Engineer on a daily basis.</td>
</tr>
</tbody>
</table>

Section 5-05.4 is supplemented with the following:

(August 6, 2012 WSDOT GSP)

Pigmented, textured, or textured and pigmented cement concrete pavement will be measured by the square yard placed.

Section 5-05.5 is supplemented with the following:

(August 6, 2012 WSDOT GSP)

“Textured and Pigmented Cement Concrete Pavement”, per square yard
The unit Contract price per square yard for Textured and Pigmented Cement Concrete Pavement shall be full pay for all costs incurred to perform the Work in this Specification.

(August 5, 2013 WSDOT GSP)

All costs in connection with conducting concrete pavement maturity testing and surface cleaning prior to opening to traffic shall be included in the unit Contract price per cubic yard for “Cement Conc. Pavement” and per square yard for “Replace Cement Concrete Panel”.

City of Fife
Port of Tacoma Road Interchange – Phase 1
Special Provisions to Standard Specs – Conformed
6-02 CONCRETE STRUCTURES

6-02.2 Materials
Section 6-02.2 is supplemented with the following:

(August 3, 2015 WSDOT GSP)
Variable Depth Random Board Finish and 3/4 Inch Random Board Finish
The variable depth random board finish and the 3/4 inch random board finish shall be
accomplished by the use of either a form liner selected from the approved products listed
in the WSDOT Qualified Products List (QPL), latest edition, or a form liner accepted by
the Engineer as an equal product. For acceptance of form liners not listed in the current
WSDOT QPL, the Contractor shall submit Type 2 Working Drawings of the request, along
with catalogue cuts and other descriptive supporting information, as follows:

1. One set to the Project Engineer

2. One set, accompanied by a 2 foot square physical sample of the form liner, to
the State Bridge and Structures Architect, addressed as follows:

If sent via US Postal Service:
Washington State Department of Transportation
State Bridge and Structures Architect
P. O. Box 47340
Olympia, WA 98504-7340

If sent via FedEx:
Washington State Department of Transportation
State Bridge and Structures Architect
7345 Linderson Way SW
Tumwater, WA 98501-6504

The variable depth finish shall utilize an elastomeric form liner, while the ¾ inch depth
finish shall use either an elastomeric or a plastic form liner.

The height of the form liner shall be equal to or greater than the height of the formed
surface. Only elastomeric form liners are allowed to have horizontal splices.

6-02.3 Construction Requirements

Finishing Concrete Surfaces
Section 6-02.3(14) is supplemented with the following:
Variable Depth Random Board Finish and 3/4 Inch Random Board Finish

Form liners shall be placed with board lines and joints normal to grade for barrier applications and vertical (or as shown in the Plans) for other applications. Horizontal joints in the elastomeric form liners are permitted on surfaces greater than 8 feet in height provided that the minimum form liner panel dimension is 8 feet.

Pigmented Sealer for Concrete Surfaces

Section 6-02.3(14)C is supplemented with the following:

(Pigment Sealer for Concrete Surfaces)

The color of the pigmented sealer shall be Washington Gray.

Precast Concrete Panels

Section 6-02.3(28) is supplemented with the following:

(******)

"Concrete slab over vault” shall conform to the requirements of this section except as noted otherwise in the following:

The concrete slab over vault may be fabricated on-site and need not be constructed in a PCI certified plant. The concrete slab over vault shall be cured in accordance with 6-02.3(11) and reach a minimum of 70% of its design strength prior to placement of slab over the existing vault. Concrete slab over vault shall meet the cover requirements specified on the plans. Lifting and handling of the concrete slab over vault, including design and placement of any lifting devices, shall be the responsibility of the Contractor. Lid of existing vault should be excavated and shored as necessary for the installation of the concrete slab over vault. Final drawings for fabrication of concrete slab over vault shall be submitted to the Engineer for approval prior to fabrication of concrete slab over vault.

6-02.5 Payment

Section 6-02.5 is supplemented with the following:

"Concrete Slab Over Vault", lump sum.

The lump sum Contract price for “Concrete Slab Over Vault” shall be full pay for furnishing and placing risers, precast slab and elastomeric bearing strip, and excavating, shoring, placing the precast slab over the existing CenturyLink vault and backfilling in accordance with the plans. As a basis of bid, the Contractor shall assume that all excavated soil has a detectable level of contamination that is less than the MTCA Method A Cleanup Levels for Unrestricted Sites (use WAC 173-340-900 Table 740-1) and shall be disposed at an appropriate facility. This material cannot be disposed at facilities with threshold acceptance criteria of “no detectable contaminants” without additional sampling and analysis. All sampling and analysis of this material will be at the Contractor’s expense.

6-05 PILING

6-05.2 Materials

Section 6-05.2 is supplemented with the following:

(******)
Materials for treated timber piles shall meet the requirements of Section 9-10.1 Timber Piling. Douglas Fir timber shall be used, and shall be treated in accordance with Section 9-09.3 Preservative Treatment. Treatment for timber piling shall be preservative treatment ammoniacal copper zinc arsenate (ACZA).

6-05.3 Construction Requirements
Section 6-05.3 is supplemented with the following:

(******)
Treated timber piles shall conform to the requirements of this section and as shown in the plans.

6-05.5 Payment
Section 6-05.5 is supplemented with the following:

(******)
“Ground Improvements”, lump sum.
The lump sum Contract price for “Ground Improvements” shall be payment for all costs associated with furnishing, treating and driving treated timber piles to the penetration and density specified. Payment will also include any metal shoes which the Contractor has determined to be beneficial to the pile driving.

6-10 CONCRETE BARRIER

6-10.4 Measurement
Section 6-10.4 is supplemented with the following:

(******)
Temporary Conc. Barrier Type 2 with scupper will be measured by the linear foot along the completed line and slope of the barrier, one time only for each setup of barrier protected area. Any intermediate moving or resetting will not be measured.

Temporary Concrete Barrier will be measured by the linear foot along the completed line and slope of the barrier, one time only for each setup of barrier protected area. Any intermediate moving or resetting will not be measured.

Temporary Barrier Terminal will be measured per each. Any intermediate moving or resetting will not be measured.

Temporary Type 2 Barrier with Fence will be measured by the linear foot along the completed line and slope of the barrier, one time only for each setup of barrier protected area. Any intermediate moving or resetting will not be measured.

6-10.5 Payment
Section 6-10.5 is supplemented with the following:

(August 1, 2016 WSDOT GSP)
The following paragraph is added immediately following the bid item, “Temporary Barrier”:

The unit contract price per linear foot for "Temporary Barrier" shall include all costs for furnishing, placing, maintaining, replacing, and cleaning barrier delineation.
“Temporary Conc. Barrier Type 2 with Scupper”, per linear foot.
The unit Contract price for “Temporary Conc. Barrier Type 2 with Scupper” shall be full payment for furnishing, installing, and removing the temporary barrier as shown in the plans.

“Temporary Concrete Barrier”, per linear foot.
The unit Contract price for “Temporary Concrete Barrier” shall be full payment for furnishing, installing, and removing the temporary barrier as shown in the plans.

“Temporary Barrier Terminal”, per each.
The unit Contract price for “Temporary Barrier Terminal” shall be full payment for furnishing, placing, maintaining and removing barrier terminal as shown in the plans.

“Temporary Type 2 Barrier with Fence”, per linear foot.
The unit Contract price for “Temporary Type 2 Barrier with Fence” shall be full payment for furnishing, installing, and removing the temporary barrier as shown in the plans.

6-13 STRUCTURAL EARTH WALLS

6-13.2 Materials

Section 6-13.2 is supplemented with the following:

(January 2, 2018)
Concrete Block Faced Structural Earth Wall Materials
General Materials
Concrete Block
Acceptability of the blocks will be determined based on the following:

1. Visual inspection.
2. Compressive strength tests, conforming to Section 6-13.3(4).
3. Water absorption tests, conforming to Section 6-13.3(4).
4. Manufacturer’s Certificate of Compliance in accordance with Section 1-06.3.
5. Freeze-thaw tests conducted on the lot of blocks produced for use in this project, as specified in Section 6-13.3(4).
6. Copies of results from tests conducted on the lot of blocks produced for this project by the concrete block fabricator in accordance with the quality control program required by the structural earth wall manufacturer.

The blocks shall be considered acceptable regardless of curing age when compressive test results indicate that the compressive strength conforms to the
28-day requirements, and when all other acceptability requirements specified above are met.

Testing and inspection of dry cast concrete blocks shall conform to ASTM C 140, and shall include block fabrication plant approval by WSDOT prior to the start of block production for this project.

**Mortar**
Mortar shall conform to ASTM C 270, Type S, with an integral water repellent admixture as accepted by the Engineer. The amount of admixture shall be as recommended by the admixture manufacturer. To ensure uniform color, texture, and quality, all mortar mix components shall be obtained from one manufacturer for each component, and from one source and producer for each aggregate.

**Geosynthetic Soil Reinforcement**
Geogrid reinforcement shall conform to Section 9-33.1, and shall be a product listed in Appendix D of the current WSDOT Qualified Products List (QPL). The values of $T_{al}$ and $T_{ult}$ as listed in the QPL for the products used shall meet or exceed the values required for the wall manufacturer’s reinforcement design as specified in the structural earth wall design calculation and working drawing submittal.

The minimum ultimate tensile strength of the geogrid shall be a minimum average roll value (the average test results for any sampled roll in a lot shall meet or exceed the values shown in Appendix D of the current WSDOT QPL). The strength shall be determined in accordance with ASTM D 6637, for multi-rib specimens.

The ultraviolet (UV) radiation stability, in accordance with ASTM D 4355, shall be a minimum of 70 percent strength retained after 500 hours in the weatherometer.

The longitudinal (i.e., in the direction of loading) and transverse (i.e., parallel to the wall or slope face) ribs that make up the geogrid shall be perpendicular to one another. The maximum deviation of the cross-rib from being perpendicular to the longitudinal rib (skew) shall be no more than 1 inch in 5 feet of geogrid width. The maximum deviation of the cross-rib at any point from a line perpendicular to the longitudinal ribs located at the cross-rib (bow) shall be 0.5 inches.

The gap between the connector and the bearing surface of the connector tab cross-rib shall not exceed 0.5 inches. A maximum of 10 percent of connector tabs may have a gap between 0.3 inches and 0.5 inches. Gaps in the remaining connector tabs shall not exceed 0.3 inches.

The Engineer will take random samples of the geogrid materials at the job site. Acceptance of the geogrid materials will be based on testing of samples from each lot. A “lot” shall be defined as all geogrid rolls sent to the project site produced by the same manufacturer during a continuous period of production at the same manufacturing plant having the same product name. The Contracting Agency will require 14 calendar days maximum for testing the samples after their arrival at the WSDOT Materials Laboratory in Tumwater, WA.
The geogrid samples will be tested for conformance to the specified material properties. If the test results indicate that the geogrid lot does not meet the specified properties, the roll or rolls which were sampled will be rejected. Two additional rolls for each roll tested which failed from the lot previously tested will then be selected at random by the Engineer for sampling and retesting. If the retesting shows that any of the additional rolls tested do not meet the specified properties, the entire lot will be rejected. If the test results from all the rolls retested meet the specified properties, the entire lot minus the roll(s) which failed will be accepted.

All geogrid materials which have defects, deterioration, or damage, as determined by the Engineer, will be rejected. All rejected geogrid materials shall be replaced at no expense to the Contracting Agency.

Except as otherwise noted, geogrid identification, storage and handling shall conform to the requirements specified in Section 2-12.2. The geogrid materials shall not be exposed to temperatures less than –20F and greater than 122F.

**Drainage Geosynthetic Fabric**

Drainage geosynthetic fabric shall be a non-woven geosynthetic conforming to the requirements in Section 9-33.1, for Construction Geotextile for Underground Drainage, Moderate Survivability, Class B.

**Proprietary Materials**

**Allan Block Wall**

Wall backfill material placed in the open cells of the precast concrete blocks and placed in the one to three foot zone immediately behind the precast concrete blocks shall be crushed granular material conforming to Section 9-03.9(3).

**GEOWALL Structural Earth Retaining Wall System**

Connection pins shall be fiberglass conforming to the requirements of Basalite Concrete Products, LLC.

**KeyGrid Wall**

KeyStone connection pins shall be fiberglass conforming to the requirements of Keystone Retaining Wall Systems, Inc.

**Landmark Retaining Wall**

Lock bars shall be made of a rigid polyvinyl chloride polymer conforming to the following requirements:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific Gravity</td>
<td>1.4 minimum</td>
<td>ASTM D 792</td>
</tr>
<tr>
<td>Tensile Strength at yield</td>
<td>2,700 psi minimum</td>
<td>ASTM D 638</td>
</tr>
</tbody>
</table>

Lock bars shall remain sealed in their shipping containers until placement into the wall. Lock bars exposed to direct sunlight for a period exceeding two months shall not be used for construction of the wall.
Mesa Wall

Block connectors for block courses with geogrid reinforcement shall be glass fiber reinforced high-density polypropylene conforming to the following minimum material specifications:

<table>
<thead>
<tr>
<th>Property</th>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polypropylene</td>
<td>ASTM D 4101</td>
<td></td>
</tr>
<tr>
<td>Group 1 Class 1 Grade 2</td>
<td>73 ± 2 percent</td>
<td></td>
</tr>
<tr>
<td>Fiberglass Content</td>
<td>ASTM D 2584</td>
<td>25 ± 3 percent</td>
</tr>
<tr>
<td>Carbon Black</td>
<td>ASTM D 4218</td>
<td>2 percent minimum</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>ASTM D 792</td>
<td>1.08 ± 0.04</td>
</tr>
<tr>
<td>Tensile Strength</td>
<td>ASTM D 638</td>
<td></td>
</tr>
<tr>
<td>at yield</td>
<td></td>
<td>8,700 ± 1,450 psi</td>
</tr>
<tr>
<td>Melt Flow Rate</td>
<td>ASTM D 1238</td>
<td>0.37 ± 0.16 ounces/10 min.</td>
</tr>
</tbody>
</table>

Block connectors for block courses without geogrid reinforcement shall be glass fiber reinforced high-density polyethylene (HDPE) conforming to the following minimum material specifications:

<table>
<thead>
<tr>
<th>Property</th>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDPE</td>
<td>ASTM D 1248</td>
<td></td>
</tr>
<tr>
<td>Type III Class A Grade 5</td>
<td>68 ± 3 percent</td>
<td></td>
</tr>
<tr>
<td>Fiberglass Content</td>
<td>ASTM D 2584</td>
<td>30 ± 3 percent</td>
</tr>
<tr>
<td>Carbon Black</td>
<td>ASTM D 4218</td>
<td>2 percent minimum</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>ASTM D 792</td>
<td>1.16 ± 0.06</td>
</tr>
<tr>
<td>Tensile Strength</td>
<td>ASTM D 638</td>
<td></td>
</tr>
<tr>
<td>at yield</td>
<td></td>
<td>8,700 ± 725 psi</td>
</tr>
<tr>
<td>Melt Flow Rate</td>
<td>ASTM D 1238</td>
<td>0.11 ± 0.07 ounces/10 min.</td>
</tr>
</tbody>
</table>

6-13.3 Construction Requirements

Section 6-13.3 is supplemented with the following:

(January 2, 2018)

Concrete Block Faced Structural Earth Wall

Concrete block faced structural earth walls shall be constructed of only one of the following wall systems. The Contractor shall make arrangements to purchase the concrete blocks, soil reinforcement, attachment devices, joint filler, and all necessary incidentals from the source identified with each wall system:

Allan Block Wall

Allan Block Wall is a registered trademark of the Allan Block Corporation

Allan Block Corporation

7424 W 78th Street

Bloomingoton, MN 55439

(800) 899-5309

FAX (952) 835-0013

www.allanblock.com

GEOWALL Structural Earth Retaining Wall System

GEOWALL is a registered trademark of Basalite Concrete Products, LLC
Basalite Concrete Products LLC
3299 International Place
Du Pont, WA 98327-7707
(800) 964-9424
FAX: (253) 964-5005
www.basalite.com

Redi-Rock Positive Connection System
Redi-Rock Positive Connection System is a registered trademark of Redi-Rock International, LLC

Redi-Rock International, LLC
05481 US 31 South
Charlevoix, MI 49720
(866) 222-8400
FAX (231) 237-9521
www.redi-rock.com

Mesa Wall
Mesa Wall is a registered trademark of Tensar Corporation

Tensar Corporation
2500 Northwinds Parkway Suite 500
Atlanta, GA 30009
(770) 334-2090
FAX (678) 281-8546
www.tensarcorp.com

Landmark Retaining Wall System
Landmark Retaining Wall System is a registered trademark of Anchor Wall Systems, Inc.

Anchor Wall Systems, Inc.
5959 Baker Road, Suite 390
Minnetonka, MN 55345-5996
(877) 295-5415
FAX (952) 979-8454
www.anchorwall.com

KeyGrid Wall
KeyGrid is a registered trademark of Keystone Retaining Wall Systems, Inc.

Keystone Retaining Wall Systems, Inc.
4444 West 78th Street
Minneapolis, MN 55435
(800) 747-8971
FAX (952) 897-3858
www.keystonewalls.com

Submittals
Section 6-13.3(2) is supplemented with the following:
The following geotechnical design parameters shall be used for the design of the structural earth wall(s):

Wall Name or No.: *** B, D and E ***

<table>
<thead>
<tr>
<th>Soil Properties</th>
<th>Wall Backfill</th>
<th>Retained Soil</th>
<th>Foundation Soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit Weight (pcf)</td>
<td><em><strong>130</strong></em></td>
<td><em><strong>120</strong></em></td>
<td><em><strong>54.6</strong></em></td>
</tr>
<tr>
<td>Friction Angle (deg)</td>
<td><em><strong>36</strong></em></td>
<td><em><strong>32</strong></em></td>
<td><em><strong>28</strong></em></td>
</tr>
<tr>
<td>Cohesion (psf)</td>
<td><em><strong>0</strong></em></td>
<td><em><strong>0</strong></em></td>
<td><em><strong>0</strong></em></td>
</tr>
</tbody>
</table>

For the Service Limit State, the wall shall be designed to accommodate a differential settlement of *** 1 inch *** per 100 feet of wall length.

For the Extreme Event I Limit State, the wall shall be designed for a horizontal seismic acceleration coefficient $k_h$ of *** 0.22 *** g and a vertical seismic acceleration coefficient $k_v$ of *** 0 *** g.

**Precast Concrete Facing Panel and Concrete Block Erection**

Section 6-13.3(5) is supplemented with the following:

(April 2, 2012 WSDOT GSP)

**Specific Erection Requirements for Precast Concrete Block Faced Structural Earth Walls**

**Landmark Retaining Wall**

When placing each course of concrete blocks, the Contractor shall pull the blocks towards the front face of the wall until the male key of the bottom face of the upper block contacts and fits into the female key of the top face of the supporting block below.

A maximum gap of 1/8-inch is allowed between adjacent concrete blocks, except for the base course set of concrete blocks placed on the leveling pad. A maximum gap of 1-inch is allowed between adjacent base course concrete blocks, provided geosynthetic reinforcement for drains is in place over the gap at the back face of the concrete blocks.

Lock bars shall be installed in the female key of the top face of all concrete block courses receiving geogrid reinforcement. Gaps between adjacent lock bars in the key shall not exceed 3-inches. The lock bar shall be installed flat side up, with the angled side to the back of the concrete block, as shown in the shop drawings.

Geogrid reinforcement shall be placed and connected to concrete block courses specified to receive soil reinforcement. The leading edge of the geogrid reinforcement shall be maintained within 1-inch of the front face of the supporting concrete blocks below. Geogrid panels shall be abutted for 100 percent backfill coverage with less than a 4-inch gap between adjacent panels.
Backfill shall be placed and compacted level with the top of each course of concrete blocks, and geogrid reinforcement placed and connected to concrete block courses specified to receive soil reinforcement, before the Contractor may continue placing the next course of concrete blocks.

**Mesa Wall**
For all concrete block courses receiving geogrid reinforcement, the fingers of the block connectors shall engage the geogrid reinforcement apertures, both in the connector slot in the block, and across the block core. For all concrete block courses with intermittent geogrid coverage, a #3 steel reinforcing bar shall be placed, butt end to butt end, in the top block groove, with the butt ends being placed at a center of a concrete block.

**Concrete Fascia Panel**
Replace the second paragraph in 6-16.3(8) with the following:

(******)
The Contractor shall provide the specified surface finish and pigmented sealer specified in the Special Provision section 6-02.3(14), and to the limits shown, in the Plans to the exterior concrete surface.
DIVISION 7 - DRAINAGE STRUCTURES, STORM SEWERS, SANITARY SEWERS, WATER MAINS, AND CONDUITS

7-01 Drains

7-01.1 Description
Section 7-01.1 is supplemented with the following:

(******)
This work shall consist of constructing media filter drains as detailed in the Plans.

7-01.2 Materials
Section 7-01.2 is supplemented with the following:

(******)

Media Filter Drain

Media Filter Drain Mix
Media filter drain mix shall be mixed in the following proportions: 3 cubic yards of mineral aggregate, 1 cubic yard of Horticultural Grade Perlite, 10 pounds of Agricultural Grade Dolomite Lime, and 3 pounds of Agricultural Grade Gypsum.
Media filter drain mix shall be premixed prior to placement. The soil amendments and mineral aggregate shall meet the following requirements prior to mixing:

Mineral Aggregate shall meet the requirements Section 9-03.4 for 3/8” - No. 10, except that the fracture requirement shall be two or more fractured faces.

Horticultural Grade Perlite shall meet the following grading requirements, and not contain any toxic material:

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>% Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 4</td>
<td>100%</td>
</tr>
<tr>
<td>No. 18</td>
<td>0% - 30%</td>
</tr>
<tr>
<td>No. 30</td>
<td>0% - 10%</td>
</tr>
</tbody>
</table>

Agricultural Grade Dolomite Lime shall meet the specification requirements of ASTM C602 for class designation O and not contain any toxic material.

Agricultural Grade Dolomite Lime shall meet the following grading requirements, and not contain any toxic material.

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>% Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 4</td>
<td>100%</td>
</tr>
<tr>
<td>No. 20</td>
<td>20% max.</td>
</tr>
</tbody>
</table>

The acceptance of the mineral aggregate shall be based on a satisfactory test report for every 1000 tons. Testing of mineral aggregate shall occur prior to mixing.
with the soil amendments. Horticultural grade perlite, Agricultural Grade Dolomite lime and Gypsum shall be accepted by catalog cut or bag label.

**Soil Mix**
The soil mix for the grass strip shall be a 50-50 mix, by weight, of crushed surfacing base course and topsoil Type A, B, or C. The soil mix shall be premixed prior to placement.

**Construction Requirements**
Section 7-01.3 is supplemented with the following:

(******)

**Media Filter Drain**
The Contractor shall construct the media filter drain in accordance with the details in the Plans.

The Contractor shall conduct the installation of the media filter drain such that the different sections of the media filter drain are not contaminated by other materials during installation.

Once installed, the Contractor will not be allowed to drive equipment over the area of the media filter drain.

**Media Filter Drain Placement Plan**
The Contractor shall submit the proposed media filter drain mixing method, proposed method of placement, and evidence that the proposed media filter drain mixing method and proposed method of placement will produce the desired uniformly mixed ratios to the Engineer at least 14-calendar days prior to the anticipated beginning of media filter drain placement. Media filter drain placement will not be allowed until the Engineer has approved the mixing method and method of placement.

7-01.4 Measurement
Section 7-01.4 is supplemented with the following:

(******)

Media filter drain will be measured by the linear foot of filter drain constructed, measured along the center line of media filter drain mix section.

7-01.5 Payment
Section 7-01.5 is supplemented with the following:

(******)

"Media Filter Drain", per linear foot.
The unit contract price per linear foot for “Media Filter Drain” shall be full pay to furnish all labor, equipment and materials to construct the media filter drain, including grubbing, excavation, removal of any existing media filter drain materials, disposal of excavated material, soil mix, media filter drain mix, geotextile for underground drainage, crushed surfacing base course, and gavel backfill for drains and underdrain pipe when required. As a basis of bid, the Contractor shall assume that all excavated soil has a detectable level of contamination that is less than the MTCA Method A Cleanup Levels for Unrestricted Sites (use WAC 173-340-900 Table 740-1) and shall be disposed at an...
appropriate facility. This material cannot be disposed at facilities with threshold acceptance criteria of “no detectable contaminants” without additional sampling and analysis. All sampling and analysis of this material will be at the Contractor’s expense.

7-02 CULVERTS

7-02.2 Materials
The first paragraph of Section 7-02.2 is supplemented with the following:

(******)
Welded Steel Culvert Pipe 9-05.30
Roadway Ballast 9-03.9(5)
Quarry Spalls 9-13.1(5)
Backer Rod 9-04.2(3)A
Controlled Density Fill 2-09.3(1)E
Joint Sealer 9-04.2(2)
Geotextile Fabric for Separation 9-33.2(1)
Gravel Borrow 9-03.14(1)

7-02.3 Construction Requirements

7-02.3(6) Precast Reinf. Conc. Three Sided Structures, Box Culverts and Split Box Culverts

Casting
The first paragraph of Section 7-02.3(6)A3 is replaced with the following:

(******)
Concrete shall conform to Section 6-02.3(28)B, with a 28-Day compressive strength of 4,000 psi.

Excavation and Bedding Preparation
The first sentence of the third paragraph of Section 7-02.3(6)A4 is replaced with the following:

(******)
The upper layer of bedding course shall be a layer of geotextile fabric for separation under a 3-feet minimum thickness layer of quarry spalls, placed to elevation 2-feet.

Erection
Section 7-02.3(6)B3 is supplemented with the following:

(******)
The contractor shall be responsible for all shoring required to construct the PRCTSS in accordance with the plans. If permanent shoring is used, it shall meet the requirements of Section 1-06.

The Contractor shall backfill the area between the outer excavation limits or contractor shoring and the PRCTSS with roadway ballast up to the existing ground line prior to settlement. After the settlement period is complete in accordance with
Section 2-03, the Contractor shall fill the inside of the PRCTSS with CDF (as specified in Section 2-09.3(1)E), up to 6 inches below the flow line elevation as shown on the Plans. A 6-inch concrete slab shall be cast above the CDF, to the flow line elevation shown on the plans. Edges of concrete slab shall be sealed with joint sealer after the slab has reached its 28-Day compressive strength.

7-02.4 Measurement
Section 7-02.4 is supplemented with the following:

(******)
Measurement for Welded Steel Culvert Pipe will be based on linear foot measured horizontally over the centerline of the installed pipe from the center of structures in conformance with the Contract Documents.

7-02.5 Payment
Section 7-02.5 is supplemented with the following:

(******)
"Precast Reinf. Conc. Three Sided Structure No. 1", per lump sum. The lump sum Contract price for “Precast Reinf. Conc. Three Sided Structure No. 1”, shall be full payment for excavating, fabricating the box culvert, slab, end walls, and furnishing and installing roadway ballast, quarry spalls, shoring, backer rod, CDF and liquid asphalt seal. As a basis of bid, the Contractor shall assume that all excavated soil has a detectable level of contamination that is less than the MTCA Method A Cleanup Levels for Unrestricted Sites (use WAC 173-340-900 Table 740-1) and shall be disposed at an appropriate facility. This material cannot be disposed at facilities with threshold acceptance criteria of “no detectable contaminants” without additional sampling and analysis. All sampling and analysis of this material will be at the Contractor’s expense.

"Welded Steel Culvert Pipe ___ Inch Diameter" per linear foot. The unit Contract price for Payment for "Welded Steel Culvert Pipe ___ Inch Diameter", shall be full payment for furnishing and installing pipe and not limited to complete compensation for all labor, materials, equipment, hauling, excavation, removal and disposal of waste material, pipe of the size and material type required, interior and exterior coatings, welded steel pipe joints, fittings and adaptors, installation, laying and jointing pipe and fittings, furnishing and placing pipe zone bedding material and pipe zone fill material, appurtenances, ethafoam pads, placement of subsequent backfill materials, placement of dual pipe in trench when shown on the Drawings, compaction, water, grading, cleaning, and testing, etc. required to complete the work in accordance with the Contract Documents. Select Imported Trench Backfill above the pipe zone bedding is included in other bid items.

"Corrugated Polyethylene Culv. Pipe 48 In. Diam.", per linear foot. The unit Contract price for “Corrugated Polyethylene Culv. Pipe 48 In. Diam.” shall be full payment for furnishing and installing pipe as shown in the plans.

"High-Density Polyethylene (HDPE) Pipe 36 In. Diam.", per linear foot. The unit Contract price for “High-Density Polyethylene (HDPE) Pipe 36 In. Diam.” shall be full payment for furnishing and installing pipe as shown in the plans.
7-04 STORM SEWERS

7-04.2 Materials
The first paragraph of Section 7-04.2 is revised as follows:

(******)
Where steel pipe is required, is shall be in accordance with Section 9-05.10 Steel Pipe.

The second paragraph of Section 7-04.2 is supplemented as follows:

(******)
The Contractor shall require pipe suppliers to furnish certificates signed by their authorized representative, stating the specifications to which the materials or products were manufactured. The Contractor shall provide 2 copies of these certifications to the Engineer for approval. Certificates showing nonconformance with the Contract shall be sufficient evidence for rejection. Approval of certificates shall be considered only as tentative acceptance of the materials and products, and such action by Engineer will not relieve Contractor of his/her responsibility to perform field tests and to replace or repair faulty materials, equipment, and/or workmanship and Contractor’s own expense.

7-04.3 Construction Requirements
Section 7-04.3 is supplemented with the following:

Connecting new storm sewer pipe to existing storm sewer pipe shall follow the requirements for jointing dissimilar pipe per section 7-08.3(2)G. Where not shown on the plans, the new storm sewer shall be the same diameter and laid at the same slope as the replaced or removed pipe.

7-04.3(1)A General
Section 7-04.3(1)A is revised to read:

(******)
The requirements of Section 7-17.3(2)A shall apply to storm sewers and culverts except for the concrete box and welded steel culverts.

7-04.4 Measurement
Section 7-04.4 will be supplemented by the following:

(******)
Measurement for Connect to Existing Pipe _____ In. Diam. will be per each connection.

Measurement for Connect to Existing Culvert 36 In. Diam. will be per each connection.

(******)
Beveled end sections shall be considered as part of the pipe and will be measured as part of the storm sewer pipe.

7-04.5 Payment
Section 7-04.5 is supplemented with the following:
“Testing Storm Sewer Pipe”, per linear foot.
The unit Contract price per linear foot for “Testing Storm Sewer Pipe” shall include testing of new culverts as specified in Section 7-04.3(1-A).

“Corrugated Polyethylene Culv. Pipe _____Diam.”, per linear foot.
“High-Density Polyethylene (HDPE) Pipe _____Diam.”, per linear foot.
“Welded Steel Culvert Pipe 60 In. Diam.”, per linear foot.

The unit Contract price per each for “Corrugated Polyethylene Culv. Pipe _____Diam.”, “High-Density Polyethylene (HDPE) Pipe _____Diam.” and “Welded Steel Culvert Pipe 60 In. Diam.” shall be full pay for all costs associated with furnishing and installing the quarry spalls and pipe in accordance with the plans.

“Connect to Existing Pipe ______ In. Diam.”, per each.

“Connect to Existing Culvert 36 In. Diam.”, per each.

The unit Contract price per each for “Connect to Existing Pipe ______ In. Diam.” and “Connect to Existing Culvert 36 In. Diam.” shall be full pay for all costs associated with furnishing and installing the connection between the new and existing storm sewer pipe per the Plans including removal of any obstruction, plugging of existing pipe and temporary water bypass or pumping if required by field conditions, cleaning and preparation of new and existing pipe ends for jointing, furnishing and installation of joint materials including couplings and collars, joint testing if required, and bedding of the new joint. Structure excavation, shoring, and backfilling are covered under separate bid items.

(Welded Steel Storm Sewer Pipe, _-inch Diameter”, per linear foot.
The unit Contract price for “Welded Steel Storm Sewer Pipe per linear foot”, shall be full pay for all costs associated with furnishing and installing, and compensation for all labor, materials, equipment, hauling, excavation, removal and disposal of waste material, pipe of the size and material type required, interior and exterior coatings, welded steel pipe joints, fittings and adaptors, installation, laying and jointing pipe and fittings, furnishing and placing pipe zone bedding material and pipe zone fill material, appurtenances, ethafoam pads, placement of subsequent backfill materials, , compaction, water, grading, cleaning, and testing, etc. required to complete the work in accordance with the Contract Documents. Select Imported Trench Backfill above the pipe zone bedding is included in other bid items. As a basis of bid, the Contractor shall assume that all excavated soil has a detectable level of contamination that is less than the MTCA Method A Cleanup Levels for Unrestricted Sites (use WAC 173-340-900 Table 740-1) and shall be disposed at an appropriate facility. This material cannot be disposed at facilities with threshold acceptance criteria of “no detectable contaminants” without additional sampling and analysis. All sampling and analysis of this material will be at the Contractor’s expense.

All locking solid metal covers and frames for catch basins shall be round, bolt-down, and watertight meeting WSDOT Standard Plan B-30.70.03. Lettering on all solid covers for the storm system shall read “STORM”. This includes all existing catch basins or inlets with grated or vaned covers that are to receive solid covers where shown in the Plans.
7-05.3 Construction Requirements
Section 7-05.3 is supplemented with the following:

(******)
Flow splitter shall be constructed in accordance with the Plans.
Level spreader shall be constructed in accordance with the Plans.

7-05.3(3) Connection to Existing Manholes
Supplement Section 7-05.3(3) with the following:

(******)
The connections to existing manholes and drainage structures shall include coring and patching of the existing structure after the new pipe is connected.

7-05.4 Measurement
Section 7-05.4 is supplemented with the following:

(******)
Locking Solid Metal Cover and Frame for Catch Basin will be measured per each.
Flow Splitter will be measured per each.
Level Spreader will be measured per linear foot.

7-05.5 Payment
Section 7-05.5 is supplemented with the following:

(******)
“Locking Solid Metal Cover and Frame for Catch Basin”, per each.
The unit Contract price for “Locking Solid Metal Cover and Frame for Catch Basin” per each shall be full pay for furnishing, and installing the cover and frame for the catch basins as shown in the plans. Where cover and frame is to replace an existing grate or cover, the unit Contract price shall also include full pay to prepare existing drainage structure to receive new cover including removal of existing frame and grate or lid, removal of material or obstructions, cleaning, surface preparation, modifying adjustment rings, grouting, and all surface restoration including pavement repair.

“Flow Splitter”, per each.
The unit Contract price for “Flow Splitter” per linear foot shall be full pay for furnishing and installing the flow splitter, including all Structure excavation, bedding, backfill, catch basin, all items within the catch basin, pipe penetrations into the structure, grouting, frame and cover, steps, cleaning, restoration associated with flow splitter placement, and testing. As a basis of bid, the Contractor shall assume that all excavated soil has a detectable level of contamination that is less than the MTCA Method A Cleanup Levels for Unrestricted Sites (use WAC 173-340-900 Table 740-1) and shall be disposed at an appropriate facility. This material cannot be disposed at facilities with threshold acceptance criteria of “no detectable contaminants” without additional sampling and analysis. All sampling and analysis of this material will be at the Contractor’s expense.
“Level Spreader”, per linear foot. The unit Contract price for “Level Spreader” per each shall be full pay for furnishing and installing the level spreader, including all Structure excavation, bedding, backfill, formwork, all items within the level spreader, pipe penetrations into the structure, grouting, frame and cover, cleaning, restoration associated with level spreader placement, and testing. As a basis of bid, the Contractor shall assume that all excavated soil has a detectable level of contamination that is less than the MTCA Method A Cleanup Levels for Unrestricted Sites (use WAC 173-340-900 Table 740-1) and shall be disposed at an appropriate facility. This material cannot be disposed at facilities with threshold acceptance criteria of “no detectable contaminants” without additional sampling and analysis. All sampling and analysis of this material will be at the Contractor’s expense.

“Connection to Drainage Structure”, per each. The unit Contract price for “Connection to Drainage Structure” per each shall be full pay for all costs necessary to connect new storm sewer or drain pipe to existing catch basin or manhole including accessing existing structure and connection location, additional structure excavation or shoring beyond that needed for pipe installation, storm water bypass, removing obstructions, coring into drainage structure, cleaning existing structure, connecting new pipe to existing drainage structure, any fittings required to allow new pipe connection, drainage structure repair, any adjustments to or replacement of existing storm sewers that are to remain due to conflict with new storm sewer or drain, and grouting. As a basis of bid, the Contractor shall assume that all excavated soil has a detectable level of contamination that is less than the MTCA Method A Cleanup Levels for Unrestricted Sites (use WAC 173-340-900 Table 740-1) and shall be disposed at an appropriate facility. This material cannot be disposed at facilities with threshold acceptance criteria of “no detectable contaminants” without additional sampling and analysis. All sampling and analysis of this material will be at the Contractor’s expense.

7-08 GENERAL PIPE INSTALLATION REQUIREMENTS

7-08.2 Materials
Section 7-08.2 is supplemented with the following:

(*****)
Quarry Spalls 9-13.1(5)
Gravel Borrow 9-03.14(1)

7-08.3 Construction Requirements
Section 7-08.3 is supplemented with the following:

(*****)
The requirements for bedding and backfill within the pipe zone for HDPE storm sewer pipe and HDPE culvert pipe shall follow that for thermoplastic pipe.
The requirements for bedding and backfill within the pipe zone for welded steel culvert pipe shall follow that for steel culvert pipe.
Quarry spalls shall be placed below the pipe zone bedding as shown in the plans or as determined by the Engineer for the following pipe:
- Corrugated Polyethylene Culv. Pipe ____ Diam.
- High-Density Polyethylene (HDPE) Pipe ____ Diam.
- Welded Steel Culvert Pipe 60 In. Diam."

### 7-08.3(2) Laying Pipe

(******)

#### 7-08.3(2)J Sanitary Sewer Crossing at Storm Sewer Catch Basin

Add the following new Section:

The installation of a sanitary sewer crossing through a storm sewer catch basin shall be accordance with these Plans.

Steel sleeve shall be a single continuous piece. Steel sleeve shall have an anticorrosive coating thickness of 3 Mills. Hot dipped galvanized in accordance with ASTM A123.

Maximum distance between sleeve spacers shall be six feet. End spacer shall be set no more than one foot from each end of casing. A minimum of three sleeve spacers shall be used in each sleeve.

Spacers for sleeve shall be “center positioning type”. Spacer bands shall be 6 inches wide and comply with ASTM A240. Minimum runner width shall be two inches. Runner height shall be sized to provide a minimum clearance of one inch between runners and top of sleeve wall to prevent jamming during installation. Runners shall comply with ASTM D638. If used, risers shall comply with ASTM D638.

Ends of steel sleeve shall be sealed to carrier pipe with water-tight neoprene or EPDM casing end seals. Straps for end seals shall be stainless steel.

The sanitary sewer carrier pipe shall be a single continuous piece, outfitted with spacers, and comply with section 9-05.12(1).

### 7-08.3(3) Backfilling

The last two sentences of the fourth paragraph of Section 7-08.3(3) is replaced with the following:

(******)

Material excavated from the trench shall be removed from the site. Backfill material above the pipe zone bedding shall meet the requirements of 9-03.14(1) Gravel Borrow.

### 7-08.3(4) Plugging Existing Pipe

Section 7-08.3(4) is supplemented with the following:

(******)

Pipe openings and knockouts that are associated with removed or abandoned pipe in existing catch basins or manholes that are to remain shall be completely filled and thoroughly plugged the full thickness of the structure wall with commercial concrete. Backfill material outside of the structure that is to remain shall be fully compacted prior to placement of plug.
7-08.4 Measurement
Section 7-08.4 is supplemented with the following:

(******)

Plugging of pipe openings in existing catch basins or manholes that are to remain will be measured per each, for each plug installed.

Sanitary sewer crossing at storm sewer catch basin will be measured per each.

7-08.5 Payment
Section 7-08.5 is supplemented with the following:

(******)

"Plugging Existing Pipe", per each.

All costs associated with plugging of pipe openings in existing catch basins or manholes that are to remain including any preparation of the opening to be plugged shall be included in the unit Contract price for “Plugging Existing Pipe”.

“Sanitary Sewer Crossing at Storm Sewer Catch Basin”, per each.

The unit Contract price per each for “Sanitary Sewer Crossing at Storm Sewer Catch Basin” shall be full pay for all costs necessary to install the sleeve and sanitary sewer carrier pipe through a new storm sewer catch basin per these Plans. This includes the removal of the existing sanitary sewer and associated structure associated with this work, all temporary plugs and temporary sanitary bypass to complete the work, installation of the sleeve and carrier pipe through the new storm catch basin including spacers, end seals, and couplings, grouting around sleeve at catch basin openings, and all excavation, shoring, bedding, and backfilling associated with the installation of the sleeve and carrier pipe. As a basis of bid, the Contractor shall assume that all excavated soil has a detectable level of contamination that is less than the MTCA Method A Cleanup Levels for Unrestricted Sites (use WAC 173-340-900 Table 740-1) and shall be disposed at an appropriate facility. This material cannot be disposed at facilities with threshold acceptance criteria of “no detectable contaminants” without additional sampling and analysis. All sampling and analysis of this material will be at the Contractor’s expense.

7-09 WATER MAINS

7-09.2 Materials
Revise Section 7-09.2 Trench Backfill with the following:

(******)

Trench Backfill 9-03.15

Section 7-09.2 is supplemented with the following:

(******)

Sleeve-Type Mechanical Couplings – Connection to AC Pipe
Couplings joining existing asbestos cement pipe to ductile iron shall be designed to couple plain-end piping by compression of a ring gasket at each end of adjoining pipe sections. Coupling shall consist of ductile iron center ring flared or beveled at each end to provide a gasket seat; two ductile iron follower end rings; two resilient tapered rubber gaskets;
and 316 stainless steel bolts and nuts to draw the follower rings toward each other to compress the gaskets. Design shall provide for confinement and compression of gaskets. Gaskets shall be designed for resistance to set after installation. Mechanically coupled joints using a sleeve-type mechanical coupling shall only be used where pipeline is adequately anchored to resist tension pull across joint. Mechanical couplings shall provide a tight flexible joint under all reasonable conditions, such as pipe movements caused by expansion, contraction, slight settling or shifting in the ground, minor variations in trench gradients and traffic vibrations. Couplings shall be of strength not less than the adjoining pipeline. Wrap couplings with polyethylene encasement.

Transition Couplings (Ductile Iron/Asphalt Concrete Pipe) shall be manufactured by one of the following or approved equal:
- RC501 Reducing Coupling by Romac Industries, Inc.
- Strong Back Coupling, Model FE 5055-88RC by Fernco
- Hymax Coupling, Krausz Part No. 860-XX by Hymax

**Restrained Mechanical Couplings, Tie-In to Piping 3-inch to 12-inch**
Where drawings show flexible isolation or transition coupling at connections to existing piping having similar or dissimilar pipe materials and nominal pipe sizes 4-inch through 12-inch, restrained coupling shall be used. Coupling shall be capable of being used with ductile iron pipe, C900 PVC pipe, ASTM 2241 PVC (IPS), carbon steel pipe, and HDPE pipe. All bolts, nuts and associated hardware for couplings shall be 316 stainless steel. All couplings shall be wrapped with polyethylene encasement.

Restrained Mechanical Couplings shall be manufactured by one of the following or approved equal:
- Series 3800 MEGA-COUPLING by EBAA Iron, Inc.
- Alpha Wide Range Restrained Coupling by Romac Industries, Inc.
- Model 413 Transition Coupling by Smith-Blair, Inc.

**Restraining Glands**
Where shown on drawings, and where mechanical joints are not otherwise restrained using concrete thrust blocks, piping shall be restrained with mechanical joint restraint gland.

Restraint glands shall be manufactured by one of the following or approved equal:
- Megalug Series 1100 by Romac Industries, Inc.
- Romagrip Series by Romac Industries, Inc.
- Sigma One-Loc Services by Sigma Corporation
- Series 3000 Star Grip by Star Pipe Products

**7-09.3 Construction Requirements**

**7-09.3(1) General**
Section 7-09.3(22) is supplemented with the following:

(******)
The Contractor shall ensure that the embankment has reached full settlements as specified in Section 2-05, prior to constructing the water main within the embankment fill.

7-09.3(10) **Backfilling Trenches**

Section 7-09.3(10) is supplemented with the following:

(******)
Backfill material for the trenches shall meet the requirements of 9-03.14(1) Gravel Borrow.

7-09.3(22) **Blowoff Assemblies**

Section 7-09.3(22) is revised to read:

(******)
Blowoff Assemblies shall be constructed at the locations shown on the Plans and in accordance with the City of Fife Water Standard Details.

7-09.3(23) **Hydrostatic Pressure Test**

Section 7-09.3(23) is revised to read:

(******)
Hydrostatic pressure testing shall be performed in accordance with City of Fife Water Standard Detail W8.

7-09.3(23)A **Testing Extensions From Existing Mains**

Section 7-09.3(23)A is revised to read:

(******)
Testing of extensions from existing water mains shall be performed in accordance with City of Fife Water Standard Detail W8.

7-09.3(23)B **Testing Section with Hydrant Installed**

Section 7-09.3(23)B is revised to read:

(******)
Testing of sections with hydrants installed shall be performed in accordance with City of Fife Water Standard Detail W8.

7-09.3(23)C **Testing Hydrants Installed on Existing Mains**

Section 7-09.3(23)C is revised to read:

(******)
Testing of hydrants installed on existing water mains shall be performed in accordance with City of Fife Water Standard Detail W8.

7-09.3(24) **Disinfection of Water Mains**

Section 7-09.3(24) is revised to read:

(******)
Disinfection of water mains shall be performed in accordance with City of Fife Water Standard Detail W8.

7-09.3(24)A Flushing
Section 7-09.3(24)A is revised to read:

(******)
Flushing of water mains shall be performed in accordance with City of Fife Water Standard Detail W8.

7-09.3(24)B Requirements of Chlorine
Section 7-09.3(24)B is revised to read:

(******)
Requirements of Chlorine shall be in accordance with City of Fife Water Standard Detail W8.

7-09.3(24)N Final Flushing and Testing
Section 7-09.3(24)N is revised to read:

(******)
Final flushing and testing shall be performed in accordance with City of Fife Water Standard Detail W8.

7-09.3(24)O Repetition of Flushing and Testing
Section 7-09.3(24)O is revised to read:

(******)
Repetition of flushing and testing shall be performed in accordance with City of Fife Water Standard Detail W8.

7-09.4 Measurement
Section 7-09.4 is supplemented with the following:

(******)
Reduced pressure backflow assemblies will be measured per each assembly installed.

2 In. double check valve assembly will be measured per each assembly installed.

Sleeve-Type Mechanical Couplings – DI to AC Connection will be measured per each connection assembly.

Restrained Mechanical Couplings will be measured per each.

Restraining Glands will be measured per each assembly.

7-09.5 Payment
Section 7-09.5 is supplemented with the following:

(******)
The unit Contract price for each of the following bid items shall be full pay for all Work to install the item and assembly, including but not limited to excavating, backfilling, laying and jointing pipe, tapping the main, corporation stop, pipe and fittings, gate valve, meter box, and cover and cleanup:

“_____ In. Reduced Pressure Backflow Assembly”, per each.

“2 In. Double Check Valve Assembly”, per each.

“Sleeve-Type Mechanical Couplings – DI to AC Connection”, per each assembly.

“Restrained Mechanical Couplings”, per each.

“Restraining Glands”, per each assembly.

As a basis of bid, the Contractor shall assume that all excavated soil has a detectable level of contamination that is less than the MTCA Method A Cleanup Levels for Unrestricted Sites (use WAC 173-340-900 Table 740-1) and shall be disposed at an appropriate facility. This material cannot be disposed at facilities with threshold acceptance criteria of “no detectable contaminants” without additional sampling and analysis. All sampling and analysis of this material will be at the Contractor’s expense.

7-14 HYDRANTS

7-14.3 Construction Requirements

7-14.3(1) Setting Hydrants

Revise the first two paragraphs in Section 7-014.3(1) to read:

(******)

Where shown in the Plans, hydrants shall be installed in accordance with the City of Fife Water Standard Details. In addition, a minimum 3-foot radius unobstructed working area shall be provided around all hydrants. The sidewalk flange shall be set 2 inches above finished grade.

After all installation and testing is complete, the exposed portion of thehydrant shall be painted with one field coat. The type and color of paint shall be in accordance with the City of Fife Water Standard Details. The hydrant barrel drain shall waste into a pit of porous gravel material situated at the base of the hydrant as shown in the City of Fife Water Standard Details.

7-14.3(2) Hydrant Connections

Revise the first two paragraphs in Section 7-14.3(1) to read:

(******)

Hydrant laterals shall consist of one continuous section of 6-inch ductile iron pipe from the main to the hydrant and shall include an auxiliary gate valve set vertically and placed in accordance with the City of Fife Water Standard Details.

7-14.3(2)A Hydrant Restraints

The first sentence in Section 7-14.3(2)A is revised to read:
The thrust created in the hydrant lateral shall be restrained as shown in the City of Fife Water Standard Details.

7-14.3(5) Reconnecting Existing Hydrants
Revise the second paragraphs in Section 7-14.3(5) to read:

(*****)
Where existing hydrants were not shackled to the old main, the new connection shall be shackled with steel rods as shown in the City of Fife Water Standard Details, or by such other shackling method as approved by the Engineer.

7-14.4 Measurement
Section 7-14.4 is supplemented with the following:

(*****)
Guard Posts will be measured per each for each post installed.

7-14.5 Payment
Section 7-14.4 is supplemented with the following:

(*****)
"Guard Posts", per each.
The unit Contract price per each for "Guard Posts" shall be full pay for all Work to fabricate and install the guard posts as shown in the plans.

7-15 SERVICE CONNECTIONS

7-15.4 Measurement
Section 7-15.4 is supplemented with the following:

(*****)
Meters will be measured per each for each size of meter installed.

7-15.5 Payment
Section 7-15.5 is supplemented with the following:

(*****)
"Service Connection 1-1/2 In. Diam.", per each.
The unit Contract price per each for “Service Connection 1-1/2" Diam.” shall be full pay for all Work to install the service connection, including but not limited to, excavating, tapping the main, laying and jointing the pipe and fittings and appurtenances, backfilling, testing, flushing, and disinfection of the service connection. As a basis of bid, the Contractor shall assume that all excavated soil has a detectable level of contamination that is less than the MTCA Method A Cleanup Levels for Unrestricted Sites (use WAC 173-340-900 Table 740-1) and shall be disposed at an appropriate facility. This material cannot be disposed at facilities with threshold acceptance criteria of “no detectable contaminants” without additional sampling and analysis. All sampling and analysis of this material will be at the Contractor's expense.

"_____In. Meter", per each.
The unit Contract price per each for “_____ In. Meter” shall be full pay for all costs to furnish and install water meters, including all costs for excavation, backfill, and any other work required for the complete installation of the water meter as specified. As a basis of bid, the Contractor shall assume that all excavated soil has a detectable level of contamination that is less than the MTCA Method A Cleanup Levels for Unrestricted Sites (use WAC 173-340-900 Table 740-1) and shall be disposed at an appropriate facility. This material cannot be disposed at facilities with threshold acceptance criteria of “no detectable contaminants” without additional sampling and analysis. All sampling and analysis of this material will be at the Contractor’s expense.
DIVISION 8 - MISCELLANEOUS CONSTRUCTION

8-01 EROSION CONTROL AND WATER POLLUTION CONTROL

8-01.3 Construction Requirements

General

Section 8-01.3(1) is supplemented with the following:

(January 5, 2015 WSDOT GSP)

The Contractor shall be responsible for all Work required for compliance with the Construction Stormwater General Permit (CSWGP) including annual permit fees.

TESC Compliance Incentive

If the Proposal includes the Bid item “TESC Compliance Incentive” then an incentive has been established to provide the Contractor the opportunity to earn additional payment for carrying out well-planned and proactive implementation of the CSWGP requirements in order to protect the environment during construction.

The Contractor will earn a TESC Compliance Incentive payment in the amount of five percent of monies paid on a progress estimate for the Bid item Erosion Control and Water Pollution Prevention when all Work by the Contractor during the period of that progress estimate complies with all Contract requirements for Erosion Control and Water Pollution Prevention and the CSWGP.

The first through eighth paragraphs of Section 8-01.3(1) are deleted and replaced with the following:

(January 5, 2015 WSDOT GSP)

The Contractor shall install a high visibility fence along the site preservation lines shown in the Plans or as instructed by the Engineer.

Throughout the life of the project, the Contractor shall preserve and protect the delineated area, acting immediately to repair or restore any fencing damaged or removed.

Controlling pollution, erosion, runoff, and related damage requires the Contractor to perform temporary Work items including but not limited to:

1. Providing ditches, berms, culverts, and other measures to control surface water.
2. Building dams, settling basins, energy dissipaters, and other measures, to control downstream flows.
3. Controlling underground water found during construction.
4. Covering or otherwise protecting slopes until permanent erosion-control measures are working.

To the degree possible, the Contractor shall coordinate this temporary Work with permanent drainage and erosion control Work the Contract requires.
All sediment control devices including, but not limited to, sediment ponds, perimeter silt fencing, or other sediment trapping BMPs shall be installed prior to any ground disturbing activity. Clearing, grubbing, excavation, borrow, or fill within the Right of Way shall never expose more erodible earth than as listed below:

<table>
<thead>
<tr>
<th>Region</th>
<th>Period</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Washington</td>
<td>May 1 through September 30</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>October 1 through April 30</td>
<td>5</td>
</tr>
<tr>
<td>Eastern Washington</td>
<td>April 1 through October 31</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>November 1 through March 31</td>
<td>5</td>
</tr>
</tbody>
</table>

### 8-01.3(1)A Submittals

Section 8-01.3(1)A is revised to read:

(August 3, 2015 WSDOT GSP)

A Temporary Erosion and Sediment Control (TESC) Plan consists of a narrative section and plan sheets that meets Ecology's Stormwater Pollution Prevention Plan (SWPPP) requirement in the CSWGP. When the Contracting Agency has developed a TESC Plan for a Contract the narrative is included in the appendix to the Special Provisions and the TESC plan sheets are included in the Contract Plans. The Contracting Agency TESC plan will not include off-site areas used to directly support construction activity.

The Contractor shall adopt the TESC Plan in the Contract or develop a new TESC Plan. If the Contractor adopts the Contracting Agency TESC Plan the Contractor shall modify the TESC Plan to meet the Contractor's schedule, method of construction, and to include off-site areas that will be used to directly support construction activity such as equipment staging yards, material storage areas, or borrow areas. Contractor TESC Plans shall include all high visibility fence delineation shown on the Contracting Agency Contract Plans. All TESC Plans shall meet the requirements of the current edition of the WSDOT Temporary Erosion and Sediment Control Manual M 3109 and be adapted as needed throughout construction based on site inspections and discharge samples to maintain compliance with the CSWGP. The Contractor shall develop a schedule for implementation of the TESC work and incorporate it into the Contractor's progress schedule.

The Contractor shall submit their TESC Plan (either the adopted plan or new plan) and implementation schedule as Type 2 Working Drawings. At the request of the Engineer updated TESC Plans shall be submitted as Type 1 Working Drawings.

### 8-01.3(1)B Erosion and Sediment Control (ESC) Lead

The second and third paragraphs in Section 8-01.3(1)B are revised to read:

(January 5, 2015 WSDOT GSP)

The ESC Lead shall implement the TESC Plan. Implementation shall include, but is not limited to:
1. Installing and maintaining all temporary erosion and sediment control Best Management Practices (BMPs) included in the TESC Plan to assure continued performance of their intended function. Damaged or inadequate TESC BMP’s shall be corrected immediately.

2. Updating the TESC Plan to reflect current field conditions.

3. Discharge sampling and submitting Discharge Monitoring Reports (DMRs) to Ecology in accordance with the CSWGP.

4. Develop and maintain the Site Log Book as defined in the CSWGP. As a part of the Site Log Book, the Contractor shall develop and maintain a BMP tracking table to show that identified TESC compliance issues are fully resolved within 10 calendar days. The table shall include the date an issue was identified, a description of how it was resolved, and the date the issue was fully resolved.

The ESC Lead shall also inspect all areas disturbed by construction activities, all on-site erosion and sediment control BMP’s, and all stormwater discharge points at least once every calendar week and within 24-hours of runoff events in which stormwater discharges from the site. Inspections of temporarily stabilized, inactive sites may be reduced to once every calendar month. The Erosion and Sediment Control Inspection Form (WSDOT Form 220-030) shall be completed for each inspection and a copy shall be submitted to the Engineer no later than the end of the next working day following the inspection.

8-01.3(1)C Water Management
Section 8-01.3(1)C is supplemented with the following:

(August 6, 2012 WSDOT GSP)
Off-site Stormwater
Stormwater is known to enter the project site at the following locations:

<table>
<thead>
<tr>
<th>Latitude (Decimal Degrees)</th>
<th>Longitude (Decimal Degrees)</th>
</tr>
</thead>
<tbody>
<tr>
<td>47.240941</td>
<td>-122.377039</td>
</tr>
<tr>
<td>47.241014</td>
<td>-122.37805</td>
</tr>
<tr>
<td>47.241439</td>
<td>-122.381494</td>
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<td>47.241962</td>
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<td>47.242709</td>
<td>-122.383813</td>
</tr>
<tr>
<td>47.246741</td>
<td>-122.383557</td>
</tr>
</tbody>
</table>

(*)

Seed of the following mix, rate, and analysis shall be applied at the rates shown below on all areas requiring *** Lawn, Roadside Restoration, Wetland
Restoration, Wetland Buffer Restoration, Wet Biofiltration Swale, Biofiltration Swale *** seeding within the project:

### Lawn Seed Mix

<table>
<thead>
<tr>
<th>Lawn Seed Mix</th>
<th>% Weight</th>
<th>% Purity</th>
<th>% Germination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perennial rye blend (3 Variety Blend) <em>Lolium perenne var.</em></td>
<td>70</td>
<td>98</td>
<td>90</td>
</tr>
<tr>
<td>Chewings fescue and red fescue blend <em>Festuca rubra var. commutata or Festuca rubra</em></td>
<td>30</td>
<td>98</td>
<td>90</td>
</tr>
</tbody>
</table>

### Roadside Restoration Seed Mix

<table>
<thead>
<tr>
<th>Roadside Restoration Seed Mix</th>
<th>% Weight</th>
<th>% Purity</th>
<th>% Germination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chewings fescue or Annual bluegrass <em>Festuca rubra var. commutata or Poa anna</em></td>
<td>40</td>
<td>98</td>
<td>90</td>
</tr>
<tr>
<td>Perennial rye (3 Variety Blend) <em>Lolium perenne var.</em></td>
<td>40</td>
<td>98</td>
<td>90</td>
</tr>
<tr>
<td>Colonial bentgrass <em>Agrostis tenuis</em></td>
<td>10</td>
<td>92</td>
<td>85</td>
</tr>
<tr>
<td>White dutch clover <em>Trifolium repens</em></td>
<td>10</td>
<td>98</td>
<td>90</td>
</tr>
</tbody>
</table>

### Wetland Restoration Seed Mix

<table>
<thead>
<tr>
<th>Wetland Restoration Seed Mix</th>
<th>% Weight</th>
<th>% Purity</th>
<th>% Germination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tall fescue <em>Festuca arundinacea</em></td>
<td>68</td>
<td>98</td>
<td>90</td>
</tr>
</tbody>
</table>
### Wetland Restoration Seed Mix

<table>
<thead>
<tr>
<th>Seed Mix</th>
<th>Weight</th>
<th>Purity</th>
<th>Germination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seaside/Creeping bentgrass <em>Agrostis palustris</em></td>
<td>10</td>
<td>98</td>
<td>85</td>
</tr>
<tr>
<td>Meadow foxtail <em>Alepocurus pratensis</em></td>
<td>10</td>
<td>90</td>
<td>80</td>
</tr>
<tr>
<td>Alsike clover <em>Trifolium hybridum</em></td>
<td>6</td>
<td>98</td>
<td>90</td>
</tr>
<tr>
<td>Redtop bentgrass <em>Agrostis alba</em></td>
<td>6</td>
<td>92</td>
<td>85</td>
</tr>
</tbody>
</table>

### Wetland Buffer Restoration Seed Mix

1. Seed Application Rate: 50-70 lbs/acre
2. Bonded Fiber Matrix: 2,500 lbs/acre
3. Fertilizer: 20-0-10
4. Fertilizer Rate: 400 lbs/acre

### Wetland Buffer Restoration Seed Mix

<table>
<thead>
<tr>
<th>Seed Mix</th>
<th>Weight</th>
<th>Purity</th>
<th>Germination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tall fescue <em>Festuca arundinacea</em></td>
<td>70</td>
<td>98</td>
<td>90</td>
</tr>
<tr>
<td>Seaside/Creeping bentgrass <em>Agrostis palustris</em></td>
<td>10</td>
<td>98</td>
<td>85</td>
</tr>
<tr>
<td>Meadow foxtail <em>Alepocurus pratensis</em></td>
<td>14</td>
<td>90</td>
<td>80</td>
</tr>
<tr>
<td>Redtop bentgrass <em>Agrostis alba</em></td>
<td>6</td>
<td>92</td>
<td>85</td>
</tr>
</tbody>
</table>

### Wet Biofiltration Swale Seed Mix

1. Seed Application Rate: 50-70 lbs/acre
2. Bonded Fiber Matrix: 2,500 lbs/acre
3. Fertilizer: 20-0-10
4. Fertilizer Rate: 400 lbs/acre

### Wet Biofiltration Swale Seed Mix

<table>
<thead>
<tr>
<th>Seed Mix</th>
<th>Weight</th>
<th>Purity</th>
<th>Germination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tall fescue <em>Festuca arundinacea</em></td>
<td>60</td>
<td>98</td>
<td>90</td>
</tr>
<tr>
<td>Seaside/Creeping bentgrass <em>Agrostis palustris</em></td>
<td>10</td>
<td>98</td>
<td>85</td>
</tr>
<tr>
<td>Redtop bentgrass <em>Agrostis alba</em></td>
<td>6</td>
<td>92</td>
<td>85</td>
</tr>
<tr>
<td>Slough sedge <em>Carex obnupta</em></td>
<td>10</td>
<td>90</td>
<td>80</td>
</tr>
<tr>
<td>Slender rush <em>Juncus tenuis</em></td>
<td>4</td>
<td>90</td>
<td>85</td>
</tr>
<tr>
<td>Watercress <em>Rorippa nasturtium-aquaticum</em></td>
<td>6</td>
<td>90</td>
<td>85</td>
</tr>
<tr>
<td>Water parsley <em>Oenanthe sarmentosa</em></td>
<td>4</td>
<td>90</td>
<td>85</td>
</tr>
</tbody>
</table>
Biofiltration Swale Seed Mix

Seed Application Rate: 50-70 lbs/acre
Bonded Fiber Matrix: 2,500 lbs/acre
Fertilizer: 20-0-10
Fertilizer Rate: 400 lbs/acre

<table>
<thead>
<tr>
<th>Biofiltration Swale Seed Mix</th>
<th>% Weight</th>
<th>% Purity</th>
<th>% Germination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tall fescue</td>
<td>80</td>
<td>98</td>
<td>90</td>
</tr>
<tr>
<td>Festuca arundinacea</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seaside/Creeeping bentgrass</td>
<td>15</td>
<td>98</td>
<td>85</td>
</tr>
<tr>
<td>Agrostis palustris</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Redtop bentgrass</td>
<td>5</td>
<td>92</td>
<td>85</td>
</tr>
<tr>
<td>Agrostis alba</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Seed shall meet or exceed Washington State Department of Agriculture Certified Seed Standards and be from within the *** Puget Lowland, Willamette Valley and Columbia Plateau*** Ecoregion(s) as defined by the US Environmental Protection Agency (EPA).

The seed certification class shall be Certified (blue tag) in accordance with WAC 16-302 and meet the following requirements:

- Prohibited Weed: 0% max.
- Noxious Weed: 0% max.
- Other Weed: 0.20% max.
- Other Crop: 0.40% max.

8-01.3(2) Seeding, Fertilizing, and Mulching

8-01.3(2)B Seeding and Fertilizing
Section 8-01.3(2)B is supplemented with the following:

(August 4, 2014)
Seed of the following mix, rate, and analysis shall be applied at the rates shown below on all areas requiring *** Temporary Seeding *** seeding within the project:

- Seed by Common Name, (Botanical Name), and "Source Identification"
- Pure Live Seed
- Pounds (PLS) Per Acre

| ***Colonial Bentgrass (Agrostis tenuis) | 10 |
| Red Fescue (Festuca rubra) | 40 |
| Perennial Rye (Lolium perenne) | 40 |
White Dutch Clover 10

Total 100 ***

Seed shall meet or exceed Washington State Department of Agriculture Certified Seed Standards and be from within the *** Puget Lowland Willamette Valley and Columbia Plateau *** Ecoregion(s) as defined by the US Environmental Protection Agency (EPA).

The seed certification class shall be Certified (blue tag) in accordance with WAC 16-302 and meet the following requirements:

- Prohibited Weed 0% max.
- Noxious Weed 0% max.
- Other Weed 0.20% max.
- Other Crop 0.40% max.

8-01.3(15) Maintenance

(January 5, 2015 WSDOT GSP)

The fifth paragraph of Section 8-01.3(15) is deleted.

8-01.3(16) Removal

The first paragraph of Section 8-01.3(16) is revised to read:

(January 5, 2015 WSDOT GSP)

The Contractor shall remove all temporary BMP’s and all associated hardware from the project limits prior to Physical Completion unless otherwise approved by the Engineer. At the request of the Contractor and at the sole discretion of the Engineer the CSWGP may be transferred back to the Contracting Agency. Approval of the Transfer of Coverage request will require the following:

1. All other Work required for Contract Completion has been completed.

2. All Work required for compliance with the CSWGP has been completed to the maximum extent possible. This includes removal of BMPs that are no longer needed and the site has undergone all Stabilization identified for meeting the requirements of Final Stabilization in the CSWGP.

3. An Equitable Adjustment change order for the cost of Work that has not been completed by the Contractor.


If the Engineer approves the Transfer of Coverage back to the Contracting Agency the requirement in Section 1-07.5(3) for the Contractor’s submittal of the Notice of Termination form to Ecology will not apply.

(******)
8-01.3(17) Stormwater Pollution Prevention Plan (SWPPP)

This is a new section.

Contractor shall be responsible for developing the Stormwater Pollution Prevention Plan (SWPPP) in accordance with the Department of Ecology’s National Pollutant Discharge Elimination System (NPDES) discharge permit.

8-01.4 Measurement

Section 8-01.4 is supplemented with the following:

(August 3, 2015 WSDOT GSP)
When the Bid Proposal contains the lump sum item “Erosion Control and Water Pollution Prevention” there will be no measurement of unit or force account items for Work defined in Section 8-01. If the Bid Proposal includes the Bid item “ESC Lead” the measurement is not deleted and the Work under that item will be measured as specified.

(******)
There is no specific unit of measurement for the lump sum item “Stormwater Pollution Prevention Plan (SWPPP).”

8-01.5 Payment

Section 8-01.5 is supplemented with the following:

(April 6, 2015 WSDOT GSP)
“Erosion Control and Water Pollution Prevention”, lump sum.
The lump sum Contract price for “Erosion Control and Water Pollution Prevention” shall be full payment to perform the Work. Progress payments for the lump sum item “Erosion Control and Water Pollution Prevention” will be made as follows:

1. The Contracting Agency will pay 25 percent of the bid amount for the initial set up for the item. Initial set up includes the following:

   a. Acceptance of the TESC Plan provided by the Contracting Agency or submittal of a new TESC Plan,

   b. Submittal of a schedule for the installation of the BMP’s,

   c. Identifying water quality sampling locations, and

   d. Initial installation of BMP’s associated with sensitive areas delineation, clearing/grubbing and perimeter control.

2. The remaining seventy-five percent of the bid amount shall be paid in accordance with Section 1-09.9.

“TESC Compliance Incentive”, by calculation.
“TESC Compliance Incentive” will be calculated and paid as described in Section 8-01.3(1).

(******)
“Stormwater Pollution Prevention Plan (SWPPP)”, lump sum.
The lump sum price for “Stormwater Pollution Prevention Plan (SWPPP)” shall be full payment to perform the Work.

8-02 ROADSIDE RESTORATION

8-02.2 Materials
Section 8-02.2 is supplemented with the following:

**Mulch and Amendments**

*Compost*
Section 9-14.4(8) is supplemented with the following:

**(January 3, 2010 WSDOT GSP)**
Acceptance will be based upon a visual examination of the compost and US Composting Council Seal of Testing Assurance (STA) certified laboratory test results dated within 90 calendar days of the application.

8-02.3 Construction Requirements

**Fertilizers**
Section 8-02.3(10) is supplemented with the following:

**(******)**
Fertilizer tablets shall be slow release 20-10-5 with micronutrients, 21 grams each with a minimum 6 month slow release duration. A minimum of 1 tablet for 1 gallon shrubs, 2 tablets for 2 gallon shrubs, and 6 tablets for 2-inch caliper trees.

Fertilizer tablets shall be installed in accordance with the manufacturer’s written instructions.

**8-02.3(11) Bark or Wood Chip Mulch**
Section 8-02.3(11) is supplemented with the following:

**(April 2, 2012 WSDOT GSP)**
Bark mulch or wood chip mulch shall be placed to a uniform non-compacted depth of ***3-Inches*** over all planting areas.

Bark or wood chip mulch shall not be placed in areas of standing or flowing water.

**8-02.3 (13) Plant Establishment**
Section 8-02.3(13) is supplemented with the following:

8-02.4 Measurement
Section 8-02.4 is supplemented with the following:

**(******)**
Topsoil Type A and B will be measured by the cubic yard in the hauling device.
8-02.5 Payment
Section 8-02.5 is supplemented with the following:

(******)
“Topsoil Type ____”, per cubic yard.
The unit Contract price per cubic yard for “Topsoil Type ____” shall be full pay for all costs for the specified Work.

8-03 IRRIGATION SYSTEMS

8-03.3 Construction Requirements

8-03.3(5) Installation
Section 8-03.3(5) is to be supplemented with the following:

Battery operated controllers shall be mounted to inside of valve box as shown in the Plans or in accordance with the manufacturer’s recommendations.

8-10 GUIDE POSTS

8-10.1 Description
Section 8-10.1 is supplemented with the following:

(April 1, 2002 WSDOT GSP)
This Work shall consist of furnishing and installing barrier delineators on concrete barrier when barrier runs concurrent with guide post locations.

(******)
Fiber Optic Cable Marker
This work shall consist of furnishing and placing flexible guide posts to serve as fiber optic cable markers for ITS conduit.

8-10.2 Materials
Section 8-10.2 is supplemented with the following:

(April 1, 2002 WSDOT GSP)
Barrier delineators shall consist of a flat plastic reflector lens or reflective sheeting attached to a housing or bracket to facilitate the mounting of the delineator on concrete traffic barrier. The reflective surface shall be rectangular or trapezoidal shape with a minimum area of 9 square inches for reflectors and 12 square inches for reflective sheeting. The housing or bracket can be flexible or rigid, molded from a durable plastic or other durable material approved by the engineer. Barrier delineators shall be one sided for single direction or two sided for bi-directional.

Reflectors shall be acrylic or polycarbonate and shall conform to AASHTO M 290. Reflectors shall equal or exceed the following minimum values of specific intensity:

<table>
<thead>
<tr>
<th>Observation Angle</th>
<th>Entrance Angle</th>
<th>Specific Intensity cd/ft-c</th>
</tr>
</thead>
<tbody>
<tr>
<td>cd/ft-c</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Reflective sheeting for barrier delineators shall be type III, IV, V or VII and selected from approved materials listed in the Qualified Products List.

(******)
The fiber optic cable marker guide posts shall be orange in color.

Reflective sheeting for fiber optic cable markers shall be Type II conforming to Section 9-28.12. The reflective panel on a flat or elliptical fiber optic cable marker shall have a minimum width of 3 inches facing traffic. The reflective sheeting shall have a minimum area of 24 square inches (3 by 8 inches). Mount the reflective sheeting on the guide post as detailed in the Standard Plan M-40.10, Type W. Sheetling shall remain in place during the life of the post.

The reflective sheeting shall contain a legend as shown in the ITS Fiber Optic Details.

(April 7, 2009 OR GSP)
Ground mounted guide posts with metal anchors will not be allowed.

8-10.3 Construction Requirements
Section 8-10.3 is supplemented with the following:

(April 1, 2002 WSDOT GSP)
Barrier delineators shall be placed on the traffic face of the barrier six inches down from the top. Spacing shall be as shown in the plans. Delineator color shall be white on the right of traffic and yellow on the left of traffic. The surface of the barrier where the delineator is applied shall be free of dirt, curing compound, moisture, paint, or any other material that would adversely affect the bond of the adhesive. Install delineators with an adhesive recommended by the manufacturer.

(******)
Fiber optic cable marker guide posts shall be installed every 500 feet of conduit and at every change in direction or as shown in the Plans. The marker shall be placed directly above all conduits that contain fiber optic cable. A horizontal tolerance of one foot will be allowed.

8-10.4 Measurement
Section 8-10.4 is supplemented with the following:

(April 1, 2002 WSDOT GSP)
Barrier delineators will be measured by the unit for each delineator furnished and installed.

(******)
Fiber optic cable markers will be measured per each marker furnished and installed.
**8-10.5 Payment**

Section 8-10.5 is supplemented with the following:

(April 1, 2002 WSDOT GSP)
"Barrier Delineator", per each

(******)
"Fiber Optic Cable Marker", per each.

(******)
All costs associated with supplying and installing Fiber Optic Cable Markers shall be included in the lump sum price for “ITS”.

**8-11 GUARDRAIL**

**8-11.3 Construction Requirements**

**8-11.3(1) Beam Guardrail**

Section 8-11.3(1) is supplemented with the following:

(April 5, 2010 WSDOT GSP)
This project may contain a mixture of steel and wood posts. The bidder is advised that post selection will be as detailed in the plans and these specifications.

**8-12 CHAIN LINK FENCE AND WIRE FENCE**

**Materials**

Section 8-12.2 is supplemented with the following:

(April 4, 2017 WSDOT GSP)

**Cable Fence**

Steel pipe shall conform to ASTM A 53, Grade B, Type E or S.

Steel bars, plates, and shapes shall conform to ASTM A 36.

Steel components shall be galvanized after fabrication in accordance with AASHTO M 111.

Resin bonded anchors shall conform to Section 6-02.2 as supplemented in these Special Provisions.

Spelter sockets and turnbuckles shall conform to the size and breaking strength requirements specific in the Plans, shall be compatible with the wire rope selected by the Contractor, and shall be galvanized after fabrication in accordance with AASHTO M 232.

Wire rope shall conform to one of the following:

1. ASTM A 603 with Class A weight zinc-coated wires throughout.
2. ASTM A 1023 with drawn galvanized wires throughout in accordance with ASTM A 1007. Acceptance of ASTM A 1023 wire rope is contingent upon the Contractor furnishing a Type 1 Working Drawing certifying that the lot of supplied wire rope has a minimum modulus of elasticity of 15,000 ksi when tested in accordance with ASTM A 931 Section 3.2.17.

3. Phillystran HPTG 27000 I as manufactured by:

   Phillystran, Inc.
   151 Commerce Drive
   Montgomeryville, PA 18936-9628
   (215) 368-6611
   www.phillystran.com

Construction Requirements
Section 8-12.3 is supplemented with the following:

(April 6, 2015 WSDOT GSP)
The Contractor shall submit shop drawings of the cable fence in accordance with Section 6-03.3(7). The shop drawings shall include, at a minimum, the following:

1. Plan, elevation, and section views of the cable fence and all components, with dimensions and tolerances.

2. Material designations for all components.


4. Erection plan for installing the posts, installing and connecting the cable to the posts, and tensioning the cable.

The Contractor shall install resin bonded anchors in accordance with Section 6-02.3(18) as supplemented in these Special Provisions.

The cable shall be tensioned to 400 pounds with six inches minimum of take up still available in the turnbuckle.

Measurement
Section 8-12.4 is supplemented with the following:

(April 6, 2015 WSDOT GSP)
Cable fence will be measured by the linear foot along the line and slope at the base of the completed fence.

Payment
Section 8-12.5 is supplemented with the following:

(April 6, 2015 WSDOT GSP)
“Cable Fence”, per linear foot.
8-14 CEMENT CONCRETE SIDEWALKS

8-14.1 Description
Section 8-14.1 is revised to read:

(April 3, 2017 WSDOT GSP)

This Work consists of constructing cement concrete sidewalks, curb ramps, bus stop
shelter foundations, masonry sidewalks, and ramp grinding in accordance with details
shown in the Plans, Standard Plans, these Specifications, and in conformity to the lines
and grades shown in the Plans, Standard Plans, and as established by the Engineer.

8-14.3 Construction Requirements
Section 8-14.3 is supplemented with the following:

(April 3, 2017 WSDOT GSP)
The Contractor shall request a pre-construction meeting with the Engineer to be held two
to five working days before any work can start on cement concrete sidewalks, curb ramps
or other pedestrian access routes to discuss construction requirements. Those attending
shall include:

1. The Contractor and Subcontractor in charge of constructing forms, and placing,
   and finishing the cement concrete.

2. Project Engineer (or representative) and Project Inspectors for the cement
   concrete sidewalk, curb ramp or pedestrian access route Work.

Items to be discussed in this meeting shall include, at a minimum, the following:

1. Slopes shown on the Plans.
2. Inspection
3. Traffic control
4. Pedestrian control, access routes and delineation
5. Accommodating utilities
6. Form work
7. Installation of detectable warning surfaces
8. Contractor ADA survey and ADA Feature as-built requirements
9. Cold Weather Protection

8-17 IMPACT ATTENUATOR SYSTEMS

8-17.2 Materials
Section 8-17.2 is supplemented with the following:

(******)
Permanent impact attenuators shall be one of the following and designed in accordance with the WSDOT Design Manual:

1. SCI 100GM/170GM
2. Universal Tau II R
3. REACT350

Temporary impact attenuators shall be 1 or 3 above and/or any of the following and shall be designed in accordance with the WSDOT Design Manual:

1. ABSORB 350 TL
2. N-E-A-T
3. ACZ-350 TL

8-19 GROUNDWATER MONITORING WELLS

Section 8-19 is a New Section

8-19.1 Description
The Contractor shall install two piezometers (also referred to as monitoring wells) as part of this contract. If these are damaged or destroyed, replacements shall be installed per this specification.

The Contractor shall decommission the existing groundwater monitoring wells, B-3, B-4 and B-5 and the new installed monitoring wells per this section as designated by the Engineer. All work in this section shall be conducted in conformance with regulatory requirements, including:

WAC 173-160-381, RCW 18.104, RCW 43.21A.080, RCW 98-08-032 (order 97-08)

Agency Contact
Washington State Department of Ecology
Northwest Regional Office
3190 160th Avenue S.E.
Bellevue, WA 98008-5452
425-649-7000

8-19.2 Materials

Valve Boxes
Provide a protective surface monument with bolting cover for all instrumentation installed from the ground surface in borings.

A guard casing shall be installed and routed into place below the valve box and shall consist of steel pipe of appropriate length and minimum thickness of ¼-inch. The guard casing shall have a diameter commensurate with the boring diameter.

Sand for Monitoring Well
Sand shall be clean natural silica sand; graded such that all of the material passes the No. 4 sieve and is retained on the No. 30 sieve.
**Bentonite Pellets**
Bentonite pellets used to form the bentonite seals shall be ½-inch diameter compressed pellets, made from high swelling montmorillonite.

**Grout**
Grout shall conform to Section 6-20.3(2) Grout Type 2 for Nonshrink Applications.

### 8-19.3 Construction Requirements

#### Installing Monitoring Wells
Monitoring wells shall be installed by a well driller licensed in the State of Washington in accordance with WAC 173-160.

The contractor shall install two groundwater monitoring wells prior to fill placement as described in Section 2-03 of these Special Provisions. The wells shall be placed at the east and west ends of the work in the WSDOT right-of-way, and protected from construction activities. Locations shall be submitted to the Engineer for approval.

Monitoring wells shall be installed so that they can accurately measure groundwater levels that fluctuate between the ground surface and El. -7 feet. A boring of suitable diameter shall be drilled to the depth required for monitoring well operation at the depths specified.

Where the bottom of the monitoring well is higher than the bottom of the boring, the lower portion of the boring shall be sealed by pumping or tremieing a bentonite-cement-sand grout containing 20 percent bentonite by weight, through a pipe placed at the bottom of the boring and withdrawing the casing to the top of the seal. The bentonite-cement-sand grout shall be allowed to set a minimum of 12 hours or up to a suitable hardness as determined by the Engineer, before overlying sand is placed. This mixture may contain a quick setting agent to decrease the setting time.

The monitoring well casing and well screen, sand, bentonite pellets and grout shall be installed in accordance with the instrument manufacturer’s recommendations. Pipe joints shall be made secure and watertight. While withdrawing drill casing during instrument installation, care shall be taken to minimize the increments of casing withdrawal so that collapse of the borehole does not occur. Sand and bentonite pellets shall be placed slowly enough so that bridging does not occur in the boring, so as to prevent the instrument from being lifted as the casing is withdrawn. Grout above the bentonite pellets shall be a bentonite-cement-sand grout, containing 20 percent bentonite by weight, pumped, or tremied through a pipe placed at the top of the bentonite seal.

All monitoring wells shall be installed flush with the ground surface or shall extend above the ground surface, as designated by the Engineer. The top of each piezometer shall be covered with a surface, as designated by the Engineer. The top of each piezometer shall be covered with a surface monument set in concrete if installed flush with the ground surface.

The top of each monitoring well shall be provided with a cap in which an air vent hole 1/8-inch diameter has been drilled. The cap shall be easy to remove.
Each monitoring well shall be developed by jetting or flushing upon completion of installation. Development shall be continued until the pumped water becomes clear, no more than 1-foot of sediment has accumulated in the bottom of the piezometer and, in the opinion of the Engineer, the material soil filter has been developed. If the monitoring well becomes fouled or otherwise requires redevelopment at any time during the project the Contractor shall redevelop the monitoring well.

A rising head or falling head sensitivity test shall be performed, as designated by the Engineer after the installation has been completed to ensure that the monitoring well is working properly.

Initial monitoring well readings shall be made a minimum of 48 hours after completing installation and testing of each monitoring well.

Measurements shall be taken once a week, or as designated by the Engineer. Results of the groundwater elevations shall be submitted to the Engineer.

**Decommissioning Monitoring Wells**
The decommissioning procedure must be recorded and reported as required by the Department of Ecology (DOE).

The wells shall be decommissioned by one of the following three (3) methods:

1. Perforate the casing from the bottom to within five feet of the land surface and apply pressure grout the casing.
   a. Perforations shall be at least four equidistant cuts per row, and one row per foot. Each cut shall be at least one and one-half inches long.
   b. Apply enough pressure to force the sealing material through the perforations, filling any voids on the outside of the casing.
   c. The remainder of the casing shall be filled with cement grout, neat cement, or bentonite slurry.
2. Withdraw the casing and fill the bore hole with cement grout, neat cement or bentonite as the casing is being withdrawn.
3. Fill the casing from bottom to within five feet of land surface with bentonite, cement grout, or neat cement.

**8-19.4 Measurement**
Measurement for well decommissioning shall be per each completed decommissioning.

**8-19.5 Payment**
The lump sum price for “Well Installation and Groundwater Monitoring” shall be full pay for all labor, equipment, materials and work to install the groundwater monitoring wells and monitor groundwater levels as described above.

“Decommission Monitoring Well” per each.
The lump sum price for “Decommission Monitoring Well” shall be full compensation for all labor, equipment and materials necessary to complete the removal of the wells as designated by the Engineer and described in these specifications.
8-20 ILLUMINATION, TRAFFIC SIGNAL SYSTEMS, AND ELECTRICAL (March 31, 2016 Tacoma GSP)

8-20.1 Description
Section 8-20.1 is replaced with the following:
(Special Provision)

(******)
Work includes furnishing and installing all materials necessary to provide
1. Illumination System Complete
2. Traffic Signal System Complete, 12th Ave E / Port of Tacoma Rd
3. Traffic Signal Interconnect System Complete
4. Fiber Optic Cable Marker, per each

Unless otherwise noted, the location of signals, controllers and appurtenances show in
the plans are approximate; and the exact location will be established by the engineer in
the field.

8-20.2 Materials
This section is supplemented with the following:
(******)
The Contractor shall warranty all electrical and mechanical equipment described in this
section for satisfactory in service operation for one year following project acceptance.
Warranty shall include troubleshooting, labor, materials and all other costs to bring the
equipment to a satisfactory level of service. Normal maintenance is not included in the
warranty.

8-20.2(1) Equipment List and Drawings
This section is revised to read:

(******)
Within 20 days following execution of the Contract, the Contractor shall submit to
the Engineer a completed “Request for Approval of Material” that describes the
material proposed for use to fulfill the Plans and Specifications.

The Contractor shall submit Type 2 Working Drawings consisting of supplemental
data, sample articles, or both, of the material proposed for use. Supplemental
data includes such items as catalog cuts, product Specifications, shop drawings,
wiring diagrams, etc.

The Contractor shall submit Type 2 Working Drawings consisting of the following
information for each different type of luminaire required on the Contract:

1. Isocandela diagrams showing vertical light distribution, vertical control limits,
   and lateral light distribution classification.
2. Details showing the lamp socket positions with respect to lamp and refractor for
each light distribution type. This requires that the Contracting Agency know
what the light pattern available are and the light distribution.
Additional submittals for proposed alternate LED Roadway Luminaires shall be in accordance with Section 9-29.10.

The Contractor shall submit for approval Type 3E Working Drawings in accordance with Section 1-05.3 for each type of light standard and each type of signal standard called for on this project.

The Engineer’s acceptance of any submitted documentation shall in no way relieve the Contractor from compliance with the safety and performance requirements as specified herein.

Submittals required shall include but not be limited to the following:

1. A Type 2 Working Drawing consisting of a material staging plan, should the Contractor propose Contracting Agency-owned property for staging areas.
2. A Type 2 Working Drawing consisting of a cable vault installation plan showing the exact proposed installation location by Roadway station, offset and the scheduled sequence for each cable vault installation.
3. A Type 2E Working Drawing consisting of a pit plan, for each boring pit, depicting the protection of traffic and pedestrians, pit dimensions, shoring, bracing, struts, walers, sheet piles, conduit skids, and means of attachment, casing type, and casing size.
4. A Type 2E Working Drawing consisting of a boring plan depicting the boring system and entire support system.

8-20.3 Construction Requirements

8-20.3(1) General

This section is supplemented with the following:

(******)

The Contractor shall call 24 hours prior for inspection before covering any underground conduit, prior to installing any detection loops, or placing concrete for foundations. For inspections, notify Traffic Signal/Streetlighting at (253) 591-5287.

Work shall be sequenced such that after the new signal is placed in operation, the Contractor shall remove any equipment not required for the operation of the new signal. The Contractor shall remove the old vehicle and pedestrian signal heads immediately after the new system is operational.

For new signals, the contractor shall provide a Portable Message Change Sign in each direction and operate the PMCS for one week before, and one week after activating the new signal. This work shall be paid for in accordance with Section 1-10.

For existing signals with changes to phasing, the contractor shall provide a Portable Message Change Sign in each direction and operate the PMCS for one week before, and one week after re-activating the signal with the changes. This work shall be paid for in accordance with Section 1-10.
Uniformed police officers shall be provided by the Contractor to direct traffic at any
time the signal is not in normal operation. This work shall be paid for in accordance
with Section 1-10.

The following existing and temporary equipment shall be deconstructed/removed by
the Contractor and delivered to the City of Tacoma Signal/Streetlight Shop located at
3401A South Orchard Street. Care shall be exercised in removing and salvaging the
equipment. Any equipment damaged during removal, hauling, and stockpiling shall
be repaired or replaced by the Contractor at no expense to the City.

- All signal heads and mounting hardware
- Flashing beacons, and flasher control panel
- Steel poles, mast arms, and hardware
- Aluminum poles, mast arms, and hardware
- Controller cabinets and all internal hardware and wiring
- Vehicle detection systems, including video, microwave, and infrared systems,
  and associated hardware
- All Opticom equipment or other preemption and priority equipment.
- LED luminaries, LED retrofit kits, and LED lamps
- Ornamental/Decorative fixtures and poles/posts
- Pedestrian signals, poles, and pushbuttons.
- Signs, brackets, and hardware
- Locking junction box security lids, security bolts, and all other wire theft
deterrent security hardware

All other equipment shall be removed of and disposed of by the Contractor, including
but not limited to the following:
- Wood poles
- All wiring outside of the controller cabinet
- Loops
- Non-LED cobra-head fixtures

8-20.3(4) Foundations
This section is supplemented with the following:

(******)
Anchor bolts for streetlight standards and for strain poles shall extend a minimum of
two threads and a maximum of six threads above the top heavy-hex-nut. A minimum
of three threads shall remain between bottom of the leveling hex-nut and the top of
the foundation.

Foundations shall be excavated using an auger and poured against undisturbed
material unless otherwise approved by the Engineer. Vacuum excavation should be
used where there is a possibility of conflict with utilities or other facilities.

Forming the foundation with galvanized culvert pipe or similar forming methods will
only be allowed when soil conditions or other factors make this method of
construction necessary and is approved by the Engineer. Biodegradable forming
tubes shall be fully removed from the cured concrete prior to backfilling. When using
culvert or tubes, the following backfill requirements will apply. The area between the
form and undisturbed material shall be filled with CDF. For lightly loaded installations
and only with the approval of the Engineer, Crushed Surfacing Top Course meeting
the requirements of Section 9-03.9(3) may be used. Placement shall be in accordance with Section 2-09.3(1)E and shall be backfilled and compacted in the presence of the Engineer.

8-20.3(5) Conduit

8-20.3(5)A General
This section is supplemented with the following:

(******)
As soon as the mandrel has been pulled through, both ends of the conduit shall be sealed in an approved manner. Location wire, in conformance with 9-29, shall be installed in all empty conduits. At least three (3) feet of the location wire shall be neatly coiled and secured to the conduit in the same manner as is shown in Washington State Department of Transportation Standard Plan J-28.70-01, Details A and B.

8-20.3(5)B Conduit Type
This section is supplemented with the following:

(******)
Conduit under driveways and other vehicular access ways shall be Schedule 80 high-density polyethylene (HDPE), Schedule 80 PVC, or rigid metal conduit (RMC)

Conduit installed in a joint trench, with power, and that is installed a minimum of 36-inches from finished grade may utilize Schedule 40 PVC in lieu of Schedule 80 PVC. This allowance shall not be construed to permit the use of dissimilar materials in a single run.

Pole riser conduit material types shall be in accordance with applicable City of Tacoma standard plans.

8-20.3(5)D Conduit Placement
This Section is supplemented with the following:

(******)
Conduit terminating in pole foundations shall extend to 3 inches below the handhole.

Conduit terminating in controller foundations shall terminate 1 inch above the foundation.

8-20.3(5)E1 Open Trenching
Subsection 5 is revised to read:

(******)
5. Trenches located within the paved roadway shall be backfilled with 3 inches of sand over the conduit, followed by material meeting the requirements of Section 9-03.12(3). Compaction shall be in conformance with Section 2-09.3(1)E. All street cuts shall be repaired in accordance with the standard plans.
This section is supplemented with the following new Subsections:

7. Where multiple conduits are installed in the same trench, the trench shall be of sufficient width to accommodate all conduit, with a minimum 3-inch separation between each conduit, and a minimum clearance of 1-inch on the sides of the trench. When conduit is laid horizontal to one another, the conduit shall be laid at the same elevation, parallel with one another. When conduit is laid vertically in the same trench, conduit spacers shall be used to maintain the 3-inch separation. Spacers shall be installed in accordance with the manufacturer’s recommendations for conduit of that size and type. Additional spacers shall be required where the supported conduit is sagging more than 20% of the nominal diameter of the conduit.

8. In all conduit trenches, metallic, detectible, utility warning tape shall be placed at twelve (12) inches below final grade.

8-20.3(6) Junction Boxes, Cable Vaults, and Pull boxes

This section is supplemented with the following:

(******)

Unless otherwise specified in the Plans, or as otherwise directed by the Engineer, all junction boxes exposed to vehicular traffic shall be Heavy-Duty. Field adjustment of junction boxes causing junction boxes to be installed within an intersection radius and within four feet of the curb face may require Heavy-Duty junction boxes. Final placement and type of all junction boxes within an intersection shall be as designated by the Engineer.

Adjacent junction boxes shall be separated by a minimum of three-inches.

Concrete meeting the requirements of 6-02.3(2)B shall be placed surrounding all junction boxes except as otherwise provided for below. Concrete shall be flush with the top of the junction box and the adjacent improvements. Concrete shall be cast in place. Junction boxes shall be secured with the concrete border as follows:

1. When the junction box is located within a concrete or asphalt section and is located a minimum of 12-inches from the edge of the section, a concrete border will not be required.

2. Where junction boxes are located within 12-inches from the edge of the concrete or asphalt section, the junction box shall secured on all sides with a minimum 12-inch wide, 6-inch deep concrete section. Concrete shall be finished in the same manner as the adjacent concrete where applicable.

3. Where junction boxes are located within a planter strip, a landscaped area, or other non-hardened surface, the junction box shall be bordered on all sides with a minimum 6-inch wide, 12-inch deep concrete section flush with the top of the junction box.

Unless otherwise specified in the plans, or as otherwise directed by the Engineer, all existing junction boxes within the project boundaries shall be raised or lowered such that they are flush with the adjacent finished grade. All conduit shall be adjusted as necessary to maintain all requirements as defined in the standard specification and these special provisions. All conductors shall be protected in place.
8-20.3(7) Messenger Cable, Fittings

The second paragraph of this section is deleted.

This section is supplemented with the following:

(******)
Cable ties shall be used to neatly secure the signal cable to the span wire at 10-inch centers and shall be tightened at top. Excess tie material shall be completely cut off. The signal control cable shall be below the span wire and shall be straight with no twisting or spiraling.

A minimum 5% sag shall be provided in the span wire when fully loaded with all vehicular signal heads, unless otherwise directed by the Engineer.

8-20.3(8) Wiring

The third paragraph is revised to read:

(******)
All splices in underground illumination circuits, induction loop circuits, and magnetometer circuits shall be installed at junction boxes. The only splice allowed in an induction loop circuit shall be the shielded cable to loop wire splice. The only splice allowed in a magnetometer circuit shall be the probe lead-in cable to the magnetometer cable splice.

Induction loop splices and magnetometer splices shall be heat shrink type with moisture blocking material, sized for the conductors. Magnetometer and induction loop splices shall be soldered. The end of the sheathing shall be sealed with a heat shrink insulator.

The fourth paragraph is revised to read:

Signal wiring shall be in conformance with the following:

1. All termination for traffic signal control systems shall be in accordance with City of Tacoma Standard Plan TS-15.
2. All signal wiring shall be 5-conductor or 2-conductor 14 gauge stranded copper wire unless otherwise shown in the plans.
3. For 5-section and bimodal heads, 2-5c-14 gauge conductors shall be utilized.
4. 5c wire shall not be split between high voltage and low voltage. Where a pedestrian head and a pedestrian push button share a common pole, a separate 2c shall be pulled in for the push button.
5. A single 5c may be split between two pedestrian heads on a common pole with a jumper across the neutral.
6. Opticom and detection wiring shall be per manufacturer’s recommendations.

Field wiring of the cabinet shall be done by City of Tacoma Signal Electricians after all wiring has been pulled into the cabinet and properly labeled with a temporary label consisting of white electricians tape with permanent marker. The Contractor shall provide a detailed description/key of all temporary labeling. The cabinet and labeling shall be inspected by the Signal/Streetlight inspector prior to cabinet wiring. The Contractor shall allow five working days for City Electricians to field wire the cabinet after the inspection is complete. Improper or incorrect labeling requiring additional
effort by the City may result in additional time required by City forces to wire the cabinet.

The fifth paragraph is revised to read:

Splices and taps on underground and overhead circuits shall be made with solderless crimp connectors, installed with an approved tool designed for the purpose, to securely join the wires both mechanically and electrically. Splices and taps will be sealed in accordance with this section.

The seventh paragraph is revised to read:

Aerial illumination splices shall be taped with thermoplastic electrical insulating tape equivalent to the original wire insulation rating and thickness. It shall be well lapped over the original insulation.

The eighth paragraph is revised to read:

All splices in junction boxes and handholes shall be taped and sealed with an electrical coating. Tape splice insulation shall consist of thermoplastic electrical insulating tape equivalent to the original wire insulation rating and thickness. It shall be well lapped over the original insulation and moisture resistant electrical coating shall be applied and allowed to dry. Two layers of thermoplastic tape will then be applied, followed by a second layer of moisture resistant electrical coating.

The ninth paragraph is revised to read:

Illumination cable in light standards shall be #10 AWG USE or “Pole and Bracket” cable, as specified in Section 9-29.3(2)D of the Standard Specifications.

The tenth paragraph is revised to read:

Fifteen (15) feet of slack cable shall be provided at the controller end of all cables terminating in the controller cabinet. A minimum of three (3) feet of slack cable shall be left at all strain poles and junction boxes.

8-20.3(10) Service, Transformer, and Intelligent Transportation System (ITS) Cabinets
The second, third, and fifth paragraphs are deleted.

8-20.3(13) Illumination Systems

8-20.3(13)A Light Standards
The sixth, seventh, and eighth paragraphs are deleted.

This section is supplemented with the following:

(******)
Conventional Base installation shall conform to the following:

The light standards shall be assembled and mounted complete on foundations perfectly straight and in good alignment. Proper leveling of the standards shall
be accomplished by means of four leveling nuts that are to be employed with the anchor bolts. Standards shall be plumb within 1/50-inch per foot.

Luminaires shall be securely attached to the mast arm in a straight and level position. The luminaires shall be installed at a specified number of degrees from level if directed by the Engineer. After the poles are plumbed, grout shall be neatly placed between the pole base and the concrete. The Contractor shall form a 1/2-inch diameter weep hole in the grout. The nuts and bolts required for this foundation shall be furnished by the Contractor.

All above grade signal and streetlight infrastructure, including streetlight standards, traffic signal poles, push-button poles, cabinets, and enclosures, shall not be installed closer than three (3) feet from face of curb to the nearest part of the pole or structure and no closer than five (5) feet from fire hydrants and utility poles.

8-20.3(14) Signal Systems

8-20.3(14)A Signal Controllers
This section is revised to read:

(******)
The fully wired controller cabinet, the controller, the MMU, and detection hardware for the cabinet shall be delivered to the City of Tacoma Traffic Signal Shop for configuration, programming, testing, and certification prior to installation. At the Contractor’s request, the City will off load the equipment. The Contractor shall notify the City 24 hours in advance of the equipment delivery.

A minimum of two weeks shall be required for the City to configure and test the cabinet and controller for each intersection. If multiple cabinets and controllers are delivered, the Contractor shall identify the sequence for configuration and allow one additional week for each additional cabinet and controller delivered.

The Contractor shall be responsible for transporting the controller cabinet from the Signal/Streetlight Shop site to the jobsite, and for installation of the cabinet and all field wiring. Field wiring shall be performed in accordance with 8-20.3(8) and as directed by City of Tacoma Signal and Streetlight personnel in the field.

8-20.3(14)B Signal Heads
This section is supplemented with the following:

(******)
For span wire installation, the red indications shall be leveled to within 1 inch for each direction as approved by the City. The height to the bottom of the lowest head shall be 17 feet, plus or minus 3 inches. Height to the bottom of the lowest four-section or five-section head shall be a minimum of 16 feet-3 inches, plus or minus 3 inches.

For span wire installation, the signal stem (drop pipe) shall be 1 to 3 feet long unless otherwise approved by the Engineer.
8-20.3(14)C Induction Loop Vehicle Detectors
Subsections 2, 4, 9, and 10 are deleted.

Section 8-20.3(14) is supplemented with the following new section:

(*****)

8-20.3(14)F Thermal, Microwave, and LED Optical Vehicle Detection

A representative from the City of Tacoma Signal and Streetlight operations shop shall be on site during all work within the signal cabinet. The Contractor shall notify the Engineer two working days in advance of work within the cabinet.

The Contractor shall install and test the detection system in accordance with the manufacturer’s recommendations and these special provisions. Detection units shall be mounted and all cabling shall be in accordance with the manufacturer’s recommendations. The installation shall include all field equipment as well as all equipment required in the controller cabinet.

Detection unit locations as shown in the plans are approximate. Detection units shall be mounted at a sufficient height to prevent occlusion from cross traffic. Detection units shall be field adjusted as designated by the Engineer and equipment manufacturer for maximum coverage. A factory-certified representative of the equipment manufacturer shall inspect and provide a written verification that the installation has been performed in accordance with the manufacturers requirements.

The factory-certified representative of the equipment manufacturer shall supervise all testing of the equipment and shall provide written documentation showing acceptance of the testing and verification that the system is a complete, fully functional system.

8-20.3(17)B “As Built” Plans
This section is supplemented with the following:

These drawings shall show the routing of all underground conduits. The locations of the conduit shall be dimensioned with a precision and accuracy of 1 foot.

8-20.4 Measurement
This section is revised to read:

When a bid item is shown as lump sum in the proposal, no specific unit of measurement will apply, but measurement will be for the sum total of all items for a complete system to be furnished and installed.

Sawcutting and replacement of existing pavement required shall be incidental to lump sum items and no separate measurement will be made.

Conduit zone bedding shall be incidental to the lump sum items and no separate measurement will be made.
Removal, relocation, and salvage of existing traffic signal equipment where required, shall be incidental to the lump sum items and no separate measurement will be made.

Temporary surface restoration items required for resuming pedestrian and vehicular traffic prior to final surfacing, including steel sheeting, crushed rock, and cold mix asphalt, shall be incidental to the lump sum items and no separate measurement will be made.

### 8-20.5 Payment

This section is supplemented with the following:

Payment will be made for the following bid items:

- "Illumination System Complete", lump sum;
- "Traffic Signal System Complete, 12th Ave E / Port of Tacoma Rd", lump sum;
- "Traffic Signal Interconnect System Complete", lump sum;
- "Fiber Optic Cable Marker", per each;

The lump sum contract prices shall include all incidental work and shall be full compensation for all labor, materials, tools and equipment necessary to satisfactorily complete the work as defined in the Contract Documents. Subsurface explorations to determine the locations of existing utilities in order to install, abandon, and/or remove the associated equipment shall be considered incidental to the lump sum bid item.

Bidders are cautioned to also include in the lump sum bid items all costs related to protection of items to remain, utility locates, subsurface explorations, dewatering, and costs associated with permits and with obtaining electrical inspection and connection and signal testing as required. As a basis of bid, the Contractor shall assume that all excavated soil has a detectable level of contamination that is less than the MTCA Method A Cleanup Levels for Unrestricted Sites (use WAC 173-340-900 Table 740-1) and shall be disposed at an appropriate facility. This material cannot be disposed at facilities with threshold acceptance criteria of "no detectable contaminants" without additional sampling and analysis. All sampling and analysis of this material will be at the Contractor’s expense.

**END OF SECTION**

### 8-20 ILLUMINATION, TRAFFIC SIGNAL SYSTEMS, INTELLIGENT TRANSPORTATION SYSTEMS, AND ELECTRICAL

#### 8-20.1 Description

The first paragraph of Section 8-20.1 is supplemented with the following:

(******)

All work shall be performed as shown in the plans in accordance with sections 8-20 and 9-29 of the standard specifications, the standard plans included herein and the following special provisions.
The work involves, but shall not be limited to, the following:

1. Signal Foundations
2. Conduits and Wire
3. Grounding
4. Junction Boxes
5. Span Wires
6. Signage
7. Electrical Services and Service Cabinet(s)
8. Signal and Pedestrian Heads
9. Video Detection Loops
10. Detection Camera(s)
11. Opticom Equipment
12. Luminaires, arms, foundations, and luminaires
13. Signal Poles, Mast Arms, and associated equipment
14. Signal Controllers
15. Battery Backup Cabinet(s)
16. Signal Cabinet(s) and Base(s)
17. Signal Interconnect Conduit
18. Fiber, splices, and associated equipment
19. Temporary Traffic Signal Systems
20. Maintenance of Existing and Temporary Traffic Signal Systems During Construction

Time required by the City and WSDOT for review and approval of signal shop drawings will be as previously specified under the provision titled "Approval of Shop Drawings for Signals."

City of Fife
This Work consists of furnishing, installing, field testing, and maintaining all materials, facilities, and equipment necessary to complete in place, a fully functional illumination, signal and interconnect system(s) as shown in the drawings in accordance with the standard specifications, standard plans, and special provisions, within the City of Fife right of way and these items:

1. Illumination System Complete
2. Traffic Signal System Complete, 34th Ave E / Pacific Hwy
3. Traffic Signal Interconnect System Complete
4. Fiber Optic Cable Marker, per each

Washington State Department of Transportation (WSDOT)
This Work consists of furnishing, installing, field testing, and maintaining all materials, facilities, and equipment necessary to complete in place, a fully functional illumination, signal and interconnect system(s) as shown in the drawings in accordance with the standard specifications, standard plans, and special provisions, within WSDOT right of way and these items:

1. Illumination System Complete
2. Temporary Traffic Signal System Complete, I-5 Southbound On-Ramp Meter
3. Traffic Signal System Complete, I-5 Southbound On-Ramp / Port of Tacoma Rd
5. Traffic Signal Interconnect System Complete
6. Fiber Optic Cable Marker, per each

**City of Tacoma**

Refer to City of Tacoma Special Provisions for all work to be done and equipment to be installed within City of Tacoma right of way. The following systems are covered in the City of Tacoma Special Provisions:

1. Illumination System Complete
2. Traffic Signal System Complete, 12th St E / Port of Tacoma Rd
3. Traffic Signal Interconnect System Complete
4. Fiber Optic Cable Marker, per each

Specifications within this document shall pertain to work done, and materials installed within City of Fife or Washington State Department of Transportation right of way. Contractor shall refer to the City of Tacoma special provisions for sections 8-20 and 9-29 for work performed within the City of Tacoma right of way.

Unless otherwise noted, the location of signals, controllers and appurtenances shown in the plans are approximate; and the exact location will be established by the engineer in the field.

**8-20.2 Materials**

Section 8-20.2 is supplemented with the following:

*(April 6, 2015 WSDOT GSP)*

**Traffic Signal Standard Foundation Shaft Casing**

All permanent casing shall be a smooth wall non corrugated structure of steel base metal. All permanent casing shall be of ample strength to resist damage and deformation from transportation and handling, installation stresses, and all pressures and forces acting on the casing. The casing shall be clean prior to placement in the excavation. The permanent casing may be telescoped, but the outside diameter of the casing shall not be less than the specified diameter of the shaft.

*(******)*

**Temporary Signal Equipment and Materials**

With the exception of junction boxes, conduit, strain wire and wiring, the equipment and materials used in the temporary signal locations do not have to be new. Equipment and materials shall be of the type and grade specified.

Equipment and materials installed in accordance with Temporary Signal Plans and designated to remain after Contract completion is considered permanent equipment and shall be new.

Timber poles shall be located as shown in the Plans. Timber light standards may be relocated up to four feet from the location shown in the plans at the discretion of the Project Engineer. Timber poles without light standards may be relocated from the
locations specified in the Plans as needed, provided no aerial conductor span exceeds 300 feet, without the written approval of the Project Engineer.

8-20.3 Construction Requirements
Section 8-20.3 is supplemented with the following:

(*****)

Temporary Traffic Signal System Complete, I-5 On-Ramp Meter
Each temporary signal system shall be operational prior to removing from operation any existing signal system at the same intersection. Where no existing signal system is present, each temporary signal system shall be operational prior to the lane configuration or construction stage specified in the Plans.

Temporary timber signal standards shall be installed at the locations shown in the Plans. Minor adjustments of up to three (3) feet to timber signal standard locations may be made with the approval of the Engineer, provided no aerial signal span exceeds 150 feet in length. Timber signal standards shall be of sufficient length to accommodate installation of the span wire at the height specified and a minimum burial depth of eight (8) feet. Install signal displays, aerial junction boxes, and all other equipment as specified in the Plans, including associated mounting hardware.

Installed equipment shall maintain a 17’ vertical clearance from the roadway surface.

Timber signal standards shall have a guy wire installed opposite each messenger cable as shown in Standard Plan J-15.15, except where guy wire locations are specified in the Plans. Guy wires may use standoff brackets where there is inadequate space available for a direct down guy line. The Contractor is responsible for identifying the exact methods for installing temporary timber signal standards, and for identifying the locations and methods for installing down guy anchors.

The Contractor shall be responsible for maintenance of the temporary signal system. This includes replacing burned out display modules and any necessary signal head adjustments. Operation of the temporary signal system, including programming of the traffic signal controller, will be done by the Contracting Agency or the local agency having jurisdiction over signal systems where the temporary signal system is installed.

All temporary signal system standards and equipment shall be removed upon completion of the associated permanent signal system, unless otherwise specified in the Plans. All equipment supplied by the Contractor will remain the property of the Contractor. When poles or foundations are removed, the remaining holes shall be backfilled and compacted in accordance with Section 8-20.3(2) to the level of the surrounding surface.

(*****)

Existing Wavetronix Smart Sensor
The Contractor shall require calibration of the existing Wavetronix sensor detection zones when lanes configuration shifted. The calibration shall be adjusted to capture volumes from the new lanes configuration.
Requirements
The Contractor shall notify the Traffic Management Center (TMC) a minimum of 72 hours prior to the lane shift or needing access to existing ITS control cabinets and all ITS testing. The OR ITS supervisor or his appointee will be present when access to existing control cabinets is required.

The Contractor shall compile a Test Report. The Test Report will be used to test the units to prove Wavetronix sensor performance is within 5% volume accuracy per lane.

The Test Report shall include the Wavetronix sensor vehicle count against a manual count for two separate two-minute periods for each detection zone.

If these test results do not meet the Contracting Agency requirements, the Contractor shall recalibrate the units and make the necessary corrections in the field until Wavetronix sensor meet the requirements as specified. Additional performance tests shall be performed as necessary to verify Wavetronix sensor performance is within the requirements as specified. Retesting, if needed, shall be addressed within the test report.

8-20.3(1) General
Section 8-20.3(1) is supplemented with the following:

(******)

Removed Equipment (WSDOT/Fife)
The existing I-5 Southbound On-Ramp Meter equipment and illumination equipment to be removed shall remain the property of WSDOT. The contractor shall deliver this equipment to the following addresses as appropriate:

Poles:
Mottman Pole Yard
2214 RW Johnson Blvd
Tumwater, WA 98501

All other equipment:
Olympic Region Signal Shop
5720 Capitol Blvd SE
Tumwater, WA 98501

Delivery shall be made during normal business hours. The point of contact is the Olympic Region Signal Superintendent at (360)-357-2616.

All other existing electrical equipment and materials designated to be removed shall become the property of the Contractor and be removed from the project.

(******)

Temporary Signal System
When no longer required for temporary signal operation, the Contracting Agency supplied equipment shall be returned to the Contracting Agency. The Contractor shall deliver this equipment to the Olympic Region Signal Shop, 5720 Capitol Blvd., Tumwater, WA during normal business hours.
All other existing electrical equipment and materials designated to be removed shall become the property of the Contractor and be removed from the project.

(******)

**Serving Utility Connection**

Service connections are subject to serving utility requirements. The Contractor is responsible for determining the serving utility requirements for all equipment installed from the meter to the point of connection to the utility system, including the meter location. Customer owned equipment installed as part of the service connection shall be Code compliant, but is still subject to utility approval. All costs associated with the materials, equipment, and labor required to install a service connection are included in the lump sum bid price for the associated Illumination System, Traffic Signal System, or Intelligent Transportation System as designated in the Plans.

(******)

**Existing System Disruption and Restoration**

The Contractor shall use every precaution to ensure that no contract work causes disruptions to the existing systems, except those disruptions that are planned and approved in advance, as defined herein.

Existing systems include, but are not limited to, the following:

A. All ITS field devices, such as ramp meter, data collection, and CCTV systems, within the project construction limits.

B. Fiber optic and twisted pair (copper wire) data and video communication systems on I-5, SR 16, and SR 512.

**Planned Disruptions**

Contract work may require disruptions to existing systems, circuits, and equipment. The Contractor shall schedule the work and predetermine the affected system(s), extent, start time, and duration of planned disruptions. Planned disruptions shall be scheduled between the hours of 10:00 AM to 2:00 PM and 8:00 PM to 4:00 AM. If traffic control is required for this work, the Contractor shall also adhere to the allowable closure hours listed in the Special Provisions. Failure of the Contractor to restore disrupted systems and equipment prior to 2:00 PM and 4:00 A.M will constitute an unplanned disruption, and the "Restoration Procedure" below will apply.

**Requirements**

Twenty-one calendar days prior to planned disruptions of any existing system, circuit, or equipment, the Contractor shall submit a Type 2 Working Drawing consisting of a disruption request describing planned disruptions to any existing system, circuit, or equipment. Each Disruption Request shall include the system(s) to be affected, the disruption start date and time, and the estimated duration required. The Contractor shall submit a separate, numbered Disruption Request for each planned disruption. Disruption Request approval or rejection will be returned to the Contractor in writing by the Project Engineer at least seven calendar days prior to the proposed start of the disruption. The Project Engineer may reject a requested time or duration and verbally recommend an alternate time or duration agreeable to both the Contractor and the Contracting Agency.
**Restoration Procedure**

Any unplanned disruptions determined by the Project Engineer to be caused by the actions of the Contractor or the Contractor's representative(s) shall be corrected by the Contractor at no additional cost to the Contracting Agency.

Upon the occurrence of an unplanned disruption and subsequent notification by the Project Engineer, the Contractor shall immediately stop all other ITS work in progress, and shall expend all efforts to restore the disrupted system(s) or correct the problem causing the disruption. The Contractor will not be granted an extension of time for delays caused by the repair of disrupted systems. Unplanned disruptions shall result in the assessment of liquidated damages in accordance with the Special Provision **LIQUIDATED DAMAGES**.

**8-20.3(4) Foundations**

Section 8-20.3(4) is supplemented with the following:

(August 7, 2017 WSDOT GSP)
**Shafts For Signal Standard Foundations**

Shaft foundations for the traffic signal standards at the following location(s) shall be constructed in accordance with the following requirements:

*** 34th Ave E and Pacific Highway E
34th Ave E and I-5 SB Off-Ramp
***

Shaft foundations for traffic signal standards shall be constructed in accordance with Section 6-19.3, except as follows:

**Quality Assurance**

The tolerance for placing the center at the top of shaft under Section 6-19.3(1)A is revised for traffic signal standard foundation shafts to be within 4-inches of the Plan location.

Non-destructive testing of shafts under Sections 6-19.3(1)B and 6-19.3(9) and associated Work under Section 6-19.3(6) does not apply.

**Shaft Excavation**

Permanent casing advanced during excavation operations is required full depth for all traffic signal standard shaft foundation locations specified at the beginning of this Special Provision. Excavation in advance of the casing tip shall not exceed three feet. In no case shall shaft excavation and casing placement extend below the bottom of shaft excavation as shown in the Plans.

When efforts to advance past the obstruction to the design shaft tip elevation result in the rate of advance of the shaft drilling equipment being significantly reduced relative to the rate of advance for the portion of the shaft excavation in the geological unit that contains the obstruction, then the Contractor shall remove, break-up, or push aside, the obstruction under the provisions of Section 8-20.5 as supplemented in these Special Provisions.

**Placing Concrete**

Traffic signal standard foundation shaft concrete shall be Class 4000P.
Casing Removal
Tops of permanent casing for the shafts shall be removed to at least 6-inches beneath the finish groundline, unless otherwise specified by the Engineer.

(******)
This section is supplemented with the following:

Anchor bolts for streetlight standards and for strain poles shall extend a minimum of two threads and a maximum of six threads above the top heavy-hex-nut. A minimum of three threads shall remain between bottom of the leveling hex-nut and the top of the foundation.

Foundations shall be excavated using an auger and poured against undisturbed material unless otherwise approved by the Engineer. Vacuum excavation should be used where there is a possibility of conflict with utilities or other facilities.

Forming the foundation with galvanized culvert pipe or similar forming methods will only be allowed when soil conditions or other factors make this method of construction necessary and is approved by the Engineer. Biodegradable forming tubes shall be fully removed from the cured concrete prior to backfilling. When using culvert or tubes, the following backfill requirements will apply. The area between the form and undisturbed material shall be filled with CDF. For lightly loaded installations and only with the approval of the Engineer, Crushed Surfacing Top Course meeting the requirements of Section 9-03.9(3) may be used. Placement shall be in accordance with Section 2-09.3(1)E and shall be backfilled and compacted in the presence of the Engineer.

8-20.3(5) Conduit

8-20.3(5)A General
The fourth paragraph of Section 8-20.3(5)A is revised to read as follows:

(******)
For conduits designated as spare or for future use, as soon as the sizing mandrel has been pulled through, a 200-lb minimum tensile strength pull string shall be installed and attached to duct plugs at both ends. Empty or spare conduits for future use do not require a ground conductor.

Empty or spare PVC or HDPE conduits shall include location wire unless otherwise detailed in the plans. Location wire shall extend 12 feet into boxes and vaults. The Contractor shall coil and secure location wire at the entrance and exit points of all boxes and vaults. Splices shall be crimped using a non-insulated butt splice, soldered and covered with moisture-blocking heat shrink. All location wire splices shall be installed in the junction boxes, pull boxes, and cable vaults. Splices shall not be allowed within the conduit runs.

The Contractor shall verify that the location wire can be detected for the entire length of the conduit run using standard utility locating equipment.
8-20.3(5)B Conduit Type

The list in the second paragraph of Section 8-20.3(5)B is supplemented with the following:

(******)
5. Traffic signal systems (with the exception of conduits containing only interconnect cables)
6. Vehicle crossings (includes roadways, roadbeds, driveways, and road approaches)
7. Light Standard and Cabinet foundations

8-20.3(6) Junction Boxes, Cable Vaults, and Pull boxes

The first paragraph of Section 8-20.3(6) is revised to read as follows:

(******)
Standard Duty and Heavy-Duty junction boxes, pull boxes, and cable vaults shall be installed at the location specified in the Plans. Locations may be field adjusted to match grade, curb or sidewalk edges, or to avoid obstructions, with the approval of the Project Engineer. Junction boxes shall be located such that no conduit run exceeds 200 feet in length, as measured from outlet to outlet (does not apply to pull boxes or cable vaults). Junction boxes receiving stub conduits from signal poles or light standards shall not be placed more than ten feet from the pole served. The Contractor may install, at no expense to the Contracting Agency, such additional boxes as may be desired to facilitate the Work or to accommodate the requirements of the material used by the Contractor. Junction box installation shall conform to the details in the Standard Plans.

8-20.3(7) Messenger Cable, Fittings

The second paragraph of this section is deleted.

This section is supplemented with the following:

Cable ties shall be used to neatly secure the signal cable to the span wire at 10-inch centers and shall be tightened at top. Excess tie material shall be completely cut off. The signal control cable shall be below the span wire and shall be straight with no twisting or spiraling.

A minimum 5% sag shall be provided in the span wire when fully loaded with all vehicular signal heads, unless otherwise directed by the Engineer.

8-20.3(8) Wiring

The first sentence of the thirteenth paragraph of Section 8-20.3(8) is deleted and replaced by the following:

(******)
All wiring, exclusive of the previously mentioned illumination circuits, at all junction boxes, pull boxes, cable vaults, and cabinets shall have and approved tag with legends as follows:

Section 8-20.3(8) is supplemented with the following:
Temporary Illumination System

System wiring shall conform to the appropriate articles of the current National Electrical Code. Conductors between light standards, including equipment grounding conductor, shall be direct burial cable minimum size No. 8 or aerial cable minimum size No. 6. Vertical clearance under any conductors shall be 25 feet over any ground or roadway.

8-20.3(9) Bonding, Grounding

Section 8-20.3(9) is supplemented with the following:

(*)

All system bonding and grounding shall be complete prior to energizing electrical devices or equipment.

8-20.3(11) Testing

Section 8-20.3(11) is supplemented with the following:

(*)

Testing and turn-on of electrical systems shall be performed between 9:00 a.m. and 2:30 p.m., Monday through Thursday, unless otherwise authorized by the Project Engineer. Testing and turn-on will not be allowed on weekends, holidays, or the day preceding a holiday or holiday weekend.

8-20.3(14) Signal Systems

(August 3, 2015 WSDOT GSP)

Uninterruptible Power Supply (UPS)

The UPS system shall provide traffic signal system battery backup power in the event of loss or failure of normal utility power. The UPS system shall be constructed for full on line configuration (line interactive type), providing automatic voltage regulation and power conditioning when under normal utility power. The transfer from utility power to battery power and vice versa shall not interfere with the normal operation of the connected traffic signal controller including conflict monitor and any other peripheral devices within the traffic controller assembly.

The UPS system shall include the following equipment:

**UPS System Equipment**

UPS system cabinet assemblies shall include all necessary equipment and auxiliary equipment for controlling the operation of traffic signals and similar systems as required for the specific application. UPS system cabinets shall meet the requirements of the NEMA TS1 and TS2 specification or the California Department of Transportation “Transportation Electrical Equipment Specifications” (TEES) dated March 12, 2009 and the following requirements:

1. Cabinet shall be Model 334L, housing 1B, and mounting cage 1 per TEES.

2. Construction shall be of 0.125-inch sheet aluminum (5052 alloy), with mill finish. The aluminum shall not be anodized and the exterior shall not be painted.
3. The cabinet door(s) shall each have a three point latch system. Locks shall be spring loaded construction locks capable of accepting a Best 6 pin core. Green construction cores shall be installed for each cabinet core lock. One core removal key and two standard keys shall be included with each cabinet and delivered to the Engineer.

4. Cabinet lighting shall be LED light strips with power supply. LED rope lights are not permitted. Color temperature shall be 4000°K plus or minus 400°K. LED light strips shall be approximately 12-14 inches long, and have a minimum output of 400 lumens. There shall be two light strips for each rack assembly within the cabinet. Lighting shall be ceiling mounted and oriented parallel to the door face – rack mounted lighting is not permitted. Lighting shall be positioned near the inside faces of the cabinet so that the lighting shines onto the faces of the associated rack mounted equipment, as well as into the interior of the rack. Lighting shall not interfere with the proper operation of any other ceiling mounted equipment and shall not block tool access to lifting eye attachment nuts. All lighting fixtures above a rack shall energize whenever either door to that respective rack is opened. Each door switch shall be labeled “Light”.

5. One controller unit shelf with drawer, which attaches to the front and back rails of the EIA rack, shall be provided in lieu of the two steel controller supporting angles specified in TEES 6.3.4.

6. The cabinet shall be provided with a breaker panel with two 15 amp, 120 volt, single pole breakers, one each for the fan and the lights.

7. Each cabinet shall be provided with at least 20 empty neutral connections to accommodate field wiring. The neutral bus bars shall be of the style in which a lug is not needed to be applied to the neutral field wire(s). All of the neutral bars shall be secured in accordance with the TEES. All neutral bars shall be at the same electrical potential.

8. The electric fan shall have ball or roller bearings and capacity of at least 100 cubic feet per minute and shall be installed at the top of the cabinet. The fan shall be thermostatically controlled by a manually adjusted thermostat with a range of 32°F and 140°F.

9. Three battery shelves shall be furnished. Each shelf shall be capable of supporting three AlphaCell (220 GOLD-HP) batteries without visibly flexing. A minimum of two and one half inches of side clearance and six inches of overhead clearance is required for each battery.

10. A minimum of 12 inches of clearance shall be maintained between the bottom rack and the bottom of the cabinet.

11. The cabinet shall include a Generator Transfer Switch and enclosure in accordance with Section 9-29.13(8). The Transfer Switch enclosure shall be installed at the same location normally occupied by the police panel enclosure on the right side of the cabinet, as viewed from the
front. The lock shall have an aluminum rain shield cover, attached to the door with a rivet.

**UPS System Internal Components**
The following equipment shall be furnished and mounted to the EIA rack.

1. **Alpha – Controller Power Module - FXM 2000 w/SNMP module;** part number 017-232-31. FXM 2000 shall face the front of the cabinet and be installed at the top of the EIA rack.

2. **Alpha FXM 2000 support – shelf kit 19” EIA rack UPS Inverter SS with hardware;** part number 3610030085.

3. **Alpha - Automatic Transfer Switch (UATS).** Automatic Transfer Switch shall face the back of the cabinet and be installed at the top of the EIA rack; part number 020-168-25.

4. **Alpha - Rack mount brackets 2 each and attachment screws;** part number 740-697-21.

5. Pull out drawer; part number 3610035000. Pull out drawer shall face the front of the cabinet.

The following equipment shall be installed on the battery shelves:

1. **Alpha - part number 181-233-10,** which is the AlphaCell 220 GOLD-HP GXL Battery (Four batteries shall be provided).

2. **Alpha - part number 012-306-21 Alpha Guard Battery Management System.**

3. **Alpha - part number 740-628-27 Battery Cable kit 48V 10 ft. ¼-20 termination.**

4. **Alpha - part number 189-236-10 Battery Heater Mats 14.25 inch 120V.** One battery heater mat for each battery.

The Alpha components of the UPS system shall be manufactured by the following:

Alpha Technologies, Inc.
3767 Alpha Way
Bellingham, WA 98226
Phone: 360 647 2360
Email: alpha@alpha.com
http://www.alpha.com

**Maintenance and Operations Manuals**
The Contractor shall supply three Maintenance and Operations Manuals for each UPS system (each cabinet). Two Maintenance and Operations Manuals shall be in a paper format and one Maintenance and Operations Manual shall be in an electronic PDF format.
UPS System Laboratory Testing
Each UPS system shall be tested at the Washington State Department of Transportation Materials Laboratory located in Tumwater, Washington, prior to installation. The UPS system testing shall simulate the operations as installed in the field. The tests shall check the operation of each individual component as well as the overall operation of the system.

The State Materials Laboratory testing of the UPS system will consist of the following four separate stages:

1. Delivery and Assembly
2. Documentation
3. Demonstration
4. Performance Test

Testing will follow in the listed order with no time gaps between stages unless mutually agreed upon by the Contractor and State Materials Laboratory.

The Contractor shall designate a qualified representative for these tests. All communications and actions regarding testing of all equipment submitted to the State Materials Laboratory shall be made through this representative. These communications and actions shall include, but not be limited to, all notifications of failure or rejection, demonstration of the equipment, and the return of rejected equipment.

Contractor Quality Control Testing
Prior to delivery of the UPS system to the State Materials Laboratory, all components and equipment, including the batteries shall be fully installed in the cabinet and the UPS system operations shall be successfully tested by the Contractor’s representative.

After the UPS system has been successfully tested, the batteries shall be removed from the cabinet and the cabinet and batteries shall be delivered, independently, to the State Materials Laboratory.

Stage 1: Delivery and Assembly
The Contractor shall provide all Work necessary to assemble the UPS system and make ready for demonstration at the State Materials Laboratory. Upon delivery, the batteries shall be reinstalled in the cabinet and the UPS system shall be made fully operational. All components for the complete UPS system, including the necessary test equipment, shall be ready for testing within 14 calendar days of delivery to the State Materials Laboratory.

Stage 2: Documentation
All documentation shall be furnished with the UPS system equipment prior to the start of testing. The documents to be supplied shall consist of the following:

1. Serial numbers when applicable.
2. Wiring diagrams for all equipment furnished. One set per cabinet.

3. Complete operations and maintenance manuals. Two sets per cabinet.

4. A description of the functions and the capabilities of individual components and of the overall UPS system.

**Stage 3: Demonstration**
The Contractor shall provide the following:

1. A presentation on how to operate the system.

2. A complete and thorough demonstration to show that all components of the UPS system are in good condition and operating properly.

The demonstration shall be performed by the Contractor’s representative in the presence of State Materials personnel.

**Stage 4: Performance Test**
The performance test will be conducted by State Personnel to determine if the UPS system performs correctly. The performance test shall include the testing of the following specifications:

1. Battery Discharge Rate

2. Battery Recharge Rate

3. Power Transfer Rate

Test results shall be within the manufacturers recommended values in order for the tests to be considered successful.

**Equipment Failure or Rejection**
All component or system failures shall be documented. This documentation shall provide the following information:

1. A detailed description of the failure.

2. The steps undertaken to correct the failure.

3. A list of parts that were replaced, if any.

All failed or rejected equipment shall be removed from the Materials Laboratory within three calendar days following notification; otherwise, the failed or rejected equipment will be returned, freight collect, to the Contractor.

Following final approval by the State Materials Laboratory, all equipment shall be removed from the State Materials Laboratory, by the contractor and delivered to sites as designated elsewhere in this contract.
**UPS System Field Testing**

After installation, the Contractor shall field test the UPS system to ensure the system operates in accordance with Plans, Specifications and manufacturer’s instructions. The test shall ensure that all components are operational within manufacturer’s tolerances. The Contractor shall provide a testing procedure to the Engineer for approval. The testing procedure shall provide for operational testing of the following:

1. UPS Power Module
2. Surge Suppressor
3. Automatic Transfer Switch
4. Generator Power Transfer Switch

The field test shall demonstrate the loss of utility power and the switch over to battery power without interference with the normal operation of the connected traffic signal controller including conflict monitor and any other peripheral devices within the traffic controller assembly.

**Induction Loop Vehicle Detectors**

Section 8-20.3(14)C is supplemented with the following:

13. All sawcuts shall be smooth – the depth of each sawcut shall be uniform to prevent forming edges in the bottom of the sawcut. All sawcut corners shall be rounded to a minimum of 1.5 inches in diameter.

14. Sawcut widths shall be adjusted from Standard Plan J-50.15 as follows:

- The width of the sawcut in Section A shall be a minimum of 1/16 inch wider than the diameter of the loop wire, up to a maximum of 3/8 inch wide.

- The width of the sawcut in Section B shall be at least 1/16 inch wider than twice the diameter of the loop wire, up to a maximum of 5/8 inch wide.

15. Round loops shall be constructed with equipment specifically designed for cutting round loops, including a concave, diamond-segmented blade. Other methods of constructing round loops, such as anchoring a router or flat blade saw, shall not be used.

16. 6 foot diameter Type 3 induction loops (Standard Plan J-50.12) may be substituted for 6’ x 6’ square Type 2 induction loops (Standard Plan J-50.11).

17. The Contractor shall notify the Project Engineer a minimum of five working days prior to removing a loop from service.

18. Where existing loops designated to remain are damaged, including damage to the loop lead-ins, they shall be replaced with new operating loops in accordance with Section 1-07.13 and within 48 hours from the time the loop
was rendered inoperable. Failure to restore damaged detection loops as described here will result in the assessment of liquidated damages in accordance with the Special Provision TRAFFIC SIGNAL OPERATION IMPACTS.

19. Existing loops designated for replacement shall have the new replacement loops installed and operational within 3 calendar days after the HMA overlay is placed. Failure to install the new replacement detection loops as described here will result in the assessment of liquidated damages in accordance with the Special Provision TRAFFIC SIGNAL OPERATION IMPACTS.

20. Where stop bar loops are designated to be replaced with video detectors, the associated video detector must be operational prior to removing any stop bar loop from service.

(******)
Where existing loops are not specifically designated for replacement in the Plans, they shall be tested by the Contracting Agency after grinding is complete. Loops which have been damaged shall be replaced in accordance with this Section. In locations where loops are installed in adjacent lanes for the same direction of travel, loops shall be installed after grinding is complete in all adjacent lanes in the same direction of travel, even if all but the last loop in a set of adjacent loops must be placed in the final lift of asphalt. The last lane in that direction to be paved shall have its loop placed prior to paving the final lift of asphalt. This additional work shall be addressed in accordance with Section 1-04.4.

8-20.4 Measurement

The first paragraph of this section is deleted and replaced with the following:

When shown as lump sum in the Plans or in the proposal as signalization system complete, or traffic signal interconnect system, no specific unit of measure will apply, but measurement will be for the sum total of all items for a complete system to be furnished and installed.

The following is added at the end of this section:
Luminaires positioned on signal poles will be considered a part of the signal work.

This section is supplemented with the following:
Measurement for the following items will be for the sum total of all items for a complete system to be furnished and installed:

City of Fife
“Illumination System Complete”
“Traffic Signal System Complete, 34th Ave E / Pacific Hwy”
“Traffic Signal Interconnect System Complete”
“Fiber Optic Cable Marker”

WSDOT
“Illumination System Complete”
“Temporary Traffic Signal System Complete, I-5 Southbound On-Ramp Meter”
“Traffic Signal System Complete, I-5 Southbound On-Ramp / Port of Tacoma Rd”
“Traffic Signal System Complete, I-5 Southbound Off-Ramp / 34th Ave E”
“Traffic Signal Interconnect System Complete”
“Fiber Optic Cable Marker”

The items listed above shall be for the sum of all labor, equipment and materials required for the complete installation of new and/or removal of existing traffic signal equipment as specified in the Plans and these Special Provisions.

All costs incurred by the Contractor for providing effective operation of existing electrical systems shall be included in the associated electrical bid items.

8-20.5 Payment
Section 8-20.5 is supplemented with the following:

(******)

As a basis of bid, the Contractor shall assume that all excavated soil has a detectable level of contamination that is less than the MTCA Method A Cleanup Levels for Unrestricted Sites (use WAC 173-340-900 Table 740-1) and shall be disposed at an appropriate facility. This material cannot be disposed at facilities with threshold acceptance criteria of “no detectable contaminants” without additional sampling and analysis. All sampling and analysis of this material will be at the Contractor’s expense.

(April 6, 2015 WSDOT GSP)
“Removing Traffic Signal Shaft Obstructions”, estimated.
Payment for removing obstructions, as defined in Section 8-20.3(4) as supplemented in these Special Provisions, will be made for the changes in shaft construction methods necessary to remove the obstruction. The Contractor and the Engineer shall evaluate the effort made and reach agreement on the equipment and employees utilized, and the number of hours involved for each. Once these cost items and their duration have been agreed upon, the payment amount will be determined using the rate and markup methods specified in Section 1-09.6. For the purpose of providing a common proposal for all bidders, the Contracting Agency has entered an amount for the item “Removing Traffic Signal Shaft Obstructions” in the bid proposal to become a part of the total bid by the Contractor.

If the shaft construction equipment is idled as a result of the obstruction removal work and cannot be reasonably reassigned within the project, then standby payment for the idled equipment will be added to the payment calculations. If labor is idled as a result of the obstruction removal work and cannot be reasonably reassigned within the project, then all labor costs resulting from Contractor labor agreements and established Contractor policies will be added to the payment calculations.

The Contractor shall perform the amount of obstruction work estimated by the Contracting Agency within the original time of the contract. The Engineer will consider a time adjustment and additional compensation for costs related to the extended duration of the shaft construction operations, provided:

1. the dollar amount estimated by the Contracting Agency has been exceeded, and
2. the Contractor shows that the obstruction removal work represents a delay to the completion of the project based on the current progress schedule provided in accordance with Section 1-08.3.

(******)

City of Fife

All costs for materials, equipment, and labor required to install a fully functioning illumination system as shown/noted in the Illumination Plans, standard specifications, standard plans, and special provisions shall be included in the lump sum price for “Illumination System Complete”.

All costs for materials, equipment, and labor required to install a fully functioning traffic signal system as shown/noted in the Traffic Signal Plans, standard specifications, standard plans, and special provisions shall be included in the lump sum price for “Traffic Signal System Complete, 34th Ave E / Pacific Hwy”.

All costs for materials, equipment, and labor required to install traffic signal interconnect as shown in the Interconnect Plans, standard specifications, standard plans, and special provisions shall be included in the lump sum price for “Traffic Signal Interconnect System Complete”.

The lump sum contract prices shall include all incidental work and shall be full compensation for all labor, materials, tools and equipment necessary to satisfactorily complete the work as defined in the Contract Documents. Subsurface explorations to determine the locations of existing utilities in order to install, abandon, and/or remove the associated equipment shall be considered incidental to the lump sum bid item.

All costs for materials, equipment, and labor related to installing fiber optic cable markers shall be included in the unit cost price for “Fiber Optic Cable Marker”, per each.

Bidders are cautioned to also include in the lump sum bid items all costs related to protection of items to remain, utility locates, subsurface explorations, dewatering, and costs associated with permits and with obtaining electrical inspection and connection and signal testing as required.

(******)

WSDOT

All costs for materials, equipment, and labor required to install a fully functioning illumination system as shown/noted in the Illumination Plans, standard specifications, standard plans, and special provisions shall be included in the lump sum price for “Illumination System Complete”.

All costs for materials, equipment, and labor required to install a fully functioning traffic signal system as shown/noted in the Traffic Signal Plans, standard specifications, standard plans, and special provisions shall be included in the lump sum price for “Temporary Traffic Signal System Complete, I-5 Southbound On-Ramp Meter”.

All costs for materials, equipment, and labor required to install a fully functioning traffic signal system as shown/noted in the Traffic Signal Plans, standard specifications, standard plans, and special provisions shall be included in the lump sum price for “Traffic Signal System Complete, I-5 Southbound On-Ramp / Port of Tacoma Rd”.

City of Fife
Port of Tacoma Road Interchange – Phase 1
Special Provisions to Standard Specs – Conformed
Fed Aid No.STPUL-9927(056)
April 2018
Page 193
All costs for materials, equipment, and labor required to install a fully functioning traffic
signal system as shown/noted in the Traffic Signal Plans, standard specifications,
standard plans, and special provisions shall be included in the lump sum price for “Traffic
Signal System Complete, I-5 Southbound Off-Ramp / 34th Ave E”.

All costs for materials, equipment, and labor required to install a fully functioning traffic
signal interconnect system as shown/noted in the Interconnect Plans, standard
specifications, standard plans, and special provisions shall be included in the lump sum
price for “Traffic Signal Interconnect System Complete”.

The lump sum contract prices shall include all incidental work and shall be full
compensation for all labor, materials, tools and equipment necessary to satisfactorily
complete the work as defined in the Contract Documents. Subsurface explorations to
determine the locations of existing utilities in order to install, abandon, and/or remove the
associated equipment shall be considered incidental to the lump sum bid item.

All costs for materials, equipment, and labor related to installing fiber optic cable markers
shall be included in the unit cost price for “Fiber Optic Cable Marker”, per each.

Bidders are cautioned to also include in the lump sum bid items all costs related to
protection of items to remain, utility locates, subsurface explorations, dewatering, and
costs associated with permits and with obtaining electrical inspection and connection and
signal testing as required.

8-21 PERMANENT SIGNING

8-21.2 Materials

Roadside Sign Structures
Section 9-06.16 is supplemented with the following:

(January 3, 2011 WSDOT GSP)
Perforated Steel Square Sign Post System
Where noted in the Plans, steel sign post systems shall be square, pre-punched
galvanized steel tubing, that are NCHRP 350 Test Level 3 Certified and FHWA
approved. The steel sign post system shall include all anchor sleeves, and other
hardware required for a complete sign installation.

System Acceptance
Systems listed in the current QPL will be accepted per the QPL approval code.
Systems not listed in the QPL will be accepted based on a Supplier’s Certificate of
Compliance. The Supplier’s Certificate of Compliance will be a contract specific letter
from the supplier stating the system is NCHRP 350 Test Level 3 compliant.

Hardware
Section 9-28.11 is supplemented with the following:

(August 3, 2015)
Locknuts shown in the Plans specifying a locknut or locknut with nylon insert shall
conform to one of the following:
1. ANCO Pin Locknut, with stainless steel locking pin, as manufactured by Lok-Mor, Inc.

2. Tri-lock Locknut, as manufactured by Lok-Mor, Inc.

3. Grade DH or 2H hex or heavy hex nuts conforming to one of the ASTM material specifications in the Locknut category of the Hardware table of this Section may be modified by installing a nylon insert washer. A minimum of 60-percent of the original number of threads shall meet the requirements of the applicable ASTM material specification after insertion of the nylon insert washer.

4. Hex or heavy hex nuts conforming to one of the ASTM material specifications in the Locknut category of the Hardware table of this Section may be modified by adding one of the following products to a minimum of one-half of the internal threads of the nut and the entire exterior top surface of the nut:

   a. Nylok Blue Torq-Patch Locknut.
   c. ND Patch 360 Ring Patch.

   The nuts with any of the three listed products are permitted for a single use only and shall have a maximum of two nut widths of thread extending beyond the nut after installation.

   The alternatives to locknuts specified in Standard Plans G-90.20, G-90.30, and J-75.41 are deleted and replaced with the four options specified above.

**Sign Support Structures**

Section 9-28.14 is supplemented with the following:

(August 7, 2017 WSDOT GSP)

**Sign Structure Foundation Shaft Casing And Slurry**

Temporary casing shall conform to Section 9-36.1(2), except corrugated metal is not an acceptable alternative for sign structure shafts.

Slurry for shaft foundations shall be either synthetic slurry or water slurry, conforming to the following requirements:

**Synthetic Slurries**

Synthetic slurries shall be used in conformance with the manufacturer’s recommendations, the quality control plan specified in Section 6-19.3(2)B item 4, and the sand content requirements of Section 9-36.2(2).

**Water Slurry**

Water slurry shall conform to Section 9-36.2(3).
(January 3, 2011 WSDOT GSP)

Manufacturers for Steel Roadside Sign Supports

The Standard Plans lists several steel sign support types. These supports are patented devices and many are sole-source. All of the sign support types listed below are acceptable when shown in the Plans.

<table>
<thead>
<tr>
<th>Steel Sign Support Type</th>
<th>Manufacturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type TP-A &amp; TP-B</td>
<td>Transpo Industries, Inc.</td>
</tr>
<tr>
<td>Type PL, PL-T &amp; PL-U</td>
<td>Northwest Pipe Co.</td>
</tr>
<tr>
<td>Type AS</td>
<td>Transpo Industries, Inc.</td>
</tr>
<tr>
<td>Type AP</td>
<td>Transpo Industries, Inc.</td>
</tr>
<tr>
<td>Type ST 1, ST 2, ST 3, &amp; ST 4</td>
<td>Ultimate Highway Products, Allied Tube &amp; Conduit, Inc., Northwest Pipe, Inc.</td>
</tr>
<tr>
<td>Type SB-1, SB-2, &amp; SB-3</td>
<td>Ultimate Highway Products, Xcessories Squared Development and Manufacturing Incorporated, Northwest Pipe, Inc.</td>
</tr>
</tbody>
</table>

Steel Structures and Posts

Section 9-28.14(2) is supplemented with the following:

(August 3, 2017 WSDOT GSP)

Monotube Sign Structures

Structural steel, except for cover plates, anchor rod templates and as otherwise shown in the Plans, shall conform to either ASTM A 572 Grade 50, or ASTM A 588. Cover plates shall conform to ASTM A 36.

Handhole cover screws shall conform to ASTM F 593, Grade 1.

Sign bracket bolts, nuts, and washers shall conform to Section 9-06.5(1).

Monotube splice bolts, mounting beam rods, and associated nuts and washers, shall conform to ASTM F 3125 Grade A325, and shall be galvanized after fabrication in accordance with AASHTO M 232. Tension control bolts conforming to ASTM F 1852 may be used as monotube splice bolts, and if used shall be galvanized after fabrication in accordance with ASTM B 695 Class 55 Type I.

Anchor rods shall conform to ASTM F 1554 Grade 105, including supplemental requirements S2, S3, and S5. Nuts shall conform to ASTM A 563 Grade DH. Washers shall conform to ASTM F 436. Anchor rods shall be galvanized a minimum of 1'-0" at the exposed end in accordance with ASTM F 2329. Nuts and washers shall be galvanized in accordance with AASHTO M 232.

8-21.3 Construction Requirements
8-21.3(9) Sign Structures

8-21.3(9)A Fabrication of Steel Structures
Section 8-21.3(9)A is supplemented with the following:

(January 5, 2015 WSDOT GSP)
Monotube Sign Structures
Bolted Connections
All bolted connections shall be made using the direct tension indicator
method in accordance with Section 6-03.3(33).

Surfaces of Bolted Connections and Base Plates
All bolted connection faying surfaces shall be flat after fabrication as
required to provide a solid fit upon assembly in accordance with Section 6-
03.3(33). The flatness of the faying surfaces shall be flat to within a
tolerance of 1/32 inch in 12 inches and a tolerance of 1/16 inch overall.
Base plates with leveling nuts shall be flat to within a tolerance of 1/8 inch
in 12 inches and a tolerance of 3/16 inch overall.

In order to achieve the flatness requirements, the Contractor may need to
mill or machine the plates. The Contractor shall adjust plate thicknesses as
required to provide the plate thickness specified in the Plans after milling or
machining operations.

At bolted connections, both faying surfaces shall be at right angles to the
bolt axis, parallel to each other, and shall be in full contact in the assembled
condition. Full contact is defined as 90-percent of the outside and inside
perimeters of the splice plates being visually in contact. The outside surface
shall be inspected just inside the shell of the monotube and the inside shall
be inspected at the handhole. Splices shall be fabricated such that the
required camber remains continuous and smooth across the field splice.

Shop Assembly
Prior to galvanizing, the Contractor shall shop assemble the completed
structure lying on its side in an undeflected position to ensure correct
alignment, accuracy of holes, fit of joints, smooth camber profile, and the
specified amount of camber. The joints shall be bolted with a sufficient
number of bolts tightened snug tight to close the joints as they would be in
the final field assembled position and as specified in the Surfaces of
Bolted Connections and Base Plates subsection of this Special
Provision. The Contractor shall not disassemble the sign structure for
galvanizing as specified until receiving the Engineer's approval of the shop
assembled structure.

Zinc Coating and Painting
All galvanized surfaces exposed to view after erection shall be shop painted
or shop powder coated in accordance with Section 6-07.3(11), except when
the Plans or Special Provisions require field painting only in accordance
with Sections 6-07.3(9)I and 6-07.3(11)A. Contact surfaces of the field
bolted connections shall be left as galvanized without any overcoat.
The color of the finish coat shall match color No. 35237 Federal Standard 595 latest edition when dry.

All galvanized surfaces specified to be painted or powder coated shall be prepared for coating in accordance with the ASTM D 6386 and Section 6-07.3(11). The method of preparation shall be as agreed upon by the paint or powder coating manufacturer and the galvanizer.

After completing erection, the Contractor shall repair all metal surfaces with damaged paint or powder coatings and exposed metal with a field repair coating in accordance with Section 6-07.3(9)I and Section 6-07.3(11)A (for paint) or Section 6-07.3(11)B (for powder coating). The color of the finish coat of the field repair coating, when dry, shall match the color specified above.

Field Assembling
The Contractor shall furnish and install the vibration damper as shown in the Plans. The damper shall be installed before the sign structure is erected.

Welding Inspector Qualification
The fabricator shop will provide a Certified Welding Inspector. The inspector shall be a AWS Certified Welding Inspector (CWI) qualified and certified in accordance with the provisions of AWS QCI Standard for Qualification and Certification.

Welding Inspection
Welds for monotube sign structures shall be inspected using the methods described below.

1. Visual Inspection in accordance with Section 6-03.3(25)A1.
2. Magnetic Particle Inspection in accordance with Section 6-03.3(25)A4.
3. Ultrasonic Inspection in accordance with Section 6-03.3(25)A3.
4. Dye-Penetrant or Magnetic Particle Inspection
   The post to beam connection weld shall have 100 percent of its length inspected using dye-penetrant or magnetic-particle testing techniques. The inspection shall be performed after the root pass and after completion of the weld.

8-21.3(9)F Foundations
Section 8-21.3(9)F is supplemented with the following:

(August 7, 2017 WSDOT GSP)
Shafts For Sign Structure Foundations
Shaft foundations for the sign structures at the following location(s) shall be constructed in accordance with the following requirements, except that temporary casing is not required by the Contracting Agency but is instead a Contractor option:
Shaft foundations for the sign structures at the following location(s) shall be constructed in accordance with the following requirements, including required use of temporary casing:

** Sign Bridge No. 1
   Sign Bridge No. 2
   Cantilever Sign Structure No. 1

Shaft foundations for sign structures shall be constructed in accordance with Section 6-19.3, except as follows:

**Quality Assurance**

The tolerance for placing the center at the top of the shaft under Section 6-19.3(1)A is revised for sign structure shafts to be within four-inches of the Plan location.

Non-destructive testing of shafts under Sections 6-19.3(1)B and 6-19.3(9) and associated Work under Section 6-19.3(6) does not apply.

**Shaft Excavation**

Temporary casing shall be advanced during excavation operations within the limits of temporary casing shown in the Plans for all sign structure shaft foundation locations specified at the beginning of this Special Provision as requiring temporary casing. Excavation in advance of the casing tip shall not exceed three feet, except that in no case shall shaft excavation and casing placement extend below the bottom of shaft excavation as shown in the Plans. Unless partial depth temporary casing is shown in the Plans, temporary casing shall be full depth of the sign bridge shaft.

When efforts to advance past the obstruction to the design shaft tip elevation result in the rate of advance of the shaft drilling equipment being significantly reduced relative to the rate of advance for the portion of the shaft excavation in the geological unit that contains the obstruction, then the Contractor shall remove, break-up, or push aside, the obstruction under the provisions of Section 8-21.5 as supplemented in these Special Provisions.

**Slurry Installation Requirements**

Slurry, if used, shall be synthetic slurry or water slurry conforming to Section 8-21.2 as supplemented in these Special Provisions.

**Assembly and Placement of Reinforcement Steel**

The concrete cover dimensions under Section 6-19.3(5)C are revised for sign structure shafts to be 3-inches minimum for shafts of diameters of 3-feet or less, and 4-inches minimum for shafts with diameters greater than 3-feet.

**Placing Concrete**

Sign structure shaft concrete shall be Class 4000P.
Casing Removal
The Contractor shall completely remove all temporary casings.

8-21.4 Measurement
Section 8-21.4 is supplemented with the following:

(April 6, 2015 WSDOT GSP)
*** “Cantilever Sign Structure No. 1” and “Sign Bridge No. ___ ” *** contain(s) the following
approximate quantities of material and work:

*** Sign Bridge No. 1:
| Structural Low Allow Steel | 32,600 lbs |
| Concrete CL 4000 | 18.8 cu yd |
| St. Reinf. Bar | 4502 lbs |
| Excavation | 26 cu yd |

Sign Bridge No.2:
| Structural Low Allow Steel | 33,800 lbs |
| Concrete CL 4000 | 18.8 cu yd |
| St. Reinf. Bar | 4502 lbs |
| Excavation | 26 cu yd |

Cantilever Sign Structure No. 1:
| Structural Low Alloy Steel | 10,400 lbs |
| Concrete CL 4000 | 7.5 cu yd |
| St. Reinf. Bar | 1027 lbs |
| Excavation | 11 cu yd |

The quantities are listed only for the convenience of the Contractor in determining the
volume of work involved and are not guaranteed to be accurate. The prospective bidders
shall verify these quantities before submitting a bid. No adjustments other than for
approved changes will be made in the applicable sign structure lump sum contract price
even though the actual quantities required may deviate from those listed.

8-21.5 Payment
Section 8-21.5 is supplemented with the following:

(******)
As a basis of bid, the Contractor shall assume that all excavated soil has a detectable
level of contamination that is less than the MTCA Method A Cleanup Levels for
Unrestricted Sites (use WAC 173-340-900 Table 740-1) and shall be disposed at an
appropriate facility. This material cannot be disposed at facilities with threshold
acceptance criteria of “no detectable contaminants” without additional sampling and analysis. All sampling and analysis of this material will be at the Contractor’s expense.

(April 6, 2015 WSDOT GSP)

"Removing Sign Structure Shaft Obstructions", estimated.

Payment for removing obstructions, as defined in Section 8-21.3(9)F as supplemented in these Special Provisions, will be made for the changes in shaft construction methods necessary to remove the obstruction. The Contractor and the Engineer shall evaluate the effort made and reach agreement on the equipment and employees utilized, and the number of hours involved for each. Once these cost items and their duration have been agreed upon, the payment amount will be determined using the rate and markup methods specified in Section 1-09.6. For the purpose of providing a common proposal for all bidders, the Contracting Agency has entered an amount for the item "Removing Sign Structure Shaft Obstructions" in the bid proposal to become a part of the total bid by the Contractor.

If the shaft construction equipment is idled as a result of the obstruction removal work and cannot be reasonably reassigned within the project, then standby payment for the idled equipment will be added to the payment calculations. If labor is idled as a result of the obstruction removal work and cannot be reasonably reassigned within the project, then all labor costs resulting from Contractor labor agreements and established Contractor policies will be added to the payment calculations.

The Contractor shall perform the amount of obstruction work estimated by the Contracting Agency within the original time of the contract. The Engineer will consider a time adjustment and additional compensation for costs related to the extended duration of the shaft construction operations, provided:

1. the dollar amount estimated by the Contracting Agency has been exceeded, and
2. the Contractor shows that the obstruction removal work represents a delay to the completion of the project based on the current progress schedule provided in accordance with Section 1-08.3.

8-22 PAVEMENT MARKING

8-22.1 Description

Section 8-22.1 is supplemented with the following:

(******)

This work also consists of furnishing and installing recessed grooved plastic lines in accordance with the plans.

Type C cold applied pre-formed tape shall be used on roadways within the City of Fife and City of Tacoma right-of-way.

Within WSDOT’s right-of-way, all ramp centerlines, edge lines, lane lines, extension lines and live lane lines (excluding gores) shall be recessed Type a Grooved Plastic; Wide lane lines on the exterior of gores shall be Profiled Type D Plastic; All other longitudinal markings such as mainline I-5 lane lines shall be Profiled Type D Plastic. Mainline I-5 edge stripe shall be paint.
RPM's shall be placed in accordance with the plans.

### 8-22.2 Materials
Section 8-22.2 is supplemented with the following:

- (***) Pavement markings shall be in accordance with 9-34.

### 8-22.3 Construction Requirements
Section 8-22.3 is supplemented with the following:

- (***) Inlaid plastic line is constructed by rolling Type C cold applied pre-formed tape into hot mix asphalt (HMA) with the finish roller.
- (***) Type A Grooved Plastic line shall be recessed at a minimum of 125 mm. The depth may be greater than 125 mm if recommended by the manufacturer of the plastic. The top of the plastic strip shall be flush with the surrounding pavement.

### 8-22.4 Measurement
Section 8-22.4 is supplemented with the following:

- (***) Recessed Grooved Plastic Line will be measured per linear foot.
- (***) Temporary Painted Traffic Arrow will be measured per each.

### Payment
Section 8-22.5 is supplemented with the following:

- (***) “Recessed Grooved Plastic Line”, per linear foot shall be full payment to install the pavement marking in accordance with 8-22.3.
- (***) “Temporary Painted Traffic Arrow”, per each shall be full payment to install, and remove the temporary pavement marking in accordance with 8-22.3.

### Rock and Gravity Block Wall and Gabion Cribbing

#### Materials
Section 8-24.2 is supplemented with the following:
Gravity Block Wall

Gravity block wall blocks shall be rectangular prisms with dimensions 2'-5 1/2" by 2'-5 1/2" by 4'-11", except for special blocks which shall be as dimensioned in the Plans. All dimensions shall be ± 1/2".

Except as otherwise specified, gravity block wall blocks will be accepted by the Engineer based on visual inspection only, with no minimum compressive strength and no air content requirements for the concrete used in the block.

Gravity block wall blocks for permanent walls of heights greater than six feet and less than 15 feet shall be cast with Class 3000 concrete, conforming to the air content requirements of Section 6-02.3(2A). Commercial concrete shall not be used. Gravity block wall blocks for permanent walls of these heights will be accepted based on visual inspection, and conformance to Section 6-02.3(27) and the specified concrete strength and air content requirements.

Construction Requirements

Gravity Block Wall

Section 8-24.3(2) is supplemented with the following:

(January 7, 2002 WSDOT GSP)

Definitions

Temporary Gravity Block Wall: A gravity block wall that is constructed and removed under the same contract. Temporary gravity block walls shall not exceed ten feet in height, measured from the bottom of the bottom row of blocks to the top of the highest block.

Permanent Gravity Block Wall: A gravity block wall that remains in place after the conclusion of the contract under which the gravity block wall was constructed. Permanent gravity block walls shall not exceed 15 feet in height, measured from the bottom of the bottom row of blocks to the top of the highest block.

Submittals

The Contractor shall submit working drawings of the gravity block wall to the Engineer for approval in accordance with Section 6-01.9. The working drawings shall include, but not be limited to, the following:

1. Plan, elevation, and section views of the wall, showing the layout, batter, and orientation of the blocks.

2. Dimensions and details of the blocks, including details and locations of block erection lifting loops and inserts, and the features designed to interlock blocks together if the blocks have such features.

3. Method and equipment used to erect the blocks.

4. Erection sequence.
The Contractor shall not begin fabricating gravity block wall blocks until receiving the Engineer’s approval of the working drawing submittal.

**Gravity Block Wall Erection**

After excavating for the wall base, the Contractor shall grade the excavation for a width equal to or exceeding the width of the bottom row of blocks. The base shall be graded to the base elevation shown in the Plans and working drawings as approved by the Engineer, and shall accommodate the batter of the bottom row of blocks.

The Contractor shall erect the gravity block wall and place the backfill in accordance with the erection sequence as approved by the Engineer. The top of the gravity block wall shall be within two inches of the line and grade shown in the Plans. The backfill shall be compacted in accordance with Section 2-03.3(14)C, Method C.

The Contractor shall repair all large blemishes, honeycombed areas, and chipped surfaces, (25 square inches and larger) on the exposed face of the erected wall using methods and materials as approved by the Engineer.

**8-24.4 Measurement**

The third paragraph in Section 8-24.4 is revised with the following:

(******)

Gravity block wall and temporary gravity block wall will be measured by the square foot of completed wall in place. The vertical limits for measurement are from the bottom of the bottom layer of blocks to the top of the top layer of blocks. The horizontal limits for measurement are from the end of wall to the end of wall.

**8-24.5 Payment**

Section 8-24.5 is supplemented with the following:

(******)

"Temporary Gravity Block Wall", per square foot.

**8-26 FIELD OFFICE BUILDING**

(******)

8-26 is a new Section.

**8-26.1 Description**

This work shall consist of furnishing and setting-up a temporary office building for the sole use of the Contracting Agency.

**8-26.3 Construction Requirements**

The building shall be either a mobile office trailer or existing office and located within a 1 mile radius of the project limits and shall be set up and operational within the first 15 working days unless the Engineer has approved a different schedule.

The building shall be weather-tight, installed plumb and level, and provided with the following as a minimum:
1. 500 square feet minimum of floor space
2. Heating and Air Conditioning
3. Electric lights
4. 2 separate offices of 110 square feet each with lockable doors
5. 10 linear feet of shelving in each of the 2 offices
6. 3 each 30" X 60" office desks with a minimum of 3 drawers
7. 3 each swivel desk chairs with pneumatic seat height adjustment and dual wheel castors on the legs or base.
8. 1 Drafting table: 3 feet deep by 6 feet wide by 3 feet 3 inches high
9. 1 Drafting stool, swivel type with pneumatic seat height adjustment and dual wheel castors on the legs or base
10. 1 Conference table 4’ X 12’ or as approved by the Engineer.
11. 4 Non-fire resistant cabinets (legal size/4 drawer) locking and suitable for a hanging file system
12. 4 wastebaskets
13. 1 Whiteboard, wall mounted with color markers and erasers – 8’ X 4’
14. 4 Bookcases with minimum dimensions of: 48”long by 14”deep with a minimum 4-shelf stack (minimum of 12”space between shelves).
15. Fire extinguishers – provide and install type and number to meet applicable State and local codes for size of office indicated.
16. 1 Facsimile FAX machine capable of transmitting by telephone, with maintenance provided by the Contractor.
17. 1 Copier that meets at the minimum the following performance specifications:
   - Full Color 600 x 600 dpi PC scanning
   - 20-ppm compact desktop digital MFP with 600 dpi output
   - Paper capacity maximum: 1,000 sheets
   - Standard 40 sheet reversing single pass feeder
   - Standard 2 x 250 sheet cassette and 100 sheet bypass tray
   - Up to 100 page electronic sorting and offset stacking
   - 25% to 400% zoom magnification
   The Contractor shall also provide all maintenance and service for the copier.
18. Hot and cold water dispensing unit and supply of bottled water for the duration of the project.
19. 2 Door mats
20. 4 Boot brush with scaper.
21. The Contractor shall provide the Engineer with three sets of keys providing access to the field office. The Contractor shall install hardware on all exterior doors capable of being secured by padlocks that will be provided by the Contractor. The Contractor shall provide regular cleaning services for the field office at least once every two weeks (or when directed by the Engineer), to maintain the premises in a neat and clean condition.
22. The Contractor shall provide separate sanitation facilities including hand wash for male and female in or directly adjacent the field office building.
The Contractor shall provide at a minimum a 4 inch crushed surfacing base coarse surfaced parking area of 60' X 30' adjacent to the field office building. This shall also include maintenance of the surface.

The Contractor shall provide for broadband internet service for the construction field office building. The internet service shall be accessible in each office and or at each workstation within the office. All hardware and software necessary for connecting necessary to connect the internet service to the field office and for connecting each computer system and copier shall also be provided by the Contractor. Access to internet service within the field office may be provided by a wireless hub or by direct connection via a network port to a network hub. Broad band internet access shall be provided by one of the following methods in order of availability:

1. Cable or DSL Broadband
2. Mobile broadband

8-26.5 Payment
Payment will be made in accordance with Section 1-04.4, for the following item:

"Field Office Building", lump sum.

The lump sum contract price for “Field Office Building” shall be full pay for furnishing, installing, maintaining, and removing the facility, including all costs associated with required utility hookups and disconnects, and monthly rental and utility charges.

If the field office and/or contents is vandalized or burglarized, Contractor shall be responsible for all repairs and content replacement at its own expense. No progress payments will be made to the Contractor until the field office is properly furnished and usable in the opinion of the Engineer.

8-27 ADDITIONAL TRAFFIC CONTROL MEASURES

8-27.3 Construction Requirements

8-27.3(1) Off Duty Uniformed Police Officers

The City shall reimburse the Contractor for the use of off-duty uniformed police officers at the invoiced cost with no mark-up for those services.

The Contractor shall request uniformed off-duty police officers from the City of Fife Police Department, (253) 922-6633 or the Washington State Patrol, (360) 596-4000. The request shall be made forty-eight (48) hours before the use of the off-duty police officers on the project site. A minimum three (3) hours call out time shall be paid by the Contractor for each request for off-duty police officers. It shall be the Contractor's responsibility to arrange a work schedule to minimize any additional costs incurred by the minimum three (3) hour call out requirement. No reimbursement of any portion of the minimum callout will be allowed where Contractor-made schedule revisions occur after an off duty officer has been procured.
The estimated uniformed off-duty police officers hours as stated in the proposal, are the City’s estimate, without knowledge of the Contractors specific method of operation and is used only for the purpose of providing a common amount for all bidders. In the event actual hours of officer time differ from the quantity listed in the proposal, no readjustment in the unit contract price for uniformed off-duty police officer will be allowed.

8-27.5 Payment

“Off Duty Uniformed Police Officer”, by force account
All costs for "Off-Duty Uniformed Police Officer" will be paid for by force account as specified in Section 1-09.6. To provide a common Proposal for all Bidders, the Contracting Agency has estimated the amount of force account for “Off Duty Uniformed Police Officer” and has entered the amount in the Proposal to become a part of the total Bid by the Contractor.

(January 2, 2018)

8-28 BOLLARDS

Description
This work shall consist of furnishing and installing steel bollards in accordance with the Plans, Standard Plans, and these Specifications, at the locations shown in the Plans or as staked by the Engineer.

Materials

Posts and Hardware
Type 1 and Type 2 bollard posts shall be ASTM A 53, NPS 3 (3” Nom.) schedule 80 steel pipe. Post sleeves shall be ASTM A 53, NPS 4 (4” Nom.) schedule 40 steel pipe.
Type 3 bollard posts shall be steel structural tubing per ASTM A 500 Gr B.
Steel plate shall be per ASTM A 36.
All steel parts shall be hot-dip galvanized after fabrication in accordance with AASHTO M 111.

Reflective Tape
Reflective tape shall be one of the following or an approved equal:

- Scotchlite High Intensity Grade Series 2870
- Reflexite AP-1000
- Scotchlite Diamond Grade LDP Series 3970
- T-6500 High Intensity (Type IV)

Concrete
Footings shall be constructed using concrete Class 3000.

Construction Requirements
Bollards shall be constructed in accordance with the Standard Plans.
Bollards shall not vary more than 1/2 inch in 30 inches from a vertical plane.
Bollard posts and the exposed parts of the base assembly shall be painted in accordance with Section 6-07.3(11) for galvanized surfaces. The top coat shall match SAE AMS Standard 595, Color No. 33538 Traffic Signal Yellow.

Measurement
Measurement for bollards will be by the unit for each type of bollard furnished and installed.

Payment
Payment will be made for the following bid items when included in the proposal:

"Bollard Type __", per each.

8-33 FRANCHISE AERIAL UTILITY CONVERSION (NEW SECTION)

This is a new section.

8-33.1 Description

The work performed shall be the installation of a comprehensive, underground infrastructure to convert existing overhead power and telecommunications utilities to underground facilities. It shall generally consist of the excavation, preparation, installation, backfill, and surface restoration associated with conduit banks and vaults, as shown in the Plans and described within this section.

Franchise utilities for this project include:

- Tacoma Public Utilities (TPU) (power)
- Century Link (fiber/telephone)
- Comcast (cable/ fiber)
- CLICK Networks
- City of Fife Spare Conduit

The Contractor shall also submit a plan for approval for laying out proposed conduit alignments. This plan shall include all bends, connections, penetrations with corresponding radii. The plan shall meet the minimum requirements for each franchise utility company.

Underground Facilities for the City of Fife

For CenturyLink existing underground facilities that are being relocated, the utility will supply all miscellaneous material necessary for vault, handhole, pedestal and duct installation. The contractor shall install the provided vaults, handholes, pedestals, conduit, trace wire, warning tape, etc. The existing underground facilities are denoted on the plans.

For CenturyLink existing aerial facilities that are being undergrounded, the contractor will furnish and install the vaults, pedestals, conduits and all miscellaneous material necessary for vault and duct installation such as but not limited to conduit fittings, bends, sweeps, risers, riser attachments, glue, warning tape, spacers, trace wire and pull string. The existing aerial facilities are denoted on the plans.
For Comcast, the utility will supply all miscellaneous material necessary for vault, handhole, pedestal and duct installation. The contractor shall install the provided vaults, handhole, pedestals, conduit, risers, riser attachments, trace wire, warning tape, etc.

For TPU, the contractor will furnish and install the vaults, pedestals, conduits and all miscellaneous material necessary for vault and duct installation such as but not limited to conduit fittings, bends, sweeps, risers, riser attachments, glue, warning tape, spacers, trace wire and pull string. The existing aerial facilities are denoted on the plans.

For CLICK, the contractor will furnish and install the vaults, pedestals, conduits and all miscellaneous material necessary for vault and duct installation such as but not limited to conduit fittings, bends, sweeps, risers, riser attachments, glue, warning tape, spacers, trace wire and pull string. The existing aerial facilities are denoted on the plans.

For the City’s spare conduits, the contractor will furnish and install the jboxes, conduits and all miscellaneous material necessary for vault and duct installation such as but not limited to conduit fittings, bends, sweeps, risers, riser attachments, glue, warning tape, spacers, trace wire and pull string.

The Contractor shall perform mandrel proofing of conduits in accordance with these provisions and as required by each utility company’s requirements. The utilities listed above shall be responsible for the installation of their respective wires and cables.

The Contractor shall install the items provided by the franchise utilities and shall be responsible for coordinating their delivery and storage.

A list of utility contacts and phone numbers provided in Section 1-07.17 of these Special Provisions.

The Contractor shall provide the following as shown in the Plans and as necessary to successfully complete the underground infrastructure:

- Coordination with the utilities, their inspectors, and their contractors/work crews.
- Develop a detailed trenching plan and sequence of construction.
- Sawcut pavement for utility trenches, structures (vaults and manholes) and associated work.
- Excavation, foundations, bedding and backfill for joint utility trenches, structures (vaults and manholes) and associated work.
- Install conduit, conduit bends, required fittings and connections, pole risers, handholes, junction boxes, vaults and associated work.
- Placement of structures furnished by others.
- Installation of all conduits both furnished by the Contractor and others along with the required identification tape.
- Clearing of structures and mandrel testing of all conduit.
- Cutting and capping of conduit as necessary.
- Install pull string in all conduits.
- Other work indicated on the Plans and in the Specifications and Special Provisions.
- Provide a schedule of values for what is installed for each Franchise Utility.
- Surface restoration including temporary pavement or steel sheeting to allow vehicular traffic prior to final surfacing operations.
- Provide all shoring consistent with WSDOT and OSHA regulations.
- Traffic Control for utility cutover work.
- Staging and storage of all necessary materials, as approved by the Project Engineer.
- Coordination with the Project Engineer and the non-electrical utility crews (gas, sewer, water, etc.) to avoid conflicts, damage, and work stoppages.
- Coordination with the City’s electrical contractor providing power service connections to homes and businesses which are currently serviced overhead.

The franchise utilities shall be responsible for the following:

- Provide new underground wiring and cable except for wiring and cable to connect residences being converted from overhead to underground services. Electrical service connects to homes and businesses which are currently serviced overhead to be provided by others.
- Provide all electrical equipment, communications equipment, and all distribution and service terminations.
- Provide required grounding systems.
- Provide inspections for all underground facilities installed by Contractor prior to burial.
- Traffic control labor for work outside of the project limits for utility’s respective wiring operations.
- Complete removal of existing poles and other overhead facilities; see Section 8-33.3(6) Existing Utilities. TPU and CenturyLink will be responsible for removing poles.
- Provide service shutdowns and cutovers.
- Provide supervision and crews to make cutovers to existing conduits and vaults.
- Providing their respective vaults and conduits that are to be installed by the Contractor.
- TPU to provide temporary pole relocations and/or pole support systems and temporary wiring as requested by the Contractor. The contractor shall submit the request to the engineer 7 days prior. Any additional costs associated with temporary pole relocations will be borne by the contractor.

8-33.1(1) Regulations and Codes

Installation of all electrical and telecommunication vaults and ducts shall conform to the appropriate sections of the latest editions of the following standards and codes:

- National Electrical Code (NEC)
- National Electric Safety Code (NESC)
- Underwriters Laboratories (UL)
- National Electrical Manufacturer’s Association (NEMA)
- American Association of State Highway and Transportation Officials (AASHTO)
- National Electrical Contractors Association (NECA)

In all cases, the Contractor shall install a complete and operable system in compliance with the plans and specifications. The Contractor shall also coordinate and obtain inspections and approvals form the various utilities, Project Engineer, and from the local Authorities Having Jurisdiction (AHJ) prior to duct and vault burial.
8-33.2 Materials
Materials shall conform to the requirements of the Division 9 Standard Specifications, these Special Provisions, and the standards of the utility agencies as indicated below and on the Plans and details.

TPU’s pertinent standards are included in Appendix D. The Contractor shall verify that these standards are the most recent available by checking with TPU engineers, prior to mobilization.

Communication Vaults and Pedestals
Comcast vaults and pedestals shall be provided by the utility. They are identified on the Plans by their model number, allowing the Contractor to assign a unit cost for installation. Comcast will supply the following vaults:
- Channell 24x36 pedestal, model BULK242T072
- Channell 36x48 pedestal, model BULK736C072
- Channell Signature Pedestal 12x12, SPH Series

CenturyLink vaults and pedestals shall be provided by the utility if the existing facility is underground. See section 8-33.1. CenturyLink will supply the following vaults:
- Emerson Pro12 pedestal
- Oldcastle 264-TA precast vault with cover

CenturyLink vaults and pedestals shall be provided by the contractor if the existing facility is aerial. See section 8-33.1. The vaults and pedestals are identified in the Plans by their model number, allowing the Contractor to assign a unit cost for installation. The Contractor will supply the following vaults for CenturyLink:
- Emerson Pro12 pedestal
- Oldcastle 264-TA precast vault with cover
- Oldcastle 467-TA precast vault

CLICK! Communications vaults and pedestals shall be provided by the contractor. The contractor will supply the following vaults for CLICK! Communications:
- Carson 2436-18 color gray with gray cover
- Carson 1730-18 color gray with gray cover. Gray cover shall have “TPU COMM” stamped on the lid.
- Oldcastle 25-TA precast vault with cover
- Oldcastle 264-TA precast vault with cover

City of Fife J-boxes type 1 shall be provided by the contractor.

TPU Vaults and Handholes
Vault and handhole sizes are identified in the Plans and shall be provided by the contractor. All vaults shall be from the Oldcastle Company or approved equal.

Vaults and handholes shall match the descriptions below and be installed per TPU Transmission and Distribution Standards.
- Small Secondary Service Box Pencell #PE-20GS-2X with cover #PE-20PL-2X-TAC
- Large Secondary Service Box Pencell #PE-30GS with cover #PE-30PLX-TAC
- Oldcastle 444 precast transformer vault with cover #1
- Oldcastle 444 precast junction vault with #2 cover, non-skid lid
- Oldcastle 554 precast junction vault with #3 cover, non-skid lid
- Oldcastle 554 precast transformer vault with cover #2
- Oldcastle 810 precast switchgear vault with cover #1
- Oldcastle 684 precast manhole vault with cover

**Identification Tape**
Identification Tape for telecommunications conduit runs shall be Polyethylene, 5 Mil Tape, ½ mil Aluminum Center Core. Six inch (6") wide, orange in color, with non-ferrous metal conduction sandwiched in the tape for detection purposes imprinted with black lettering “CAUTION – FIBER OPTIC LINE BELOW”. The warning tape shall be no less than 12 inches and no more than 18 inches above conduit.

**Trace Wire**
Install 14 AWG solid copper trace wire with cable with CenturyLink, CLICK, City’s spare conduit and Comcast underground conduits and accessible in each Pull Box, Handhole or Vault.

**Franchise Utility Trench Bedding for Direct Burial Ducts**
Utility trench bedding shall be gravel backfill for pipe zone bedding, controlled density fill or fluidized thermal backfill per the detail in the Plans.

**Franchise Utility Trench Pipe Zone Bedding**
The pipe zone is defined as the full trench width, plus bedding and shading as shown in the typical trench sections shown in the plans. Controlled density fill or fluidized thermal backfill shall be used for pipe zone backfill, except as noted otherwise on the plans.

**Fluidized Thermal Backfill (FTB)**
FTB shall be a self-compacting, cementitious, flowable material requiring no subsequent vibration or tamping to achieve consolidation. Maximum 28 day strength shall not exceed 1000 psi. The proportions of all FTB components shall be balanced such that when the specified amount of water is added a uniform mix will be obtained that will not segregate when installed by pouring. No substitution of material is permitted. The FTB mix shall meet the following requirements:

- **Material:**
  - Cement – Normal Portland Cement conforming to ASTM Designation C 150
  - Fluidizer – Class “C” or “F” Fly Ash
  - Fine Aggregates – Concrete sand with a particle size distribution meeting ASTM C 33 limits for fine aggregates.
Medium Aggregates – Maximum aggregate gravel size shall be 3/8-inch minus.

Additives – No other additives shall be added.
For installation and other standards, refer to Tacoma Power Standards C-UG-2050.

FTB will be accepted based on a Manufacturer’s Certificate of Compliance. The producer shall provide a Certificate of Compliance for each truckload of FTB in accordance with Section 6-02.3(5)B.

Conduits and Accessories
Comcast will furnish their respective conduits to the Contractor for installation.
CenturyLink will furnish their respective conduits to the Contractor for installation per Section 8.33-1.
The Contractor shall provide conduit materials for City of Fife “Furnish and Install Conduit Pipe 4 In. Diam. – City” conduits as shown in the plans.
The Contractor shall provide conduit materials for CenturyLink “Furnish and install conduit Pipe 4 In. Diam. – CenturyLink” conduits as shown in the plans.
The Contractor shall provide conduit materials for CLICK! Communications “Furnish and install conduit Pipe __ In. Diam. – CLICK” conduits as shown in the plans. All CLICK schedule 40 conduit shall be green color.
The Contractor shall provide conduit materials for TPU “Furnish and install conduit Pipe __ In. Diam. – TPU” conduits as shown in the plans.
All contractor provided conduit shall meet the requirements of section 9-29.1(4A)
Nonmetallic conduit spacers shall be used for all encased conduits and in direct burial runs with more than 2 conduits.
Riser conduits and their associated sweeps will be Schedule 80 PVC.
Factory and field bends and elbows must conform to TPU, Comcast, CLICK and Century Link bend radius requirements. The Contractor shall provide and install measuring tape/pull cord in new Century Link, CLICK, City’s spare, Comcast and TPU conduits.

8-33.3 Construction Requirements
The Contractor shall be responsible for coordinating with all the utility companies and incorporate time allowances into the project schedule for these work elements. No planned interruption to an existing system shall be allowed on Fridays, weekends, the day before holidays, or holidays unless specifically agreed to in writing by the Contracting Agency. Where services are to be shut down, affected parties shall be notified in writing by the Contractor (i.e., door hangers) at least 48 hours and not more than 72 hours in advance of the time and period of shut down. The Contractor shall make every effort to keep shut down schedules to periods of anticipated minimum usage and for the least period of time.

Plans
The Contract Plans have been developed from TPU underground conversion plans and are intended for providing an overview of the work and for bidding purposes. It shall be
the Contractor’s responsibility to construct a joint trench along the approximate lines and
grades shown which shall result in a successful conversion of the aerial utilities to
underground.

The Contractor is advised that the layout of conduit ducts and vaults shown on the Plans
is approximate. The layout of the joint-utility trench and vaults shall be adjusted as
necessary to avoid conflicts with utilities, both existing and to be constructed under this
Contract. The Contractor is also alerted that all improvements for the aerial utility
conversion must remain within the City right-of-way and City obtained easements, which
are indicated on the Plans.

It shall be the Contractor’s responsibility to construct the joint utility trench so that it will
not require adjustments or replacements for other items of Work. All adjustments to the
layout shown must be reviewed and approved by the Engineer. Individual service
connections are not required to be within easements. The Contractor shall make his or
her own determination as to how best to provide the joint-utility trench, which conforms
with these Plans and Specifications.

The Engineer, utility company representatives, and the Contractor will coordinate actual
location of vaults, handholes and conduits as necessary to avoid conflicts with the existing
and proposed utilities and appurtenances. The Contracting Agency reserves the right to
adjust these locations as necessary to accommodate existing or newly installed utilities
at no additional cost to the Contracting Agency.

Installation of franchise utility conduits shall be per the requirements of the franchise
utilities. The Contractor shall perform all franchise utility work under the supervision and
inspection of the franchise utility representatives.

For CenturyLink facilities: All vaults and conduits must be inspected by a Century Link
inspector before covering. Phone Gary Fallis at 206-733-8861 or 206-344-0349, 48 hours
in advance of setting the vault to schedule a field engineer to observe the setting.

For CLICK facilities: All vaults and conduits must be inspected by a CLICK Inspector
before covering. Phone Kim Quinones at 253-502-8131 or 253-307-6841, 48 hours in
advance of setting the vault to schedule a field engineer to observe the setting.

For Comcast facilities: All vaults and conduits must be inspected by a Comcast inspector
before covering. Phone Jim LeCompte at 253-896-5699, 48 hours in advance of setting
the vault to schedule a field engineer to observe the setting.

For TPU facilities: All vaults and conduits must be inspected by a TPU Inspector before
covering. Phone Steve Bain at 253-381-3023, 48 hours in advance of setting the vault to
schedule a field engineer to observe the setting.

No vault inspection will be made unless the shoring for the vault excavation complies with
WAC 296-155, Part N “Excavation, Trenching, and Shoring”.

The Contractor shall make the following assumptions in their unit bid price for utility
undergrounding bid items:

1. The Contractor shall assume conduits entering all other vaults shall be through
inspector designated knockouts then grouted and sealed per TPU standards.
2. The Contractor shall assume that conduits will enter the vaults perpendicular to the vault walls with adjacent bends no greater than 22 degrees.

3. The Contractor shall assume that adjustments to the utility trench depth and width will be required when crossing utilities shown in the Plans as existing or proposed and that the change in depth will be done with field bends in the conduit, not conduit fittings.

4. The Contractor shall assume that hand digging will be required near existing underground utilities to prevent inadvertent damage with mechanized equipment.

5. The Contractor shall assume all responsibilities for repair and surface restoration of private property to match surrounding conditions after backfilling individual service trenches to the owner’s building.

In addition, the Contractor is required to perform a thorough review and assessment of Plans, Specifications, Special Provisions, Utility Standards, site conditions, and constraints to determine all the work necessary to construct and complete the Utility Undergrounding. Work will be performed in close proximity to other underground utilities and beneath existing overhead utilities and must be coordinated with the various utility representatives and work crews to prevent damage and safety hazards. Lump sum price includes all over-excavation, dewatering, and field adjustments, staging, and inspections necessary to construct a complete and in place system.

8-33.3(1) Excavation
Structure excavation necessary for the installation of conduits and structures (vaults & handholes) shall be incidental to the bid items within this section. Structure excavation shall meet the requirements of the Standard Specification 2-09.

Trench Excavation Safety Systems per Section 2-09 shall apply to trench excavations.

8-33.3(2) Placing Structures Furnished by Others
The Contractor shall install structures furnished and delivered to the site by the franchise utilities where indicated in section 8-33.1. The Contractor shall coordinate delivery and storage of structures provided by others.

8-33.3(3) Removing and Replacing Improvements
Improvements such as sidewalks, curbs, gutters, Portland cement concrete and asphalt concrete pavement, bituminous surfacing, base material, and any other improvements removed, broken, or damaged by the Contractor, shall be replaced or reconstructed in-kind or with other materials satisfactory to the Engineer. This shall be at no additional cost to the Contracting Agency.

Whenever a part of a square or slab of existing concrete sidewalk or driveway is broken or damaged, the entire square or slab shall be removed and the concrete reconstructed as above specified.

The outline of all areas to be removed in Portland cement concrete sidewalks and pavements and asphalt concrete pavements shall be cut to a minimum depth of 3 inches with a saw prior to removing the sidewalk and pavement material. The cut for the
remainder of the required depth may be made by a method satisfactory to the Engineer. Cuts shall be neat and true with no shatter outside the removal area.

8-33.3(4) Conduit

Installation of conduit shall conform to appropriate articles of the NEC, the NESC and Utility Standards. The size of conduit used shall be as shown in the Plans.

The ends of all conduits shall be well reamed to remove burrs and rough edges. Field cuts shall be made square and true.

Conduit stub-ups into bottomless handholes and equipment foundations shall extend a minimum of 4 inches above the bottom surface/grade. All conduit stubs shall be capped.

Conduit stubs from bases shall extend at least 6 inches from the vertical face of foundations and at least 18 inches below grade.

Conduit shall be laid to the depth required by each perspective utility company standard but not less the 36 inches below finish grade, with the exception at the crossing of Pacific Hwy where it will be 2.5 feet. Service conduits on private property shall conform to the NEC burial depths.

Conduit risers on secondary and terminal poles shall be Schedule 80 PVC and conform to TPU’s Transmission and Distribution Standards.

Suitable marker stakes shall be set at the ends of conduits which are buried so that they can be easily located.

All conduits installed shall be prepared as follows:

After final assembly in place, the conduit shall be blown clean with compressed air. Then, in the presence of an authorized Tacoma Power Inspector, a cleaning mandrel correctly sized for each size of conduit shall be pulled through to ensure that the conduit has not been deformed. Any deficiencies shall be corrected by the Contractor at no additional cost to the Contract Agency. As soon as the mandrel has been successfully pulled through both ends of the conduit, it shall be swabbed and fished by the Contractor. The Contractor shall leave a 1/8-inch diameter polypropylene fish cord in each conduit. Conduit shall then be sealed with conduit caps. Conduits noted as “spare” shall have a pull cord installed and have a removable plug installed. See table below for required Mandrel Sizes for Conduit Proofing.

<table>
<thead>
<tr>
<th>Conduit Nominal Diameter</th>
<th>Mandrel Diameter</th>
<th>Maximum Mandrel Length</th>
<th>Minimum Mandrel Length</th>
<th>Proof</th>
</tr>
</thead>
<tbody>
<tr>
<td>(in)</td>
<td>(in)</td>
<td>(in)</td>
<td>(in)</td>
<td>(percentage)</td>
</tr>
<tr>
<td>3</td>
<td>2.5</td>
<td>3.25</td>
<td>8</td>
<td>83</td>
</tr>
<tr>
<td>4</td>
<td>3.5</td>
<td>4.25</td>
<td>8</td>
<td>87</td>
</tr>
<tr>
<td>5</td>
<td>4.75</td>
<td>5.25</td>
<td>10</td>
<td>92</td>
</tr>
</tbody>
</table>

City of Fife
Port of Tacoma Road Interchange – Phase 1
Special Provisions to Standard Specs – Conformed

Fed Aid No.STPUL-9927(056)
April 2018
Page 216
Connection, interception, and/or extension of existing conduits shall be coordinated with the crews of the pertinent utility.

**8-33.3(5) Vaults, Handholes and Appurtenances**

Vaults, handholes and other appurtenances shall be installed at the approximate locations shown on the Plans. Vault and handhole installation shall conform to the respective utility companies standards. Vaults and handholes shall be adjusted such that the covers are 1/4” to 3/8” above surrounding grade. See TPU's Transmission and Distribution Standards.

Contractor shall not park or drive any equipment or vehicles on vaults.

**8-33.3(6) Existing Utilities**

The Contractor is alerted to the presence of existing underground utilities within the project area. The Project plans indicate approximate locations prior to excavation.

The Contractor shall prepare and submit to the Engineer a written trench excavation plan that indicates the location of existing utilities within the trench and vault excavation areas. Depth to the existing utilities based on pothole data provided, and potholing information obtained by the Contractor shall be shown.

Conflicts between existing utilities, new conduit, new vaults, handholes, and appurtenances shall be shown. The Contractor shall identify those conflicts requiring immediate resolution based on the CPM schedule and request in writing to the Engineer authorization to resolve unforeseen conflicts. Upon authorization, the Contractor shall diligently and without delay perform such work as necessary to resolve the conflicts.

The Contractor shall protect and support all existing utilities not identified to be removed, relocated, or abandoned. The existing telecommunication and electrical system shall remain operational during the installation of the underground utility system and other construction activities. The respective utility companies will furnish and install all conductors and make all final connections necessary to energize the system.

**8-33.3(8) Resolution of Utility Conflicts and Customer Service Reconnection**

When necessary, the Contractor will resolve utility conflicts with proposed and existing utilities that are shown on the Plans.
Similarly, when necessary the Contractor will reconnect power service to customers within the Project corridor.

8-33.4 Measurement
Joint utility trench (JUT) is defined as a trench that includes both TPU and/or telecommunications conduits. Joint utility trench will be measured per linear foot of joint utility trench that is installed per the plans, and conduit schedule.

Lateral trench is defined as a trench that includes TPU and/or telecommunications conduits. Lateral trench will be measured per linear foot of lateral trench that is installed per the plans, and conduit schedule.

Service trench is defined as a trench that includes TPU and/or telecommunications conduits. Service trench will be measured per linear foot of service trench that is installed per the plans, and conduit schedule.

“Install Conduit Pipe _____ In. Diam. – ______” will be measured per linear foot of franchise utility-provided conduit that is installed by the Contractor. Measurement will terminate at the face of vault.

“Furnish and Install Conduit Pipe _____ In. Diam. – CenturyLink” will be measured per linear foot of contractor supplied conduit that is installed by the Contractor. Measurement will terminate at the face of vault.

“Furnish and Install Conduit Pipe _____ In. Diam. – CLICK” will be measured per linear foot of contractor supplied conduit that is installed by the Contractor. Measurement will terminate at the face of vault.

“Furnish and Install Conduit Pipe _____ In. Diam. – TPU______” will be measured per linear foot of contractor supplied conduit that is installed by the Contractor. Measurement will terminate at the face of vault.

“Furnish and Install Conduit Pipe 4 In. Diam. – City” will be measured per linear foot of contractor supplied conduit that is installed by the Contractor. Measurement will terminate at the face of vault.

CenturyLink and Comcast pedestals will be measured per each location where the provided pedestal is installed.

Sawcutting required shall be incidental to various items involved and no separate measurement will be made.

Surface restoration items required for resuming pedestrian and vehicular traffic prior to final surfacing, including steel sheeting, crushed rock, and cold or hot mix asphalt, shall be to the various utility undergrounding bid items involved and no separate measurement will be made.

There will be no unit of measurement for Conduit Alignment Plan.

8-33.5 Payment
(******)
As a basis of bid, the Contractor shall assume that all excavated soil has a detectable
level of contamination that is less than the MTCA Method A Cleanup Levels for
Unrestricted Sites (use WAC 173-340-900 Table 740-1) and shall be disposed at an
appropriate facility. This material cannot be disposed at facilities with threshold
acceptance criteria of “no detectable contaminants” without additional sampling and
analysis. All sampling and analysis of this material will be at the Contractor’s expense.

Payment will be made for the following bid items:

“Joint Utility Trench,” per linear foot.

“Lateral Trench,” per linear foot.

“Service Trench,” per linear foot.

The unit Contract price for “Joint Utility Trench”, “Lateral Trench” and “Service Trench”,
per linear foot shall include all Work necessary to construct the utility trenches including
excavation for the trench, dewatering, bedding and backfilling of the trench. The cost of
furnishing and installing pipe bedding, placing and compacting trench backfill, placement
of CDF or FTB if required, installation of warning tape, installation of trace wire, installation
of pull string, coordination with franchise utilities and other necessary work to allow the
installation of conduits shall be included in this item.

“Install Utility Vault/Handhole – _____ Provided”, per each.

"Install Utility Pedestal _____ – _____ Provided", per each

The unit Contract price bid shall be full compensation for installing the utility-provided
vault, pedestals or handholes of the size and type specified. Including all labor, materials,
tools and equipment, supplies, and other incidental work required to satisfactorily
complete the work defined in the Standard Specifications, Special Provisions for the
particular vault, pedestal or handhole called for in the Plans. The unit cost per vault shall
include vault excavation, dewatering, foundation, bedding, installation and backfilling.

"Furnish and Install Utility Pedestal_____ - CenturyLink”, per each

"Furnish and Install Utility Vault/Handhole _____– _____”, per each

The unit Contract price bid shall be full compensation for installing the contractor provided
utility’s vault, pedestals or handholes of the size and type specified. Including all labor,
materials, tools and equipment, supplies, and other incidental work required to satisfactorily
complete the work defined in the Standard Specifications, Special Provisions for the
particular vault, pedestal or handhole called for in the Plans. The unit cost per
vault shall include vault excavation, dewatering, foundation, bedding, installation and
backfilling.

"Install Conduit Pipe ____ In. Diam. – _____", per linear foot

The unit Contract price shall be full pay for labor, material, equipment, and supplies
necessary for installing and proofing all pipe, pipe connections, elbows, bends, caps,
reducers, conduits, unions, measuring tape/pull cord and hardware for placing the pipe in
accordance with the above provisions in the Contractor provided Joint Utility Trench, Lateral Trench or Service Trench.

“Furnish and Install Conduit Pipe ____ In. Diam. – ____”, per linear foot
The unit Contract price shall be full pay for labor, material, equipment, and supplies necessary for furnishing, installing and proofing all pipe, pipe connections, elbows, bends, caps, reducers, conduits, unions, measuring tape/pull cord and hardware for placing the pipe in accordance with the above provisions in the Contractor provided Joint Utility Trench, Lateral Trench or Service Trench.

“Install Riser Pipe ____ In. Diam. – ____”, per linear foot
The unit Contract price shall be full pay for labor, material, equipment, and supplies necessary for installing and proofing all pipe, pipe connections, elbows, bends, caps, reducers, conduits, unions, measuring tape/pull cord and brackets for placing and mounting the pipe.

“Furnish and Install Riser Pipe ____ In. Diam. – ____”, per linear foot
The unit Contract price shall be full pay for labor, material, equipment, and supplies necessary for furnishing, installing and proofing all pipe, pipe connections, elbows, bends, caps, reducers, conduits, unions, measuring tape/pull cord and brackets for placing and mounting the pipe.

“Resolution of Utility Conflicts”, by force account as provided in Section 1-09.6.
To provide a common proposal for all Bidders, the Contracting Agency has entered an amount into the Proposal to become a part of the Contractor’s total Bid.

“Conduit Alignment Plan”, by lump sum shall be all costs associated with producing a proposed plan for approval of the conduit runs.
DIVISION 9 - MATERIALS

9-03 AGGREGATES

9-03.9 Aggregates for Ballast and Crushed Surfacing

9-03.9(2) Permeable Ballast

This section is supplemented with the following:

9-03.9(2)A Roadway Ballast

Roadway Ballast shall be manufactured from ledge rock, talus, or gravel in accordance with the provisions of Section 3-01. Recycled concrete is not permitted. The materials shall be uniform in quality and substantially free from wood, roots, bark, and other extraneous material and shall meet the following quality test requirements:

- Los Angeles Wear, 500 Rev: 30% maximum, WSDOT Test Method T
- 96 Degradation Factor: 30 minimum, WSDOT Test Method T
- 113 Minimum Void Ration Content: 30% as determined by AASHTO T19 or ASTM C29, rodding procedure

The grading requirements are:

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>Percent Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-1/2 inch</td>
<td>100</td>
</tr>
<tr>
<td>2 inch</td>
<td>90-100</td>
</tr>
<tr>
<td>1 ½ inch</td>
<td>35-70</td>
</tr>
<tr>
<td>1 inch</td>
<td>0-15</td>
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<tr>
<td>½ inch</td>
<td>0-5</td>
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<tr>
<td>100</td>
<td>0-3</td>
</tr>
<tr>
<td>% Fracture</td>
<td>95</td>
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</tbody>
</table>

All percentages are by weight.

9-03.21 Recycled Materials

General Requirements

9-03.21(1)E Table on Maximum Allowable percent (By Weight) of Recycled Material

Replace the table in Section 9-03.21(1)E with the following:
### Maximum Allowable percent (by weight) of Recycled Material

<table>
<thead>
<tr>
<th>Material</th>
<th>Spec No.</th>
<th>Hot Mix Asphalt</th>
<th>Recycled Concrete Aggregate</th>
<th>Recycled Glass (glass cullet)</th>
<th>Steel Slag</th>
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</thead>
<tbody>
<tr>
<td>Fine Aggregate for Portland Cement Concrete</td>
<td>9-03.1(2)</td>
<td>0</td>
<td>0</td>
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<td>Coarse Aggregates for Portland Cement Concrete</td>
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<td>0</td>
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<td>Coarse Aggregate for Commercial Concrete</td>
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<td>Aggregates for Hot Mix Asphalt</td>
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<td>See 5-04.2</td>
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<td>0</td>
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<tr>
<td>Ballast</td>
<td>9-03.9(1)</td>
<td>25</td>
<td>0</td>
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<td>Permeable Ballast</td>
<td>9-03.9(2)</td>
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<tr>
<td>Crushed Surfacing</td>
<td>9-03.9(3)</td>
<td>25</td>
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<td>Aggregate for Gravel Base</td>
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<tr>
<td>Gravel Backfill for Foundations - Class A</td>
<td>9-03.12(1A)</td>
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<tr>
<td>Gravel Backfill for Foundations - Class B</td>
<td>9-03.12(1B)</td>
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<td>20</td>
<td>0</td>
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<td>Gravel Backfill for Walls</td>
<td>9-03.12(2)</td>
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<tr>
<td>Gravel Backfill for Pipe Zone Bedding</td>
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<td>Gravel Backfill for Drains</td>
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<td>Gravel Backfill for Drywells</td>
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<td>Backfill for Sand Drains</td>
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<td>Sand Drainage Blanket</td>
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<td>Gravel Borrow</td>
<td>9-03.14(1)</td>
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<td>0</td>
<td>20</td>
<td>0</td>
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<tr>
<td>Select Borrow</td>
<td>9-03.14(2)</td>
<td>25</td>
<td>0</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>Select Borrow (greater than 3 feet below Subgrade and side slopes)</td>
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<td>20</td>
<td>0</td>
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<tr>
<td>Common Borrow</td>
<td>9-03.14(3)</td>
<td>25</td>
<td>0</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>Common Borrow (greater than 3 feet below Subgrade and side slopes)</td>
<td>9-03.14(3)</td>
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<td>20</td>
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<tr>
<td>Foundation Material Class A and Class B</td>
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<td>20</td>
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</tbody>
</table>
9-05 DRAINAGE STRUCTURES AND CULVERTS

9-05.23 High-Density Polyethylene (HDPE) Pipe

The first paragraph of Section 9-05.23 is supplemented as follows:

(******)
HDPE pipe for storm sewers and culverts shall be Material Designation Code PE 4710 meeting the requirements of ASTM D3350.

The second paragraph of Section 9-05.23 is supplemented as follows:

(******)
All storm sewers and culverts required to be HDPE pipe shall have a standard dimension ratio (SDR) of 17 or as indicated on the Drawings.

The third paragraph of Section 9-05.23 is supplemented as follows:

(******)
All storm sewers and culverts required to be HDPE pipe shall be joined by butt fusion welding. Butt fusion welding shall meet the requirements of this specification.

9-05.30 Welded Steel Pipe

Section 9-05.30 is replaced with the following:

(******)
Welded steel culvert pipe and welded steel storm sewer pipe shall conform to ASTM A572 Grade 50 or ASTM A252 Grade 3. The required steel thickness shall be as indicated on the drawings. Pipe sections may be fabricated by spirally welded or from cylindrical sections jointed circumferentially by butt welds with not more than two longitudinal seams per section.

Welding shall be in conformance with AWS D1.1. Any field joints shall have ends square to the longitudinal axis within a tolerance of 1/8” measured from a plane perpendicular to the longitudinal axis.

Any field joints shall be welded butt strap as indicated on the drawings.

Interior lining and exterior coating shall be the solid-body epoxy, Series 431 PermaSheild PL manufactured by Tnemec. Surface preparation shall be SSPC-SP10 near whiteblast cleaning. Coating shall be applied to a dry film thickness of 30 mils in a single or multiple coats. Shop coating shall be held back or scarified a minimum of 3” from field weld joints to provide an overlap of the field coating onto the shop coating. Field coating at joints shall have a surface preparation of SSPC-SP10 or SP-11 power tool cleaning to near white standard. Field coating shall have a DFT of 16 to 20 mils.

9-09 TIMBER AND LUMBER

9-09.3 Preservative Treatment

9-09.3(1) General Requirements

Section 9-09.3(1) is supplemented with the following:
ACZA preservative treatment for timber piling shall meet the following AWPA U1 Standards.

<table>
<thead>
<tr>
<th>Use Category Designation</th>
<th>4C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commodity Specification</td>
<td>E</td>
</tr>
<tr>
<td>Preservative Retention (lbs. per cu. ft.)</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**9-14 EROSION CONTROL AND ROADSIDE PLANTING**

**9-14.1 Topsoil**

**9-14.1(1) Topsoil Type A**

Section 9-14.1(1) is supplemented with the following:

Topsoil Type A materials shall conform to the following:

**Standard for Prepared Topsoil Type A Placed on Grade**

**A. Topsoil Type A Composition – Sandy Loam**

<table>
<thead>
<tr>
<th>Particle Size Class and Properties</th>
<th>% Dry Weight of Total Topsoil Type A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acidity (pH)</td>
<td>6.0 – 7.0</td>
</tr>
<tr>
<td>Salinity (E.C) Maximum saturation extract conductivity</td>
<td>3.0 millimhos/cm at 25 degrees C</td>
</tr>
<tr>
<td>All Gravel (1.5” to No. 10)</td>
<td>0-5%</td>
</tr>
<tr>
<td>Coarse Gravel (1.5” to 0.75”)</td>
<td>0-1%</td>
</tr>
<tr>
<td>Sand (No. 10 to No. 270)</td>
<td>70-90%</td>
</tr>
<tr>
<td>Silt</td>
<td>0-15%</td>
</tr>
<tr>
<td>Clay</td>
<td>0-15%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>% Dry Weight of Topsoil Type A Excluding Gravel</th>
<th>% Dry Weight of Fines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic Content (OM)</td>
<td>3-5%</td>
</tr>
<tr>
<td>Carbon Nitrogen Ratio (C/N)</td>
<td>Maximum 40:1</td>
</tr>
</tbody>
</table>

**B. Micronutrients – All Topsoil Type A types**
<table>
<thead>
<tr>
<th>Total Nitrogen (N)</th>
<th>0.2% - 0.6%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available Phosphorus (P)</td>
<td>20 – 500ppm</td>
</tr>
<tr>
<td>Available Potassium (K)</td>
<td>50 -1000 ppm</td>
</tr>
<tr>
<td>Available Sodium (Na) (SAR)</td>
<td>(SAR) not to exceed 8.0</td>
</tr>
</tbody>
</table>

Fertilizer: Complete commercial synthetic slow release fertilizer, packed in waterproof containers, clearly marked with the name of the manufacturer, weight and analysis. Formulation ratio: As per the recommendation provided in the Topsoil Type A analysis.

Lime: Unless otherwise noted in the Topsoil Type A analysis or directed by Engineer lime shall be coarse, ground dolomite limestone containing minimum 85% of total carbonates.

Organic Material:

Shall be derived from an organic source free of contaminants, animal or plant chemical additives or supplements. The material shall be fully composted material that does not contain cedar or redwood bark or wood, black/brown in color.

Wood Residuals: Content of wood residuals such as Fir or Hemlock sawdust present in the Topsoil Type A shall not cause the total Carbon to total Nitrogen ratio to exceed 40 to 1. Cedar or redwood sawdust shall not be present in Topsoil Type A.

Sand: Shall be well washed and free of impurities, chemical or organic material to the following gradation.

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>Percent Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>95-100</td>
</tr>
<tr>
<td>35</td>
<td>0-75</td>
</tr>
<tr>
<td>200</td>
<td>0-5</td>
</tr>
</tbody>
</table>

Drain Rock: Shall meet the Requirements of Section 9-03.12(4), Gravel Backfill for Drains, of the Standard Specifications.

C. Drainage: Percolation shall be such that no standing water is visible 60 minutes after at least 10 minutes of moderate to heavy rain or irrigation.

9-15 IRRIGATION SYSTEM

9-15.3 Automatic Controllers

Section 9-15.3 is to be supplemented with the following:

Control Module

The irrigation controller (control module) shall be programmable by a separate transmitter device only. The program shall be communicated to the Control Module.
from the Field Transmitter via an infrared connection. The controller shall be of a module type, which may be installed in a valve box underground. The controller shall function normally if submerged in water and the communication from the transmitter shall function if submerged in water

The Control Module shall be housed in an ABS plastic cabinet and shall be potted to insure waterproof operation. The Control Module battery compartment shall be dual-sealed to prevent water from entering the compartment. The Control Module shall have two mounting slots for screws allowing the module to be securely mounted inside a valve box.

The controller shall operate on one nine-volt alkaline battery for one full year regardless of the number of stations utilized. The controller shall operate _ (1, 2, 4 or 6) stations either sequentially or independently.

The controller shall have station run time capability from one minute to twelve hours in one minute increments, a 365-day calendar and three programs with eight start times each. The controller shall be capable of independent program operation using a seven day cycle. The controller shall be capable of dependent program operation using Even, Odd, Odd-31 or 1-6 day cycles. The controller shall turn on stations via latching solenoids installed on the valves. Manual operations shall be initiated by attaching the Field Transmitter to the Control Module and programming a manual start. The controller shall be capable of manual single station or manual program operation.

The irrigation controller shall be programmable by a separate transmitter device (Field Transmitter) only. The Field Transmitter shall communicate to the Control Module via an infrared connection. The Field Transmitter shall be water resistant and housed in ABS plastic and have a removable, reversible protective sheath. The Field Transmitter shall operate on one 9V alkaline battery.

Field Transmitter
The Field Transmitter shall have a large LCD screen and a seven-key programming pad. A beep sound shall confirm every keystroke. The screen shall automatically turn off after one minute when not in use.

The Field Transmitter shall be capable of programming an unlimited number of TBOS Control Modules.

The Field Transmitter shall have a low battery indicator capable of indicating low battery voltage in the Field Transmitter or TBOS Control Module.

Latching Solenoid
The Latching Solenoid shall fit into a series valve of the same manufacturer type.

The Latching Solenoid shall fit into valve actuators using plastic solenoid adapters.

The Control Module, Field Transmitter and Latching Solenoid shall be as manufactured by Rain Bird, Toro or Hunter or approved equal.

(*)*
9-19 TEMPORARY IRRIGATION SYSTEM (NEW SECTION)

9-19.1 Description

Contractor shall provide a temporary irrigation system to provide complete coverage of new trees shown on the contract documents in the WSDOT R.O.W. for a minimum of three growing seasons. Landscape contractor shall verify static pressure available at water main located in 34th Ave E. Static pressure findings shall be recorded and provided to the Owner. System shall be designed by a Landscape Architect licensed in the State of Washington. The contractor shall submit working drawings for acceptance by the WSDOT Landscape Architect. Submit Design Analysis and Calculations verifying that system will meet the following irrigation performance requirements.

9-19.2 Materials

Provide materials and equipment which are the standard products of a manufacturer who has produced similar systems that have performed well for a minimum period of 10 years prior to bid opening. Equipment shall be supported by a service organization that is reasonably convenient to the site.

Protect all equipment delivered and placed in storage from the weather, excessive humidity, and temperature variation; direct sunlight (in the case of plastic or rubber materials); and dirt, dust, or other contaminants.

9-19.2(1) Piping Materials

Copper Tubing and Associated Fittings:
Tubing shall conform to requirements of ASTM B88, Type K. Fittings shall conform to ASME B16.22 and ASME B16.18, solder joint. Solder shall conform to ASTM B32 95-5 tin-antimony. Flux shall conform to CID A-A-51145, Type I. Grooved mechanical joints and fittings shall be designed for not less than 125 psig service and shall be the product of the same manufacturer. Grooved fitting and mechanical coupling housing shall be ductile iron conforming to ASTM A536. Gaskets for use in grooved joints shall be molded synthetic polymer of pressure responsive design and shall conform to ASTM D2000 for circulating medium up to 230 degrees F. Grooved joints shall conform to AWWA C606. Coupling nuts and bolts for use in grooved joints shall be steel and shall conform to ASTM A183.

Red Brass Pipe and Associated Fittings:
Pipe shall conform to requirements of ASTM B43, regular. Fittings shall be Class 250, cast bronze threaded conforming to the requirements of ASME B16.15.

PVC Pipe:
Polyvinyl Chloride (PVC) Pipe, Fittings and Solvent Cement
Pipe shall conform to the requirements of ASTM D1785, PVC Schedule 40.

PVC Fittings:
Solvent welded socket type fittings shall conform to requirements of ASTM D2466-17, PVC Schedule 40. Threaded type fittings shall conform to requirements of ASTM D2464, Schedule 80.
Solvent Cement:
Solvent cement shall conform to the requirements of ASTM D2564.

Dielectric Fittings:
Dielectric fittings shall conform to ASTM F441/F441M, Schedule 80, CPVC threaded pipe nipples, 4 inch minimum length.

Sleeving:
Pipe shall conform to the requirements of ASTM D1785, PVC Schedule 80.

9-19.2(2) Valves

Gate Valves, Less than 3 Inches:
Gate valves shall conform to the requirements of MSS SP-80, Type 1, Class 150, threaded ends.

Angle Valves, Less Than 2-1/2 Inches:
Angle valves shall conform to the requirements of MSS SP-80, Type 3, Class 150 threaded ends.

Quick Coupling Valves (for winterization only):
Quick coupling valves shall have brass parts and shall be two-piece unit consisting of a coupler water seal valve assembly and a removable upper body to allow spring and key track to be serviced without shutdown of main.

Remote Control Valves:
Remote control valves shall be solenoid actuated globe valves as required, suitable for 24 volts, 60 cycle, and designed to provide for shut-off in event of power failure. Valve shall be cast bronze or brass or plastic housing suitable for service at 150 psi operating pressure with external flow control adjustment for shut-off capability, external plug at diaphragm chamber to enable manual operation, filter in control chamber to prevent valve body clogging with debris, durable diaphragm, and accessibility to internal parts without removing valve from system.

Drain Valves

Manual Valves:
Manual valves shall conform to requirements of MSS SP-80, Type 3, Class 150 threaded ends for sizes less than 2-1/2 inches and MSS SP-85, Type II, Class 250 threaded ends for sizes 2-1/2 inches and larger.

Pressure Regulating Master Valve (if required):
Pressure regulating master valve shall be automatic mechanical self-cleaning, self-purging control system having an adjustable pressure setting operated by a solenoid on alternating current with 0.70 amperes at 24 volts. Valve shall close slowly and be free of chatter in each diaphragm position, have manual flow stem to adjust closing speed and internal flushing, and one inlet tappings capable of being installed as a straight pattern valve. Body shall be cast bronze or brass with removable brass seat serviceable from top without removing valve body from system. Valve shall operate at 150 psi working pressure and pilot range from 10 to 125 psi.

Backflow Preventers:
Reduced pressure principle assemblies or double check valve assemblies shall be per the City of Fife Water Department standards and tested, approved, and listed in accordance with FCCCHR Manual. Reduced pressure principle backflow preventers shall be in accordance with ASSE 1013.

**Reduced Pressure Type Backflow Preventers:**
Backflow preventers shall be 150 pound flanged cast iron, bronze or brass mounted gate valve and strainer, 304 stainless steel or bronze, internal parts. Total pressure drop through complete assembly shall be a maximum of 10 psi at rated flow. Piping shall be galvanized steel pipe and fittings. Strainers shall be bronze or brass construction with gasket caps. Units shall have 200-mesh stainless steel screen elements.

**9-19.2(3) Accessories and Appurtenances**

**Valve Keys for Manually Operated Valves:**
Valve keys shall be 1/2 inch diameter by 3 feet long, tee handles and keyed to fit valves.

**Valve Boxes and Concrete Pads**

**Valve Boxes:**
Valve boxes shall be plastic lockable for each gate valve, manual control valve and battery operated remote control valve. Vault sizes shall be adjustable for valve used. Cast the word "IRRIGATION" on the cover. Shaft diameter of vault shall be minimum 5-1/4 inches. Cast iron vault shall have bituminous coating.

**Concrete Pads:**
Concrete pads shall be cast-in-place reinforced concrete construction for reduced pressure type backflow preventers. Concrete shall have a compressive strength of 2,500 psi at 28 days as specified in Standard Specifications Section 6-02.

**Pressure Gauges:**
Pressure gauges shall conform to requirements of ASME B40.100, single style pressure gauge for water with 4-1/2 inch dial brass or aluminum case, bronze tube, gauge cock, pressure snubber, and siphon. Scale range shall be suitable for irrigation sprinkler systems.

**Service Clamps:**
Service clamps shall be bronze flat, double strap, with neoprene gasket or "O"-ring seal.

**Water Hammer Arresters:**
Water hammer arrester shall conform to the requirements of PDI WH 201; stainless steel construction with an encased and sealed bellows compression chamber.

**9-19.2(4) Water Supply Main Materials**

Tapping sleeves, service cut off valves, and connections to water supply mains shall be in accordance with Standard Specification 8-03.

**9-19.2(5) Flood Bubbler Heads**
Pop-up flood bubbler heads shall lay flush with housing, then pop up when water pressure 20 psi is activated in system. The rising member supporting the nozzle shall be a full pattern sprinkler. The nozzle shall be removable so head does not have to be removed for flushing or cleaning. Nozzle shall rise a minimum of 4 inches above the body. The body shall be constructed with a 1/2 inch female thread for installation in a fixed underground pipe system.

**Bubbler Sprinkler Heads:**
Heads shall be multiple-spray bubbler with adjustable flow and designed for temporary aboveground mounting on risers.

### 9-19.3 Construction Requirements

#### 9-19.3(1) Battery Operated Controllers

The irrigation controller (control module) shall be programmable by a separate transmitter device only (Field Transmitter). The Control Module shall be of a module type which may be installed in a valve box underground. They shall function normally if submerged in water and the communication from the transmitter shall function if submerged in water. The Control Module shall be housed in an ABS plastic cabinet and shall be potted to insure waterproof operation. Their battery compartment shall be dual-sealed to prevent water from entering the compartment. The Control Module shall have two mounting slots for screws allowing the module to be securely mounted inside a valve box.

The controller shall be designed to accommodate one 9V alkaline battery (EN226L561-6AM6-9V) for one full year regardless of the number of stations utilized. The Control Module shall operate (1, 2, 4 or 6) stations. One sensor input shall be present on Control Module and shall accommodate dry contact rain sensor. Stations with (2, 4, or 6) modules shall be able to support a Master valve. All valves shall affect the Master Valve / Pump (if required).

The controller shall have station run time capability from one minute to twelve hours in one minute increments, a 365-day calendar with leap year and three programs A, B, C with eight start times each. One valve can be assigned to none, one, any, or all programs. Each program shall be capable of being set to any of the following: Custom Cycle (days of the week), Cyclic (1 to x days variable), Odd, Odd (no) and Even.

The controller shall have a program level and global Monthly Seasonal Adjust; 0% to 300% (1% increment) A Rain Delay shall allow the user to suspend irrigation programs from 1 to 14 days. The controller shall be capable of starting/stopping a manual single valve or manual program, cancel irrigation in progress or launch a test valve via infrared of the Field transmitter.

Each valve not activated during the last 24 hours shall be automatically activated during 1 second each day for an anti-calcium effect.

#### 9-19.3(2) Installation
Install Sprinkler System after site grading has been completed. Perform excavation, trenching, and backfilling for sprinkler system, except as modified herein.

Submit detail drawings for valves, flood bubbler heads, backflow preventers, battery operated controller valves, and water hammer arresters. Include on the drawings a complete list of equipment and materials, and manufacturer's descriptive and technical literature, performance charts and curves, catalog cuts, and installation instructions. Show on the drawings proposed system layout, type and number of heads, type and size of lateral and mainline pipe, shut off valves, drain pockets, backflow devices, and battery operated control valve locations.

Maintenance manuals shall list routine maintenance procedures, possible breakdowns and repairs, and troubleshooting guides. Maintenance manuals shall include piping and equipment layout, as installed, and system programming schedule for battery operated controllers.

**Trenching:**
Trench width shall be 4 inches minimum or 1.5 times diameter of pipe, whichever is wider. Backfill shall be hand tamped over excavation. When rock is encountered, trench shall be excavated 4 inches deeper and backfilled with silty sand (SM) or well-graded sand (SW) to pipe grade. Trenches shall be kept free of obstructions and debris that would damage pipe. At existing drives or concrete walks, pipe shall be bored at a minimum depth conforming to bottom of adjacent trenches.

**Sleeving:**
Sleeves shall be installed a minimum of 24 inches below vehicular traffic areas. Pipe sleeves pipe shall be two pipe diameters larger than the sprinkler pipe.

**Piping System**
**Cover:**
Underground piping shall be installed to meet the minimum depth of backfill cover specified.

**Clearances:**
Minimum horizontal clearances between lines shall be 4 inches for pipe 2 inches and less; 12 inches for 2-1/2 inches and larger. Minimum vertical clearances between lines shall be 2 inches.

**Minimum Slope:**
Minimum slope shall be 6 inches per 100 feet in direction of drain valves.

**Piping Installation**
**Polyvinyl Chloride (PVC) Pipe:**
Solvent-cemented joints shall conform to the requirements of ASTM D2855.

Threaded joints shall be full cut with a maximum of three threads remaining exposed on pipe and nipples. Threaded joints shall be made tight without recourse to wicks or fillers, other than polytetrafluoroethylene thread tape.

Piping shall be joined to conform to requirements of ASTM D2774 or ASTM D2855, and pipe manufacturer's instructions. Pipe shall be installed in a serpentine (snaked)
manner to allow for expansion and contraction in trench before backfilling. Pipes shall be installed at temperatures over 40 degrees F.

**Threaded Brass Pipe:**
Prior to installation, pipe shall be reamed. Threads shall be cut in conformance with ASME B1.2. Pipe joint compound shall be applied to male end only.

**Insulating Joints:**
Insulating and dielectric fittings shall be provided where pipes of dissimilar metal are joined and at connections to water supply mains. Installation shall be in accordance with the City of Fife requirements.

**Installation of Valves**
**Manual Valves:**
Valves shall be installed in a valve box extending from grade to below valve body, with a minimum of 4 inches cover measured from finish grade to top of valve stem.

**Drain Valves:**
Entire system shall be manually drainable. Low points of system shall be equipped with drain valve draining into an excavation containing 1 cubic foot gravel. Gravel shall be covered with building paper then backfilled with excavated material and 6 inches of topsoil.

**Flood Bubblers and Quick Coupling Valves:**
Sprinklers and valves shall be installed plumb and level with terrain.

**Backflow Preventers:**
Backflow preventer shall be installed in new connection to existing water distribution system, between connection and control valves. Backflow preventer shall be installed with concrete pads.

**Reduced Pressure Type:**
Pipe lines shall be flushed prior to installing reduced pressure device; device shall be protected by a strainer located upstream. Device shall not be installed in pits or where any part of device could become submerged in standing water.

**Automatic Controller:**
Battery operated controllers shall be placed in individual valve boxes.

**Thrust Blocks:**
Concrete shall be placed so that sides subject to thrust or load are against undisturbed earth, and valves and fittings are serviceable after concrete has set. Thrust blocks shall be as specified in Standard Specification 7-09.

**Backfill**
**Minimum Cover:**
Depth of cover shall be 12 inches for all later lines and 24 inches for mainline pipes under and sleeves under vehicular traffic loads. Remainder of trench or pipe cover shall be filled to within 3 inches of top with excavated soil, and compact soil with plate hand-held compactors to same density as undisturbed adjacent soil.

**Restoration:**
Top 4 inches shall be filled with topsoil and compacted with same density as surrounding soil.

Adjustment:
After grading, seeding, and rolling of planted areas, sprinkler heads shall be adjusted flush with finished grade. Adjustments shall be made by providing new nipples of proper length or by use of heads having an approved device, integral with head, which will permit adjustment in height of head without changing piping.

Cleaning of Piping:
Prior to the hydrostatic and operation tests, the interior of the pipe shall be flushed with clean water until pipe is free of all foreign materials. Flushing and cleaning out of system pipe, valves, and components shall not be considered completed until witnessed and accepted by the Owner.

9-19.3(3) Submittals
The Contractor shall provide the following with the sprinkler Working Drawings Submittal to the Engineer:

- Instructions and Maintenance Data;
- Sprinkler System and components;
- Backflow Prevention Device;
- Design Analysis and Calculations;

After installation, the Contractor shall provide the following to the Engineer for acceptance:

- Test Reports
- Field coverage results
- Laminated instructions and plans with different pastel or transparent color indicating each zone.

9-19.3(4) Field Tests
Provide all instruments, equipment, facilities, and labor required to conduct the tests. Submit performance test reports, in booklet form, showing all field tests performed to adjust each component; and all field tests performed to prove compliance with the specified performance criteria, upon completion and testing of the installed system. Indicate in each test report the final position of control valves.

Hydrostatic Pressure Test:
Piping shall be tested hydrostatically before backfilling and proved tight at a hydrostatic pressure of 150 psi without pumping for a period of one hour with an allowable pressure drop of 5 psi. If hydrostatic pressure cannot be held for a minimum of 4 hours, make adjustments or replacements and repeat the tests until satisfactory results are achieved and accepted by the Owner.

Leakage Tests:
Leakage tests for service main shall be in accordance with Standard Specification 7-12.

Operation Test:
At conclusion of pressure test, flood bubbler heads and quick coupling assemblies shall be tested for operation under normal operating pressure. Operation test consists of the system operating through at least one complete programmed cycle for all areas to be sprinkled.

9-19.3(5) Electrical Work

Wiring and rigid conduit for electrical power shall be in accordance with NFPA 70, and Standard Specifications 8-03.

9-19.5 Payment

“Temporary Irrigation System”, lump sum. The lump sum price for “Temporary Irrigation System” shall be full pay for all labor, equipment, materials and work to install the groundwater monitoring wells and monitor groundwater levels as described above.

9-29 ILLUMINATION, SIGNALS, ELECTRICAL (March 31, 2016 Tacoma GSP)

9-29.1(6) Detectable Underground Warning Tape

This section is supplemented with the following:

(******)

For electrical circuits detectable underground warning tape shall be high visibility red, with continuous legend of “Caution Electric Line Buried Below” or equal. The warning tape shall be polyethylene with a metallic backing. The polyethylene shall be a minimum 3 inches wide, 4 mils thick.

9-29.2 Junction Boxes, Cable Vaults and Pull Boxes

(******)

Unless otherwise specified, all junction boxes containing illumination and signal control cable shall be Type 1, Standard Duty with alternate 2 locking lid per WSDOT standard plan J-40.10-04.

Unless otherwise specified, all junction boxes containing interconnect cabling shall be Type 2, Standard Duty with alternate 2 locking lid per WSDOT standard plan J-40.10-04.

Unless otherwise specified, all junction boxes that contain or are planned to contain fiber optic splice equipment shall be Type 8, Standard Duty with locking lid per WSDOT standard plan J-40.30-04.

9-29.2(4) Cover Markings

The second paragraph of this section is revised to read:

Covers shall be marked or embossed with “LT” for boxes containing illumination circuits. Covers shall be marked or embossed with “TS” for boxes containing traffic signal circuits. Covers shall be marked or embossed with “ITS” for boxes containing or planned to contain traffic signal interconnect cable or fiber optic cable and/or splice equipment. Covers shall be marked or embossed with “TS/ITS” for boxes containing
traffic signal circuits and traffic signal interconnect or fiber optic cable and/or splice equipment.

9-29.3 Fiber Optic Cable, Electrical Conductors, and Cable
This section is supplemented with the following:

(*****)
Where not otherwise specified, all wiring shall meet standard of the industry for the application employed. Wiring shall be consistent with manufacturers’ recommendations and meet all applicable codes.

9-29.3(2)A Single Conductor

9-29.3(2)A1 Single Conductor Current Carrying
This section is supplementing with the following:

(*****)
Service connections shall be stranded copper size AWG #6 USE unless otherwise shown in the plans. Black conductor insulation shall be used for the service and the neutral conductor shall be white. Color tape marking shall not be acceptable for the neutral conductor.

9-29.3(2)A2 Grounding Electrode Conductor
This section is supplemented with the following:

(*****)
Grounding electrode conductor shall be minimum #8 AWG unless otherwise shown in the plans. When the ground is pulled through a conduit, the wire shall be insulated. Color tape marking shall not be acceptable for marking the ground.

9-29.3(2)A3 Equipment Grounding and Bonding Conductors
This section is supplemented with the following:

(*****)
Equipment grounding shall be minimum #8 AWG unless otherwise shown in the plans. When the ground is pulled through a conduit, the wire shall be insulated. Color tape marking shall not be acceptable for marking the ground.

9-29.3(2)B Multi-Conductor Cable
This section is supplemented with the following:

(*****)
Two-conductor through 10-conductor unshielded signal control cable, shall have stranded copper conductors, size AWG 14, and shall conform to International Municipal Signal Association (IMSA) signal cable 20-1.

9-29.3(2)F Detector Loop Wire
This section is revised to read:

(*****)

City of Fife
Port of Tacoma Road Interchange – Phase 1
Special Provisions to Standard Specs – Conformed
The loop wire shall be IMSA 51-7, #14 AWG, encased in an orange colored HDPE jacket. Shielded loop lead-in wire shall be #18 stranded tinned-copper, twisted pair, 2 conductor cable with polyethylene insulation, conductors cabled, and shall have aluminum-polyester foil-shield furnished in 100% coverage, stranded tinned-copper drain wire and an overall chrome-vinyl jacket.

9-29.3(2)I  Twisted Pair Communication Cable
This section is revised to read:

(******)
The cable for interconnect for underground installation shall be IMSA 40-2 #19 AWG 6 twisted pair, shielded, PE outer jacket or IMSA 40-4 #19 AWG 6 twisted pair, figure 8, shielded, PE outer jacket for overhead installation.

9-29.4 Messenger Cable, Fittings
This section is supplemented with the following:

(******)
Messenger cable shall be 5/16-inch, seven-wire strand messenger cables conforming to ASTM A 475, extra-high strength grade, 11,200 lbs. min. breaking strength, Class B galvanized.

All guy eye anchor rods shall be double-hub type.

Weatherheads shall be clamp-on type PVC. Where used for signal or flashing beacon conductors, the center of the wire entrance shall be cut or machined out to a large diameter to accommodate entry of multi-conductors. All edges shall be smoothed to avoid chaffing.

All miscellaneous nuts, bolts, washers and fittings shall be stainless steel or brass unless otherwise noted.

All metal line hardware shall be hot-dipped galvanized in conformance with the requirements of ASTM Designation A-153. All eyebolts shall be thimble eye design cast or welded to form a solid eye.

5-strand, class B galvanized steel, pretwisted guy strand dead ends, high strength cable conforming to ASTM Designation A-475, shall be utilized at all span wire terminations. 1/2” rope wire thimbles shall be required where span wire connects to all poles or bull rings, except where thimble eye bolts are used. Span wire shall normally be installed directly pole to pole, unless otherwise directed or specified.

Strain insulators shall be installed where connecting to wood poles. Where span wire is connected to a steel or concrete pole, insulators shall not be installed. Strain insulators shall be wet process, porcelain, conforming to EEI-NEMA Class 54-2 standards for 12,000-pound ultimate strength and shall be installed 9 feet from the pole.

9-29.6 Light and Signal Standards
This section is supplemented with the following:

(******)
All light and signal standards shall be fixed base.

The head of the handhold security bolt shall be flush with the face of plate. The face plate of the handhole shall be flush with pole.

Section 9-29.6 is supplemented with the following new section:

(******)

9-29.6(6) City of Tacoma Universal Pole

Unless otherwise specified, light standards and strain poles shall be in conformance with the following City of Tacoma standard design.

Strength

Each pole and mast arm shall have adequate strength for the designated luminaire with 1.8 safety factor for maximum combined stresses using 90 mph isotach (117 mph gusts) per AASHTO specifications for structure supports for highway luminaires. Design shall be based on total loading of 50 pounds and EPA of 2.0 square feet.

Standard Bolt Spacing

30 Foot poles -- Baseplate shall accommodate 1 inch anchor bolts. The bolt circle shall be between 11 inches and 13 inches.

40 Foot Poles -- Baseplate shall accommodate 1 inch anchor bolts. The bolt circle shall be between 12.5 inches and 14.5 inches.

9-29.6(6)A Steel Strain Poles

Each pole shall be of tapered round or octagonal construction.

CLASS 1 POLE: Design for dead load tensions up to 1500 pounds
CLASS 2 POLE: Design for dead load tensions up to 2600 pounds

Class 1 poles shall have a minimum base diameter of 12-inches for octagonal poles and 12-1/4-inches for round poles. Poles shall have a minimum wall thickness of 0.3125-inches. Anchor bolts shall be 1-1/2-inch by 60-inches and shall have a spacing of 11-5/16-inches on center, on the square. It is the responsibility of the pole manufacturer to maintain proper clearance between the pole shaft and nuts for the anchor bolts.

Class 2 poles shall have a minimum base diameter of 13-1/2-inches for octagonal poles and 14-inches for round poles. Poles shall have a minimum wall thickness of 0.375-inches. Anchor bolts shall be 2-inch by 66-inches and shall have a spacing of 12-3/4-inches on center, on the square. It is the responsibility of the pole manufacturer to maintain proper clearance between the pole shaft and nuts for the anchor bolts.

Poles shall be of single-ply construction. Multiple-ply poles shall not be allowed.

Each pole shall be of tapered round or octagonal construction. Pole taper shall be in the range of 0.13 to 0.14 in/ft.
A base plate and top casting shall be securely attached to each pole. The attachment of the base plate to the pole shall be a welded connection sufficient to develop the full strength of the pole. The base plate shall have four (4) holes which will sufficiently accommodate the specified anchor bolts for the pole class.

Pole shall be of sufficient strength to allow for the span wire to be installed to sag an amount equal to 5% of the span length.

The maximum acceptable deflection, at 30 feet above the base, is 5 inches. The specified deflection shall be at a loading condition of 1,500 pounds horizontal pull at 30 feet above the base for Class 1 Poles. For Class 2 Poles, the loading condition shall be 2,600 pounds horizontal pull at 30 feet above the base.

Structural material shall be zinc-coated by a “hot-dip” process in accordance with ASTM A123 and the final coating shall measure 0.0039 inch or more in thickness as determined by a magnetic thickness gauge. All tapped holes shall be chased after galvanizing. Hardware shall be coated in accordance with ASTM A307.

The finished pole shall be reasonably straight and free from injurious defects. If galvanizing is damaged, the maximum area to be repaired is defined in accordance with ASTM A123 Section 4.6. The maximum area to be repaired in the field shall be determined in advance by the Engineer. Repair areas damaged during construction, handling, transport or installation by one of the approved methods in accordance with ASTM A780 whenever damage exceeds 3/16 inches in width. Minimum thickness for repair shall measure 0.0039 inches.

The company shall furnish the purchaser with template prints showing spacing and size of holes in base for the anchor rods.

The material shall carry the manufacturer’s standard guarantee against any defect in material or workmanship for a minimum period of one year following the date of installation. The Contractor shall submit mil test reports for all steel used in the manufacturing of strain poles and pedestals.

The Contractor shall submit a Certificate of Compliance with ASTM Standards and Specifications for galvanizing. The certificate, signed by the galvanizer, shall detail galvanizing process and testing procedure to determine that galvanizing meets minimum thickness specified.

The contractor shall submit welder certification. Welders must be certified to AWS standards.

Each pole shall include the following:
1. One (1) rain-tight pole cap.
2. One (1) 4-inch by 6-1/2-inch handhole at base end with cover plate opposite to mast arm.
3. Anchor bolts shall be hot dipped galvanized steel with two (2) galvanized nuts and two (2) washers for each bolt. Only 12-inches of threaded end of the bolts must be galvanized. 1-1/2-inch diameter bolts shall have 8-inches of top thread and 2-inch diameter bolts shall have 10-inches of top thread.
4. Anchor bolts shall have threaded bottom ends to receive an anchor plate and nut. The nut shall be tack-welded to the anchor plate. Anchor plates for 1-1/2-inch diameter anchor bolts shall be 4-inch square by 1-inch thick. Anchor plates for 2-inch diameter anchor bolts shall be 6-inch square by 1-inch thick.

5. One (1) adjustable strain clamp to be mountable between 26 to 28 feet above the base. Clamp shall provide facility to attach span wire at four-quarter points.

6. Provisions for mounting a mast arm of specified length. All poles shall be supplied with one mast arm mounting flange. The centerline of the flange shall be approximately 6 inches below the top of 38-foot poles and 24 inches below the top of 30-foot poles. The flanges shall conform with the detail drawing included in the Special Provisions. Poles ordered without mast arms but with provisions for a later addition of a mast arm shall be provided with a metal cover and gasket to protect the opening being provided. The cover shall be bolted to the pole using the holes provided for fastening the mast arm.

7. One (1) two-inch coupling to receive clamp-on type aluminum weatherhead positioned at 27 feet, and no more than 45° from the location of the mast arm, unless otherwise specified.

8. One (1) 1-1/4-inch coupling for wire inlet located directly opposite the mast arm.

9. One (1) grounding lug-hole in lip of handhole for 1/2-NC brass bolt.

9-29.6(6)B Luminaire Mast Arms

Each mast arm shall have sufficient strength with a 1.8 safety factor to support a 70-pound luminaire on an 18-foot mast arm per the latest AASHTO Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals.

Material and workmanship shall conform to the best commercial standards of the industry.

The mast arm and its fastening shall be constructed of steel conforming to Section 9-29.6.

Each mast arm shall support a ballast-in-head luminaire and shall provide a luminaire mounting height of approximately two (2) feet above the strain pole mounting flange.

The mast arm shall provide a horizontal extension from the center of the pole to the center of the luminaire as shown in the Plans.

The mast arm shall be of tapered construction. The luminaire end of the mast arm shall not exceed 2.375 inches O.D. for a minimum distance of 8 inches. The outside arm diameter at the pole flange shall not exceed 5.88 inches.

The mast arm shall be capable of being fastened to the mast arm mounting flange dimensioned in the detail drawing. All mounting bolt heads shall clear the weld.
9-29.10 Luminaires

This section is supplemented with the following:

(******)

Unless otherwise shown in the Plans all new luminaires shall be Light Emitting Diode (LED) fixtures conforming to these Specifications.

Luminaires shall be provided with utility labels. Utility labels shall show actual total system wattage for LED luminaires.

All LED Luminaires shall conform to the following minimum criteria:

- UL Listed
- A Qualified Product on one of the following fixture lists:
  - Energy Star
  - Design Lights Consortium
  - Lighting Design Lab
- Warranty: 10 Year Minimum including power driver and LED chips.
- Input Voltage: 120-277V
- Color Rendering Index (CRI): 70 Minimum
- Correlated Color Temperature (CCT): 4000-5300K
- Calculated Lumen Maintenance Factor (LMF): 100,000 hours or more (L70 at 25°C/77°F) in accordance with IESNA TM-21-11 and IESNA LM-80-08
- Surge suppression protection: 10kV (IEEE/ANSI C62.41.2)

This section is supplemented with the following new section:

(******)

9-29.10(1)A LED Roadway Luminaires

Each luminaire shall have LED compatible fuses (in conformance with the manufacturer’s recommendations) and fuseholders for each power conductor above ground potential. Fuses shall be located in the fixture head. Fuses shall be 10.3mm x 38.1 mm (13/32” x 1.5”). Fuses shall be slow blow type (carry 110%, open at 135% within 1 hour, carry 200% for minimum of 10 seconds). Luminaires 250 Watts and below shall have 5 amp fuses. Luminaires above 250 watts shall have 10 amp fuses.

LED Roadway Luminaire housings shall be grey/silver and fabricated of aluminum. The power-door shall be fabricated from either aluminum or a UV resistant polymer. Power-door access shall be tool-less.

LED Roadway Luminaires shall be equipped with a 7-pin NEMA Photocell Receptacle.

Where specific luminaires are called out in the project documents, as the basis of the lighting design, the specified luminaires may be provided in accordance with the requirements of Sections 8-20 and 9-29. An alternate product may be provided for the LED Roadway Luminaire provided that the luminaire meets all the conditions of this section and meets the following conditions:

- LED Roadway Luminaires shall be one of the following products:
  - Beta/Cree – XSP Series or LEDway Series
o Leotek – Green Cobra Series
o GE – Evolve Series
o American Electric Lighting/Holophane – Autobahn Series

- The total system wattage shall not exceed the total system wattage specified.
- A full electrical and photometric design shall be provided for review by the City. Submittals shall be Type 3E and stamped and signed by a licensed Professional Engineer. The alternate product selected shall meet or exceed the designed product. Contact the City of Tacoma Traffic Engineering Section for a list of design assumptions and criteria utilized in the lighting design.
- BUG Ratings for LED Roadway Luminaires shall be in conformance with Chapter 5 – Section 3.1 (Table 5-1) of the City of Tacoma Design Right of Way Design Manual

9-29.11 Control Equipment

9-29.11(2) Photoelectric Controls
This section is revised to read:

(******)
The photoelectric control shall be the twistlock type and the light sensitive element shall be a solid state photo diode. The control shall be designed to turn on at 2.6 foot-candles (+/- 20%) and turn off at 2.6 foot-candles (+/- 20%). The lighting control shall not drift by more than 1 per cent over a 10-year period.

The output control relay shall be electro-mechanical. The time delay for both turn on and turn off shall be a minimum of one second and maximum of 5 seconds. The output relay shall be rated 1000 watts incandescent or 15 amps inductive load. The contacts shall be normally closed.

The lighting control shall have a built in metal oxide varistor (MOV) rated a minimum of 160 joules for lightning and transient protection. The control shall also have secondary zener diode and transient filter. The relay shall be suitable for operation on 240 volt, 60 hertz electrical circuits.

Dimensions shall conform to ANSI specifications for twistlock photocells.

9-29.12 Electrical Splice Materials

9-29.12(1) Illumination Circuit Splices
This section is revised to read:

(******)
Splices and taps shall be made with solderless crimp connectors on underground and overhead circuits to securely join the wires both mechanically and electrically. Splices shall be sealed in accordance with 8-20.3(8).

Thermoplastic Electrical Insulating Tape
Electrical tape shall be made by the same manufacturer and compatible with the electrical coating utilized to form a complete system that both insulates and protects the splice. Electrical tape shall be based on polyvinyl chloride (PVC) and/or its copolymers and have a rubber–based, pressure–sensitive adhesive. The tape shall
have a voltage rating of 600V (UL510). The tape shall be 7 mils thick, and be UL Listed and marked per UL Standard 510 as “Flame Retardant, Cold and Weather Resistant.” The tape shall be resistant to abrasion, moisture, alkalies, acids, corrosion, and varying weather conditions, including ultraviolet exposure. The tape must be applicable at temperatures ranging from 0°F through 100°F (−18°C through 38°C) without loss of physical properties. The tape shall have an operating temperature up to 220°F (105°C). The tape shall be classified for use in outdoor environments. The tape shall be compatible with synthetic cable insulations, jackets and splicing compounds. The tape will remain stable and will not telescope more than 0.1 inches when maintained at temperatures below 120°F (50°C).

**Moisture Resistant Electrical Coating**

Electrical Coating shall be made by the same manufacturer and compatible with the vinyl electrical tape utilized to form a complete system that both insulates and protects the splice. Electrical Coating shall seal and bond the tape and be suitable for direct burial, direct water immersion, and above ground applications. Electrical coating shall be flexible when dry. Electrical coating shall consist of the solvents Acetone, Methyl Ethyl Ketone and Toluene and shall contain synthetic rubber and resin solids.

**9-29.12(2) Traffic Signal Splice Material**

This section is revised to read:

(******)

Induction loop splices and magnetometer splices shall include an uninsulated barrel-type crimped connector capable of being soldered. The insulating material shall be a heat shrink type meeting requirements of 9-29.12(1)A.

**9-29.13 Control Cabinet Assemblies**

This section is revised to read:

(******)

Cabinet shall be wired for a Siemens M60 Controller TS 2, Type 1.

**9-29.13(1) Traffic Control Cabinets**

Each Traffic Controller Cabinet shall meet the following requirements:

1. The Controller Cabinet shall be a NEMA P44 Controller Cabinet. The cabinet shall be constructed of 0.125” minimum thickness 5052 H32 ASTM B209 aluminum alloy and be of clean cut design and appearance. The cabinet shall be unfinished, inside and outside. The cabinet shall be provided with a UL sticker, and shall meet NEMA 3R rating for enclosures.

2. The cabinet shall have aluminum interior metal side mounted panels for mounting auxiliary equipment without drilling through the outer cabinet. Panels shall be mounted on “C” channel rails sufficient in strength to accommodate planned and future equipment needs.

3. The cabinet shall have two (2) aluminum shelves with a 3/4” lip on the front edge of the shelf.
4. A hinged door shall be provided permitting complete access to the cabinet and the equipment to be contained therein. When closed, the door shall fit closely to the gasket material making the cabinet weather-resistant and dust tight. The door shall be provided with a standard traffic signal Corbin lock with a #2 key. The door hinge pins shall be stainless steel and all other exposed hardware shall be non-corrosive. In addition to the main cabinet door, there shall be an auxiliary police door fitted with a standard police lock. The panel behind this door shall contain switches as detailed under auxiliary equipment.

5. Interior cabinet welds shall be continuous for all lap and butt welds. Intermittent welds or silicone adhesive shall not be accepted in place of a weld for weathertight penetrations.

6. The cabinet shall be designed for mounting on a concrete pad with anchor bolts and typical flanges inside the cabinet. There shall be a minimum ten (10) inch vertical clearance above the front half portion of the base area to provide a clearance for conduit and cable entering the cabinet.

9-29.13(2) Submittals
The following submittals will be required for the review and approval by the Contracting Agency prior to fabrication and wiring:

1. Proposed cabinet layout diagram including shelving/rack locations. In addition, detailed diagrams shall be provided for the left side, right side, and back panels. Drawings shall be clearly labeled and dimensioned.

2. Proposed cabinet wiring diagram shall be submitted for the review and approval by the Contracting Agency. Wiring of cabinets shall not commence prior to Contracting Agency approval of the cabinet wiring plan.

9-29.13(3) Wiring
All wiring within the cabinet shall be neat and firm. All cabinet wire shall be amply rated for the function intended and shall include the use of terminal and suitable identification labels.

Connectors and harnesses shall be provided as defined in the latest NEMA TS 1 standard. Connector A & B shall be supplied for the monitor unit. Connector A, B, C & D shall be supplied for the controller unit. Wire for harnesses shall conform to MIL-W-16878E Type B, and shall be rated to 600 volt, 105 degree Celsius. Wire shall be 22 gage, 19 strand. Wires shall be connected to the heads in the form of crimp-pinned connections. Solder lugs shall not be allowed. Connectors shall conform to MIL-C-26482 Series 1. Cables shall be covered with nylon expandable sleeving. Spiral wrap shall not be used. Termination points of the harnesses shall be accessible to the technician without requiring the backpanel to be dropped. Unused harness wires shall be tied to the furthest location on the front of the backpanel and shall be capped off.

Wires other than harnesses for the monitor and controller shall be THHN, rated at 600 volt, 105 degree Celsius, and shall be a minimum of 22 AWG.

Non insulated connectors shall be utilized for all connection to the TS2 Terminal Strip.
9-29.13(4) **Auxiliary Equipment**

### 9-29.13(4)A Traffic Signal Controller

Traffic Signal Controller shall be a Siemens M60 ATC Controller. The Contractor shall contact the City of Tacoma Traffic Signal Shop at 253-491-5287 to obtain the current firmware version to be utilized. The Contractor shall include an M50 sub-assembly data key module and a 5MB flash data key.

### 9-29.13(4)B Malfunction Management Unit (MMU)

The cabinet shall come with a (MMU) that meets all the requirements of NEMA TS2-2003 while remaining downward compatible with NEMA TS1. The MMU shall be from one of the following manufacturers:

- Eberle Design, Inc. model MMU-16LEip
- Peek Double Diamond
- Reno MMU-1600G with Ethernet Port.

Contractor shall provide a compatible TS2 program card.

### 9-29.13(4)C Vent fan

A thermostat controlled vent fan assembly with screened vents with replaceable filters for cabinet ventilation. The fan shall have a rating of 100 CFM and the thermostat setting to allow variable turn-on between 90 degrees and 140 degrees Fahrenheit. The fan motor shall use ball-bearings. This unit shall be fitted with an electrical noise suppressor.

### 9-29.13(4)D Load Switches

Modular solid state relay load switching assemblies, in accordance with the latest NEMA TS 1 Standards, shall be used for opening and closing signal light circuits and shall be jack-mounted external to the controller unit. Indicator lights shall be connected to input circuits. Load switches shall be rated at twenty-five (25) amps per circuit. Each cabinet shall contain twelve (12) load switches.

### 9-29.13(4)E NEMA Flasher

The flasher shall be solid state, two circuit with a minimum current rating of twenty five (25) amps per circuit.

### 9-29.13(4)E Loop Detector Card Rack

A fully wired 16 position card rack shall be installed. Rack shall be secured to the detector shelf in such a manner as to afford easy access for maintenance.

The rack shall accommodate 4.5 inch high, 6.875 inch long, 1.12 inch wide two channel, two output per channel detector modules. Connectors shall be 44 contacts (22 each side) spaced on 0.156” centers. Provide (2) bus interface units (BIU). These shall meet all the requirements of NEMA TS-2 1988 standards. In addition, all BIUs shall provide separate front panel indicator LED’s for DC power status and SDLC Port 1 transmit and receive status. The (BIU)’s shall be Eberle...
Design, Inc. model BIU-700, Econolite model BIU-64, Reno A&E model BIU/2, or Engineer approved equal.

9-29.13(4)E Detector Power Supply

Auxiliary power supply for detectors power shall meet minimum TS 2-2003 standards

9-29.13(4)E Ethernet over Copper Switch

Ethernet over Copper Switch shall be Actelis ML 684D with two SFP-LC ports, unless otherwise specified. A standard 110 VAC power adapter, a DSL-Octal Cable 2xRJ45, and a minimum 6’ Ethernet patch cable shall be provided with each.

9-29.13(4)E Preemption/Priority Equipment

Preemption/priority phase selector equipment shall include an Opticom Model 760 Card Rack and an Opticom Model 764 Multimode Phase Selector.

9-29.13(5) Electrical Design

9-29.13 (5)A Side Panels

Left and Right Side Panels shall be 12”x47” in one continuous piece of smooth finish aluminum no smaller than 16 gauge and no larger than 12 gauge. The side panels are to be mounted 13” from rear and 2” from bottom of cabinet.

The left side panel shall contain the following:
1. TS2 - Loop Field Wire Terminals, 64-position, double row, high barrier block with #6/32 slotted brass screws.
2. TS3 - Ped and Pre-Empt Terminals, 24-position, double row, high barrier block with #6/32 slotted brass screws.
3. TS4 - Special Function Terminals, 30-position, double row, high barrier block with #6/32 slotted brass screws. Wired to a 37 pin “D” connector w/clips.
4. TS9 - Isolated Neutral Buss, 24 Position, solid copper bar with #10/32 slotted brass screws.
5. TS18 – SDLC Termination, 10-position, double row, high barrier block with #6/32 slotted brass screws.
6. GB1 - Ground buss, 10-position, standard copper grounding buss bar suitable for #14 through #4 cu.

The right side panel shall contain the following:
7. TS11 - Isolated Neutral Buss, 24-position, solid copper bar with #10/32 slotted brass screws.
8. TS14 - Communication Terminals, 12-position, double row, high barrier block with #6/32 slotted brass screws.
9. TS15 - Detector Power Terminals, 8-position, double row, high barrier block with #6/32 slotted brass screws.
10. TS20 - Line Side AC Terminal, 2-position, double row, deadfront block suitable for #6 cu.
11. GB2 - Ground buss, 20-position, standard copper grounding buss bar suitable for #14 through #4 cu.

9-29.13(5)B Back Panel

The Back panel shall include the following:

1. A flash panel control assembly using NEMA flashing relays to provide flashing sequence for a minimum of ten (10) circuits. All spare circuits shall be wired and terminated on a terminal strip and shown on the wiring diagram. The intersection shall be capable of being placed on flashing operation by the conflict monitor, remote input, internal controller time clock and door switch. Conflict flash shall be all-red. Remote and internal controller time clock flash shall be in accordance with MUTCD flash.

2. Load switch sockets 1, 4, 5, and 8 wired to flasher circuit #1. Load switch sockets 2, 3, 6, and 7 wired to flasher circuit #2.

3. Install 2200 ohm, 10 watt load resistors on the green and yellow outputs of load switch sockets 1, 3, 5, 7, and 13. The resistors should be mounted to afford good air circulation.

4. Screw-type terminal strips for all NEMA controller input and output functions.

5. A minimum of thirteen sockets for NEMA load switches.

6. Load switch sockets 1 through 8 shall be for vehicle phases, 9 through 12 for pedestrian phases, and 13 wired and terminated on the back panel.

7. All terminals to be labeled front and rear of back panel.

8. All wire to enter lower edge to facilitate folding down back panel.

9. Hinging of back panel not to interfere with operation of signal while in service.

10. Bottom of back panel to be 7” above bottom of cabinet.

9-29.13(5)C Power Panel

The power panel shall be located in the lower right of the cabinet.

The power panel shall contain a 30 AMP circuit breaker, transient and over voltage protection lightning arrestors, 60 AMP line filter, solid state contactor rated for 50-amp minimum to supply loadbay power. An auxiliary 15 AMP circuit breaker shall be provided to supply GFI, fan and cabinet light.

Line side power terminal shall be a deadfront type rated at a minimum of 300V, 50 amp suitable for #6 cu.

Power panel shall include a two-stage, electrically isolated transient voltage suppressor capable of dissipating a high energy surge of 20KA (8x20 microsecond pulses) while clamping the output voltage to 340 volts or less. Isolation shall be provided between the neutral and ground connections.

Circuit breakers shall be Siemens, Square D, GE, Eaton/Cutler Hammer, or Engineer approved equal.
9-29.13(5)D Convenience Outlets

A 120 VAC GFI type outlet with screw terminals shall be provided and mounted as part of the Auxiliary panel. A second non-GFI outlet, on a separate circuit will be mounted at the upper left corner of the right side panel.

9-29.13(2)E Cabinet Illumination

Two LED light strips shall be provided for cabinet illumination. One shall be mounted to the top front of the cabinet interior, and shall be rated at a minimum of 475 lumens. A second LED light to illuminate the load bay area shall be mounted under the lower shelf and be rated at a minimum of 240 lumens. A door switch shall be wired so as to allow the lights to operated only when the door is open.

9-29.13(5)F Police Panel

The police panel shall contain the following switches:

1. Main Power Switch: This shall completely shut down power to the cabinet. The switch shall be rated at 50 Amps
2. Auto/Flash Switch: This shall put the intersection into flashing operation when placed in the “Flash” position. It shall also apply Stop Time to the Controller when place in the “Flash” position.

9-29.13(5)G Auxiliary Panel

The auxiliary panel, mounted on the inside of the door, shall contain the following switches:

1. Three-position detector switches (auto/off/test) to lock in all three positions.
3. Switch to select coordination or free operation.
4. Switch for cabinet light.
5. Stop time switch (on-off-auto).
6. Controller power switch (on-off).
7. Auto-flash switch.
8. Switch to select Interconnect or Timebase Operation.

9-29.16 Vehicular Signal Heads, Displays, and Housing

9-29.16(2)B Signal Housing
The second paragraph is supplemented with the following:

(******)
The door shall open a minimum of 160 degrees.

The third paragraph is supplemented with the following:

(******)
The sections shall be held firmly together by corrosion-resistant hardware in such a manner that additional sections may be added easily.
The fourth paragraph is supplemented with the following:

(******)

The terminal strip for a standard three-section head shall be a minimum five-position, ten-terminal, barrier-type strip with No. 8 screw-type fasteners. To one side of each terminal shall be attached the white, red, yellow and green signal section leads, leaving the opposite terminal for field wires. Multi-section heads shall be provided with a terminal strip located in the yellow (center) section. Lead shall be No. 18 AWG type with 1/32-inch wall, 105-1/4 centigrade thermoplastic insulation.

9-29.16(3) Polycarbonate Traffic Signal Heads

This section is deleted.

9-29.17 Signal Head Mounting Brackets and Fittings

This section is revised to read:

(******)

Vehicle and pedestrian signal heads shall be as detailed in the standard plans.

Span wire vehicle signal hanger hardware shall consist of span wire clamp, balance adjuster, wire entrance fitting and vehicle head locking device.

A. Construction

1. Bronze hangers are required.
2. The minimum size of pins shall be 5/8-inch diameter. Pins shall be stainless steel.
3. The minimum size of the ‘J’ or ‘U’ cable clamps is 1/2-inch diameter. Cable clamp bolts shall be stainless steel. Clamping insert shall be used.
4. The cable saddle shall be at least 9 inches long.
5. All cotter pins shall be brass and washers shall be stainless steel.
6. All hardware shall be of stainless steel, bronze or brass materials.
7. Signal stem shall be locked with a square headed set screw 1/4-inch minimum in diameter.
8. Wire entrance shall be a minimum of 1-1/4-inch diameter and shall have a female threaded base for nipple.
9. The balance adjuster directional lock shall be of the clamping type with 1/2-inch through bolt for locking. No set screw or lock nut acceptable.
10. All stems shall be secured to signal head with proper lock fitting.

Vehicle signal heads attached to a mast arm shall use a type M mounting bracket as detailed in the standard plans and in accordance with Section 8-20.3(14)B and Section 9-29.17.

9-29.18 Vehicle Detector

This section is supplemented with the following:

(******)

9-29.18(4) LED Optical 3D Detection System

The Optical 3D Detection System shall be an auto ranging device that detects all types of vehicles, including motorcycles and bicycles within the detection zones by
measuring the time-of-flight of non-visible light emitted by LED’s (light emitting
diodes) in the sensor and reflected by objects (vehicles) in programmed detection
zones. The detected zone actuation shall be communicated to a traffic signal
controller through the controller interface card. The sensor shall operate and provide
accurate presence and pulse detection at a range of up to 200 feet from the sensor.
The Optical 3D Detection System shall consist of a single enclosure that contains
the integrated sensor and shall include the LED light pulse emitter, sensor receiver,
detection processor, image sensor and the integrated image sensor pan and tilt
platform. The controller interface cards shall be a four channel configuration.
Communication and power between the sensor and the controller interface card shall
be provided via a single Ethernet CAT 5 cable. A 48 volt power supply that powers
up to four sensors shall be provided. Software to configure the sensor and the
controller interface card shall be included with each sensor.

System Operations
Configuration of each sensor and controller interface card shall be with a standard
PC operating on the Windows XP, Windows Vista or Windows 7 operating system.
The software shall be included with each sensor and be user friendly and intuitive
and require no specialized training. The sensor shall be capable of being
programmed to detect the presence of vehicles (car, truck, bus, motorcycle, and
bicycle) in up to sixteen zones of detection. A detection zone location and size shall
be user definable. The configuration of the detection zone shall be completed by
tracing the virtual detection zones on the image provided by the on-board image
sensor. The sensor shall detect vehicles in real time as they travel through each
detection zone. The sensor shall operate accurately in all types of weather
conditions without significant performance loss. The sensor shall be able to detect
the presence of any type of vehicle that enters the zone including bicycles without
adjusting the sensitivity of the detection zone. The sensors pan and tilt orientation
shall be accessible and adjustable plus or minus 7 degrees in the sensor
configuration mode. The sensor image shall provide an overlay of the sensor’s active
grid 16 field-of-view range outputs, user defined detection zones and the on-board
image sensor display output. Software to allow remote viewing and system
management shall be included with each sensor. Two or more controller interface
cards shall be capable of being connected together via Ethernet cable to assign
outputs to controller as required without re-wiring the controller. The controller
interface cards shall be DIP switch programmable to allow for one card to serve as a
DHCP server in locations equipped with multiple sensors and controller interface
cards. The controller interface card shall have a RJ45 port for communications with
an external computer for configuration, diagnostic and remote management
applications. The sensor and the controller interface card shall be capable of
accepting software and firmware upgrade via a RJ45 port. The confirmation of
detection shall be provided by a signal sent from the sensor to the controller interface
card through a CAT 5 cable. An LED indicating that the call is sent to the controller
shall be included on the controller interface card. One LED shall be provided for
each channel of detection.

Sensor
The sensor shall be a single enclosure and conform to the IP67 standard. The sensor
shall be one piece and water tight and shall mount easily to standard mast arms,
poles, etc. with standard traffic signal mounting hardware. The sensor shall operate
at temperatures from -29°F to +140°F (-34°C to 60°C). The sensor shall operate with
48 Volt DC using industry-standard Power over Ethernet (PoE) technology. The sensor shall be equipped with an onboard motorized pan and tilt platform to finalize the aim of the sensor, the adjustment shall provide plus or minus 7 degrees in each direction. The integrated motorized pan and tilt platform shall be adjustable from the traffic signal cabinet through software supplied with the sensor. The sensor shall be equipped with an onboard image sensor to facilitate the detection zone set-up as well as the final alignment of the sensor by providing a visual feedback to the operator. The sensor shall be IP addressable and shall be capable of transmitting the sensor operation and images via Ethernet connection to the Traffic Operations Center.

Controller Interface Card
The controller interface card shall be available in a two channel configuration, four channel configuration half width and a four channel configuration. The controller interface card shall operate in standard 170, 2070, TS-1 and TS-2 detector racks. The controller interface card shall be equipped with a detection delay and extend feature. The controller interface card shall be equipped with an LED that indicates that the sensor has detected a vehicle presence and the call is being sent to the controller. The controller interface cards shall be equipped with three RJ-45 connections that provide connections to the sensor, LAN in and LAN out. The controller interface cards shall be IP addressable and provide the access to the sensor via the RJ45 port. The controller interface cards shall be equipped with DIP switches that allow the operator to configure the cards to be a DHCP server and allow the daisy chaining of cards in the same cabinet for Ethernet communication.

48V Power Supply
The 48 volt power supply shall be a stand-alone unit that provides power to the sensor(s) through a port in the controller interface card. The 48 volt power supply shall be available in two configurations. Configuration one shall provide power to a single sensor, configuration two shall provide power from two to four sensors.

Detector Rack Power Supply
The detector rack power supply shall be 24 volt DC and supply power to the detector rack and connected controller interface cards. The detector rack power supply shall be standard 170, 2070, TS-1 and TS-2 configuration.

9-29.19 Pedestrian Push Buttons
This section is supplemented with the following:

Pushbuttons shall be steel with a directional vibro-tactile arrow. Push buttons shall be fully voice messaging APS compliant and fully programmable/customizable by the end user. Pushbuttons shall be provided to the City for programming/messaging 2 weeks prior to installation.

The sign shall be in conformance with MUTCD R10-3b.

The unit shall be black. The assembly shall include the cabinet control unit if applicable to the brand selected. A 4” pole adapter shall be included for locations where two pushbuttons are mounted to the same 4” pole.

If additional conduit pathways are required between the pushbutton and the pedestrian head, due to the contractor’s selection of pedestrian push button manufacturers, the
Contractor shall submit a revised design with the submittal of the push button material. The design shall be stamped and signed by a licensed professional engineer. Required additional pathways shall be provided at no additional cost to the City.

9-29.20 Pedestrian Signals
This section is supplemented with the following:

All pedestrian signals housings shall be die-cast aluminum.

The Vacant Section 9-29.22 is replaced with the following:

(******)

9-29.22 Preemption Hardware
Preemption Hardware shall be Opticom TM Model 721 unless otherwise specified.

9-29.24 Service Cabinets
This section is supplemented with the following:

(******)

Service cabinets shall be pole mounted, exterior NEMA 3R Rated with a bolt on HUB for top entry. Cabinet shall be a maximum 10 inches wide, 14 inches high, and 5 inches deep.

Load Center shall have between 100 and 150 Amps, with capacity for 6 spaces and 12 circuits, or 8 spaces and 16 circuits as required by Code.

Service panels shall be one of the following brands/series
1. Square D – QO Series
2. Siemens – Type BL
3. Eaton/Cutler Hammer – Quick Lag Type BA
4. Engineer Approved Equal

9-29.24(2) Electrical Circuit Breakers and Contactors
The first paragraph is supplemented with the following:

(******)

Mercury relays shall not be accepted. Contactors shall be one of the following brands
1. Square D
2. Siemens
3. Eaton/Cutler Hammer
4. Engineer Approved Equal

The second paragraph is deleted.

The third sentence of the third paragraph is deleted.

The third paragraph is supplemented with the following:

(******)

All service panel breakers shall be one of the following brands/series
1. Square D – QO Series
2. Siemens – Type BL
3. Eaton/Cutler Hammer – Quick Lag Type BA
4. Engineer approved Equal

All surface mount breakers shall be one of the following Brands/Series:
1. Square D (Type QOU)
2. Siemens
3. Eaton/Cutler Hammer
4. General Electric
5. Engineer approved Equal

END OF SECTION

9-29 ILLUMINATION, SIGNAL, ELECTRICAL

Section 9-29 is supplemented with the following:

(******)

Cabinet Lock Cores
Type B-14, Best 6-pin lock cores of sufficient quantity shall be provided to replace all of the construction cores included with the cabinet(s) installed in this Contract. The Contractor shall coordinate the purchase of the lock cores with the vendor and the Olympic Region Signal Shop for delivery directly to the Olympic Region Signal Shop. No B-14 keys or B-14 core removal keys are authorized for purchase under this Contract.

(******)

Wavetronix SmartSensors
Wavetronix SmartSensors supplied shall be a unit including the detector (sensor), mounting bracket, cable with connector, and the Click devices kit.

Equipment Model Number:

Wavetronix Sensors  SmartSensor HD
Part Number 101-0415

SmartSensor Matrix
Part Number SS-225

Click 200  Part Number CLK-200
Click 112  Part Number CLK-112
Click Enclosure  Part Number CLK-C10-0009

Manufacturer Information:

WAVETRONIX
78 East 1700 South
Provo, UT 84606
Telephone: (801)734-7200
www.wavetronix.com
Wavetronix Cable

Cable connections between the Wavetronix sensor and the controller cabinet shall be a UV-resistant cable with RS 232 and RS 485 conductors and nominal capacitance of 40pF/Ft at 1 KHz, an insulation rating of 300V @ 105°C (Orion Wire combo 2207-2002-PVCGY). Cable connector shall meet MIL-C-26482 specifications.

SmartSensor 8-Conductor Cable  Part Number SS-706
SmartSensor 6-Conductor Cable  Part Number SS-704

Home Run Cable shall be shielded 3 pair communication cable (3pcc) with 18 AWG individual conductors.

*****

Battery Backup System

***Obtain Battery Backup System information from WSDOT***

Conduit, Innerduct, and Outerduct

*****

Mechanical plugs for cabinet conduit sealing shall be one of the following:

1. Raychem – TE - RDSS
2. Jackmoon – Triplex Duct Plugs
3. O-Z Gedney – Conduit Sealing Bushings

The mechanical plug shall withstand a minimum of 5 psi of pressure.

Rigid Metal Conduit Fittings and Appurtenances

Section 9-29.1(2) is supplemented with the following:

*****

Split grounding end bushings shall be die-cast zinc electroplated steel, two piece split collars designed for use on rigid metal conduits without disconnecting or removing existing conductors. They may be either two screw clamp or hinged design and shall include a versatile grounding lug. The insuliner shall be temperature rated for 300°F (150°C) and provide mechanical protection for the raceway.

Fiber Optic Cable, Electrical Conductors, and Cable

*****

Fiber Optic Cable Marker

This work shall consist of furnishing and placing flexible guide posts to serve as fiber optic cable markers for ITS conduit.

*****

Fiber optic cable marker guide posts shall be installed every 500 feet of conduit and at every change in direction or as shown in the Plans. The marker shall be placed directly above all conduits that contain fiber optic cable. A horizontal tolerance of one foot will be allowed.

The fiber optic cable marker guide posts shall be orange in color.
Reflective sheeting for fiber optic cable markers shall be Type II conforming to Section 9-28.12. The reflective panel on a flat or elliptical fiber optic cable marker shall have a minimum width of 3 inches facing traffic. The reflective sheeting shall have a minimum area of 24 square inches (3 by 8 inches). Mount the reflective sheeting on the guide post as detailed in the Standard Plan M-40.10, Type W. Sheetin shall remain in place during the life of the post.

The reflective sheeting shall contain a legend as shown in the ITS Fiber Optic Details.

Ground mounted guide posts with metal anchors will not be allowed.

(******)
The pre-terminated fiber optic cable, patch panels, connectors, bulk heads and patch cords shall be from one manufacturer, and shall be outside plant rated.

**Quality Assurance for Communication System Cables and Interfaces**
All work described in this section shall meet or exceed the applicable provisions of the following documents:

1. CFR 1755.900, RUS Specification for Filled Fiber Optic Cables
3. TIA/EIA Telecommunications Building Wiring Standards

**Cables**
The Contractor shall provide all materials required for the installation and splicing of the specified communications cables, power cables and associated interface devices.

The Contractor shall submit a three-foot sample cable section to the Project Engineer for the acceptance of each type of cable to be utilized.

The fiber optic cable network shall be capable of supporting both transmission speeds and protocols up to 2.4 Gb/s, and NTSC quality, color video applications.

Each cable shall contain the total number of optical fibers as specified in the Plans. All fiber optic cables equal to or greater than a 12-count shall be placed in loose buffer tubes in groups of 12. Fiber optic cables of 6 count shall be in a loose buffer tube.

**Patch Cables**
All patch cables shall be simplex type, and shall have a minimum length of 3.28 feet.

(******)
**Fiber Optic Connectors**
All fiber optic connectors shall be Ultra Physical Contact (UPC) and factory installed. Unless otherwise noted in the plans all connectors shall be a ST type
connector. All ST type connectors shall have the body and nut material made of metal.

(******)

**Pre-terminated Fiber Optic Cable**
The pre-terminated Fiber Optic Cable shall be SMFO outside plant rated cable with factory installed ST/UPC connectors. The cable shall be a loose tube buffer cable in the fiber count as specified in the Plans. The ST/UPC connectors shall be connected with a 900 micron pigtail fan kit that shall be built and tested inside the factory. Factory test results shall be submitted to the Project Engineer. The cable shall come with a pull protector to ensure no damage to pigtails or connectors during installation.

The length of each pre-terminated Fiber Optic Cable shall be determined by the Contractor for each location and shall include 100 feet of slack in each pull box or cable vault it is to be routed through.

**Electrical Conductors and Cable**

**Two-Conductor Shielded**
Section 9-29.3(2)E is revised to read as follows:

(******)
Two conductor shielded (2CS) cable shall have stranded 12 AWG (minimum) conductors and shall conform to IMSA Specification No. 50-2.

**Detector Loop Wire**
Section 9-29.3(2)F is supplemented with the following:

(******)
Detector loop conductors shall be No. 14 AWG stranded copper conductors, class B, with Type XLP/USE insulation or shall be No. 14 stranded copper conductors conforming to IMSA 51-3 or IMSA 51-5 requirements.

**Light and Signal Standards**
Section 9-29.6 is supplemented with the following:

(August 1, 2011)

**Light Standards with Type 1 Luminaire Arms**
Lighting standards shall be fabricated in conformance with the methods and materials specified on the pre-approved Plans listed below, provided the following requirements have been satisfied:

(a) Light source to pole base distance (H1) shall be as noted in the Plans. Verification of H1 distances by the Engineer, prior to fabrication, is not required. Fabrication tolerance shall be ±6 inches.

(b) All other requirements of the Special Provisions have been satisfied.

<p>| Pre-Approved Plan | Fabricator | Mounting Hgt. |</p>
<table>
<thead>
<tr>
<th>Drawing No.</th>
<th>Description</th>
<th>Manufacturer/Supplier</th>
<th>Height (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DB00654 Rev. F Sheets 1, 2, 3 &amp; 4</td>
<td>Valmont Ind. Inc.</td>
<td>30', 35', 40' &amp; 50'</td>
<td></td>
</tr>
<tr>
<td>NWS 3510 Rev. 2 or NWS 3510B Rev. 2</td>
<td>Northwest Signal Supply, Inc.</td>
<td>25', 30', 35', 40', 45' &amp; 50'</td>
<td></td>
</tr>
<tr>
<td>WS-SL-01 Revision 5</td>
<td>American Pole Structures, Inc.</td>
<td>25', 30', 35', 40', 45' &amp; 50'</td>
<td></td>
</tr>
<tr>
<td>71035-B39 Rev. R9 Sheets 1 &amp; 2 of 2, and B100-B335 Rev. R1</td>
<td>Union Metal Corp.</td>
<td>40'</td>
<td></td>
</tr>
<tr>
<td>71035-B50 Rev. R2 Sheets 1, 2 &amp; 3 and B100-B335 Rev. R1</td>
<td>Union Metal Corp.</td>
<td>50'</td>
<td></td>
</tr>
<tr>
<td>71035-B47. Rev. R3, Sheet 1 of 1 Elbow Mounting Detail</td>
<td>Union Metal Corp.</td>
<td>40' &amp; 50'</td>
<td></td>
</tr>
<tr>
<td>WSDOT-LP-01 Rev. 4 Sheets 1 and 2 or WSDOT-LP-01-BE Rev. 3 Sheets 1 and 2 or WSDOT-LP-01-C8B Rev 2</td>
<td>West Coast Engineering Group</td>
<td>25', 30', 35', 40', 45' &amp; 50'</td>
<td></td>
</tr>
<tr>
<td>10-31-RWP-1 50 Rev.4 Sheets 1, 2 &amp; 3</td>
<td>KW Industries</td>
<td>25', 30', 35', 40' &amp; 45'</td>
<td></td>
</tr>
<tr>
<td>10-31-RWP-3 Rev. 1 (Bridge Mount Details)</td>
<td>KW Industries</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Decorative Streetlight Standards and Luminaires**

Decorative streetlight standards and luminaires shall conform to one of the following model numbers or approved equal:

- **Lumec Pole** - RS61F-20 GFI
- **Lumec Arm** - SMI1A
- **Hapco Pole** - 17681X-20'.188 wall thickness, 18'' two-piece decorative base cover, powder-coated RAL6019TX
- **Hapco Arm** - King Luminaire KA15
- **Cyclone Pole** - PA40-20-SA-RAL6019TX
- **Cyclone Arm** - MM230-T4D-RAL 6019TX
- **Cyclone Fixture** - Majesta Pendant CO12PIA
- **Cyclone Two-Piece Base** - BD56-RAL6019TX
The pole, mast arm, base and fixture shall be textured dark green color matching the existing City of Fife decorative streetlights. Paint shall meet ASTM G7 standards unless otherwise approved by the Engineer. The color shall be approved by the Engineer before manufacture. The poles shall include a GFI outlet mounted at 7-feet six-inches (7'6") above the bottom of the base.

Decorative streetlights shall be installed on City of Fife standard foundation with a fixed base and the bolt spacing per manufacturer’s requirements.

Type 1 cobra head streetlight standards shall have a 40-foot luminaire mounting height and a 12-foot mast arm length. Type 1 cobra head streetlights shall be installed on City of Fife standard foundation and shall have a fixed base.

Traffic Signal Standards
Traffic Signal Standards shall be furnished and installed in accordance with the methods and materials noted in the applicable Standard Plans, pre-approved plans, or special design plans.

All welds shall comply with the latest AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. Welding inspection shall comply with Section 6-03.3(25)A Welding Inspection.

Hardened washers shall be used with all signal arm connecting bolts instead of lockwashers. All signal arm AASHTO M 164 connecting bolts tightening shall comply with Section 6-03.3(33).

Traffic signal standards for the intersection of 34th Ave East and Pacific Highway shall be powder coated green to match the color of the decorative street light poles. Traffic signal standard types and applicable characteristics are as follows:

Type PPB Pedestrian push button posts shall conform to Standard Plan J-20.10 or to one of the following pre-approved plans:

<table>
<thead>
<tr>
<th>Fabricator</th>
<th>Drawing No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northwest Signal Supply Inc.</td>
<td>NWS 3540 Rev. 1 and NWS 3540B Rev. 1</td>
</tr>
<tr>
<td>Valmont Ind. Inc.</td>
<td>DB00655 Rev. G Sht. 1 &amp; 2</td>
</tr>
<tr>
<td>Union Metal Corp.</td>
<td>TA-10035 Rev. R3</td>
</tr>
<tr>
<td>West Coast Engineering Group</td>
<td>WSDOT-PP-01 Rev. 1</td>
</tr>
<tr>
<td>KW Industries</td>
<td>10-200-PED-1 Rev. 5, Sheets 1 &amp; 2</td>
</tr>
</tbody>
</table>

Type PS Pedestrian signal standards shall conform to Standard Plan J-20.16 or to one of the following pre-approved plans:

<table>
<thead>
<tr>
<th>Fabricator</th>
<th>Drawing No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northwest Signal Supply Inc.</td>
<td>NWS 3540 Rev. 1 and NWS 3540B Rev. 1</td>
</tr>
</tbody>
</table>
Type III Characteristics:

<table>
<thead>
<tr>
<th>Luminaire mounting height</th>
<th>40 ft.,</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luminaire arms</td>
<td>One or two only</td>
</tr>
<tr>
<td>Luminaire arm type</td>
<td>Type 1, or Pedestrian</td>
</tr>
<tr>
<td>Luminaire arm length (max.)</td>
<td>12’ or 16’</td>
</tr>
<tr>
<td>Signal Arms</td>
<td>One or two only</td>
</tr>
<tr>
<td>GFI Outlet</td>
<td>7’6” mounting height</td>
</tr>
</tbody>
</table>

Type III standards shall conform to one of the following pre-approved plans, provided all other requirements noted herein have been satisfied. Maximum (x) (y) (z) signal arm loadings in cubic feet are noted after fabricator. The Type III poles shall include a GFI outlet mounted at 7-feet six-inches (7’6”) above the bottom of the base.

<table>
<thead>
<tr>
<th>Signal Arm Length (max.)</th>
<th>Fabricator – (x) (y) (z)</th>
<th>Drawing No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>65 ft.</td>
<td>Valmont Ind. Inc.-(2947)</td>
<td>DB00625-Rev. N, Shts. 1, 2 &amp; 3 and “J” luminaire arm</td>
</tr>
<tr>
<td>65 ft.</td>
<td>Union Metal Corp.-(2900)</td>
<td>71026-B87 Rev. R8 Shts. 1, 2 &amp; 3</td>
</tr>
<tr>
<td>65 ft.</td>
<td>Northwest Signal Supply Inc.-(2802)</td>
<td>NWS 3500 Rev. 3 or NWS 3500B Rev. 3</td>
</tr>
<tr>
<td>45 ft.</td>
<td>American Pole Structures, Inc.-(1875)</td>
<td>WS-T3J-L, Sht. 1 of 2 Rev. 9 and Sht. 2 of 2 Rev. 4</td>
</tr>
<tr>
<td>65 ft.</td>
<td>American Pole Structures, Inc.-(2913)</td>
<td>WS-T3J-H, Sht. 1 of 2 Rev. 8 and Sht. 2 of 2 Rev. 4</td>
</tr>
<tr>
<td>65 ft.</td>
<td>West Coast Engineering Group</td>
<td>WSDOT-TS-01 Rev. 3 Sheets 1, 2 and 3</td>
</tr>
</tbody>
</table>
Complete calculations for structural design, including anchor bolt details, shall be prepared by a Professional Engineer, licensed under Title 18 RCW, State of Washington, in the branch of Civil or Structural Engineering or by an individual holding valid registration in another state as a civil or structural engineer.

All shop drawings and the cover page of all calculation submittals shall carry the Professional Engineer’s original signature, date of signature, original seal, registration number, and date of expiration. The cover page shall include the contract number, contract title, and sequential index to calculation page numbers. Two copies of the associated design calculations shall be submitted for approval along with shop drawings.

Details for handholes and luminaire arm connections are available from the Bridges and Structures Office.

Foundations for various types of standards shall be as follows:

- **Type PPB**  
  As noted on Standard Plan J-20.10.
- **Type III**  
  As noted in the Plans.

Signal standards installed without a signal mast arm, shall include a sealed cap covering the opening completely and matching the material of the signal standards.

(******)

**Traffic Signal Standards with APS Installations**

New traffic Signal Standards designated to have Accessible Pedestrian Signal (APS) Pushbuttons installed on them must be either round or 12-sided (dodecagon) poles. 8-sided (octagon) poles shall not be used in these locations. This restriction does not apply to the mast arm on Type II and Type III Signal Standards.

**9-29.13 Controller Cabinet Assemblies**

**9-29.13(2) Manufacturing Quality**

**Traffic Signal Controller Assembly Testing**

Item 1 of Section 9-29.13(2)A is supplemented with the following:

(******)

The designated testing facility is the WSDOT Materials Laboratory located at 1655 S 2nd AVE, Tumwater, WA 98512. See web page http://www.wsdot.wa.gov/Business/MaterialsLab/ContactUs.htm for directions.

Section 9-29.13(2)A is supplemented with the following:

(******)
Pickup

After the scheduled tests for the traffic signal controllers and cabinets have been completed, the WSDOT Materials Lab will transfer the signal equipment to the WSDOT Olympic Region Signal Shop for additional testing.

The Contracting Agency will notify the Contractor when the testing is complete. The Contractor, within at least three (3) working days advance notice, shall make arrangements with the WSDOT Olympic Region Signal Shop, located at 5720 Capitol Blvd. Tumwater, WA., for pickup of traffic signal controllers and cabinets. The point of contact is the Olympic Region Signal Superintendent, at (360) 357-2616. If the Contractor does not pick up the controller and cabinets on the agreed upon day, they will be delivered by postal carrier, freight collect. The signal cabinet shall be powered within seven (7) calendar days after installation and/or pick up to maintain cabinet environmental requirements, unless otherwise approved by the Project Engineer.

9-29.13(10)D Cabinets for Type 170E and 2070 Controllers

Section 9-29.13(10)D is supplemented with the following:

(******)

Type 2070 Controllers

Type 2070 controllers for traffic signal systems shall be housed in a Model 333SD ITS/ATC cabinet. Each door shall be furnished with a construction core lock conforming to standard specification 9-29.13(7)C part 5a. A police panel with door, stainless steel hinge pin, and lock shall be provided. Two police keys, a minimum of 1 ¾" long shall be provided with each cabinet. Each of these cabinets shall be furnished with the equipment described in this section.

Signal cabinet equipment requirements shall include the following:

Composition

Unless otherwise specified, the model shall be furnished, ready for operation, with the following composition:

Model 333SD Cabinet, which shall consist of:

- 333SD Housing
- 8” Riser Base
- Cabinet Rack #1 (Left Side as viewed from front)
  - 1 – Slide out Drawer Assembly
  - 1 – PDA #2 with 206 Power Supply
  - 1 – Output File #1B
  - 1 – Detector Test Panel
  - 1 – Aux File
- Cabinet Rack #2 (Right Side as viewed from front)
  - 2 – Input Files (“I” and “J”)
  - 2 – 336 Battery/Equipment Shelves
  - 1 – 12 Position AC Outlet Strip (Rear)
- 333SD WSDOT C1 Harness
- 336 Service Panel
- 333 Input Panel
- 333 Interconnect Panel
Front Fan Panel
Rear Fan Panel
Rear Fluorescent Lamp
Generator Panel
Cabinet Plug-in Modules
6 – Flash Transfer Relays
2 – Model 204 Two Circuit Flashers (15 Amp Output)
16 – Model 300-OICL Load Switches (15 Amp)
2 – Model 242 DC Isolators
18 – Model LMD-602t Detectors (or equivalent)
2 – GTT 762 – Two Channel Phase Selectors
1 – EDI Model 2010ECL Conflict Monitor (CMU)

All assemblies and files shall be mounted on the cage mounting rails per cabinet model detail. Cabinet model interface wiring shall be per specified C1 Harness, detailed wiring lists, and required One Line Wiring.

The cabinet shall be delivered mounted on a plywood shipping pallet. The pallet shall be bolted to the cabinet base. The cabinet shall be enclosed in a slipcover cardboard packing shell. The housing doors shall be blocked to prevent movements during transportation.

All bolts, nuts, washers, screws (size 8 or larger), hinges, and hinge pins shall be stainless steel unless otherwise specified.

A cage mounting clear area for the controller unit shall be provided in Rack Cage #1. The area shall be protected with suitable insulating material. This area shall extend 1.5 inches in front of and 16 inches behind the EIA mounting angles

All conductors, terminals, and parts which could be hazardous to maintenance personnel shall be protected with suitable insulating material.

**Housing**

The housing shall include the following:

Police Panel Enclosure
Door Ventilation
Latches/Locks
Door Gaskets
Hinges and Door Catches
Cage Support and Mounting

**Housing Construction**

The housing shall be rainproof with the top of the enclosure crowned to prevent standing water. It shall have two front and two rear doors, each equipped with a lock.

The enclosure, doors, lifting eyes, gasket channels, police panel, and all supports welded to the enclosure and doors shall be fabricated of 0.125 in minimum thickness aluminum sheet. Bolted on supports shall be both the same material and thickness as the enclosure or 0.105 in minimum steel.
The side panels and filter shall be fabricated of 0.080 in minimum thickness aluminum sheet.

All exterior seams for enclosure and doors shall be continuously welded and shall be smooth. All edges shall be filed to a radius of 0.03125 in minimum. Exterior cabinet welds shall be done by gas Tungsten arc TIG process only. ER5356 aluminum alloy bare welding electrodes conforming to AWS A5.10 requirements shall be used for welding on aluminum. Procedures, welders and welding operators shall conform to the requirements and practices in AWS B3.0 and C5.6 for aluminum. Internal cabinet welds shall be done by either gas metal arc MIG or gas Tungsten arc TIG process.

Aluminum surfaces shall have a natural (mill) finish.

The enclosure doorframes shall be double flanged out on all four sides and shall have strikers to hold tension on and form a firm seal between the door gasketing and the frame. The dimension between the door edge and the enclosure external surface when the door is closed and locked shall be 0.156 (+/- 0.08) in.

Gasketing shall be provided on all door openings and shall be dust-tight. Gaskets shall be 0.25 in minimum thickness closed cell neoprene or silicone (BOYD R-10480 or equal) and shall be permanently bonded to the metal. If neoprene is used, the mating surface of the gasketing shall be covered with a silicone lubricant to prevent sticking to the mating metal surface. A Gasket Top Channel shall be provided to support the top gasket on the door (prevent gasket gravitational fatigue).

Cage bottom support mounting angles shall be provided on either side, level with the bottom edge of the door opening, for horizontal support and bolt attachment. In addition, side cage supports shall be provided for the upper cage bolt attachments. Spacer brackets between the side cage supports and the cage shall be a minimum thickness of either 0.188 in aluminum or 0.105 in steel.

The housing shall be provided with four lifting eyes for placing the cabinet on its foundation. Each eye opening shall have a minimum diameter of 0.75 in. Each eye shall be able to support a weight load of 1000 pounds.

All exterior bolt heads shall be tamperproof type.

**Door Latches and Locks**

The latching handles shall have provision for padlocking in the closed position. Each handle shall be 0.75 in minimum diameter stainless steel with a minimum 0.5 in shank. The padlocking attachment shall be placed at 4.0 in from the handle shank to the center to clear the lock and key. An additional 4.0 in minimum gripping length shall be provided.

The latching mechanism shall be a three-point draw roller type. The pushrods shall be turned edgewise at the outward supports and have a cross section of 0.25 in thick by 0.75 in wide, minimum.
When the doors are closed and latched, they shall be locked. The locks and handles shall be on the right side of the left front and rear doors and on the left side of the right front and rear doors. The lock and lock support shall be rigidly mounted on the door. In the locked position, the bolt throw shall extend a minimum of 0.25 +/- 0.03125 in into the latch cam area. A seal shall be provided to prevent dust or water entry through the lock opening.

The locks shall be Best (Red Core). One key shall be supplied with each lock. The keys shall be removable in the locked position only. The locks shall have rectangular spring loaded bolts. The bolts shall have a 0.281 inch throw and shall be 0.75 inch wide by 0.75 inch thick (tolerance is +/- 0.035 inch).

The center latch cam shall be fabricated of a minimum thickness 0.1875 in steel or aluminum. The bolt surface shall horizontally cover the cam thickness. The cam shall be structured to only allow the door to open when the handle is moved toward the center of the door.

Rollers shall have a minimum diameter of 0.875 in with nylon wheels and steel ball bearings.

Ventilation
The housing shall include ventilation for the intake, exhaust, filtration, fan assembly and environmental control as follows:

The front doors shall be provided with louvered vents. The louvered vent depth shall be a maximum of 0.25 in. A removable air filter shall be housed behind the door vents. The filter filtration area shall cover the vent opening area. A filter shell shall be provided that fits over the filter providing mechanical support for the filter. The shell shall be louvered to direct the incoming air downward. The shell sides and top shall be held firmly in place with a bottom bracket and a spring loaded upper clamp. No incoming air shall bypass the filter. The bottom filter bracket shall be formed into a waterproof sump with drain holes to the outside housing.

The intake (including filter with shell) and exhaust areas shall pass a minimum of 52 cubic feet of air per minute.

The housing shall be equipped with two electric fans with ball or roller bearings and a capacity of at least 100 cubic feet (each) of free air delivery per minute. The fans shall be mounted within the housing and vented.

The fans shall be individually thermostatically controlled and shall be manually adjustable to turn on between 32°F and 140°F with a differential of not more than 20°F between automatic turn on and off. The fan circuitry shall be protected at 125% of the fan motor maximum amperage rating. The manual adjustment shall be graded in 20°F increment scale. The thermostat shall be an Omega KT01101141900 or equivalent.
The filter shall be 16 in wide by 12 in high by 0.875 in thick. The filter shall be an ECO-AIR Products E35S12161 or equal.

**Hinges and Door Catches**
Three, two-bolt per leave, hinges shall be provided to bolt the enclosure to the door. Each hinge shall be 3.5 in minimum length and have a fixed pin. The pin ends shall be welded to the hinge and ground smooth. The pins and bolts shall be covered by the door edge and not accessible when the door is closed.

Front and rear doors shall be provided with catches to hold the door open at both 90 and 180 +/- 10 degrees. The catch minimum diameter shall be 0.375 in for plated steel or aluminum rods or 0.25 in for stainless steel. The catches shall be capable of holding the door open at 90 degrees in a 60 mph wind acting at an angle perpendicular to the plane of the door.

**Police Panel**
A police panel assembly shall be provided to allow police officers limited access to intersection control. The police panel assembly including switches shall not extend into the cabinet more than 1.5 in.

The police panel door shall be equipped with a lock. The lock shall be keyed for a master police key. One key shall be furnished with each police lock. Each police key shall have a shaft at least 1.75 inches in length.

The police panel section shall contain two DPST Toggle Power Switches.

The police panel shall label one switch “ON-OFF” and the other “FLASH-AUTOMATIC”.

The front and back of the panel shall be enclosed with a rigid metal covering so that no parts having line voltage are exposed.

The police panel assembly shall have a drain to prevent water collecting within the assembly. The drain shall be channeled to the outside.

**Generator Panel**
The generator panel is to be a TrafficTran model TS300130PL and shall be shipped in, but not mounted to, the cabinet. A minimum 12 foot pigtail shall be provided to allow for the generator panel to be field mounted by WSDOT personnel.

**Cabinet Cage Requirements**
Two standard EIA 19 inch rack cages shall be installed inside the housing for mounting the controller unit and cabinet assemblies.

The EIA rack portion of the cage shall consist of four pairs of continuous, adjustable equipment mounting angles. The angle nominal thickness shall be either 0.1345 in plated steel or 0.105 stainless steel. The angles shall be tapped with 10-32 threads with EIA universal spacing. The angles shall comply with
Standard EIA RS-310-D and shall be supported at the top and bottom by support angles to form a cage.

Clearance between rails for mounting assemblies shall be 17.75 in.

The cages shall be bolted to the cabinet at 8 points, via the housing cage supports and associated spacer brackets, two at the top and two at the bottom of the rails.

The cage shall be centered within the cabinet.

**Cabinet Assemblies**

**Cabinet Assemblies shall comply with Caltrans TSCES 1989 and all subsequent addendums with the following additions or deviations.**

**Detector Test Panel**

The detector test panel PCB shall consist of the following items:

1 – SPDT Power Switch
40 – SPDT Detector Switches
41 – Red LEDs
2 – Interconnection Harnesses

The Detector Test Panel shall be an EIA compliant compatible rack mount item with dimensions measuring 19” x 4.5” x 0.125”.

The Detector Test Panel Interconnection Harnesses shall be wired in accordance with the following connection charts:
16 Channel Red Monitor
A means of selecting the active red monitor channel shall be provided on the rear of the monitor panel. Selection shall be accomplished by means of a two position jumper (shunt) with the center position wired to a red monitor input and select of 115V AC to the right and red load switch output to the left. Moving the jumper to the right will provide continuous red input and override, while moving a jumper to the left will attach the monitor channel to the corresponding load switch output.

Hesco LF60 RIS Filter (or approved equivalent)
The cabinet shall have a Hesco LF60 RIS Filter or approved equal.

Tesco TES 10B Transient Surge Protector (or approved equivalent)
The cabinet shall have a Tesco TES 10B transient surge protector or approved equal.

Each unit shall comply with the following:

- Clamping level of 400V peak normal mode and 500V peak common mode. Trace photos and other test related information shall be available upon request. EMI/EFI noise rejection derived via standardized 50 ohm insertion loss tests shall have amplitude of at least -20db over a minimum spectrum from 50 kHz with a -40db being the most desirable. Diagnostics indicators shall clearly display the status of the suppression circuit. The indication shall warn of the loss of protection. Transient energy suppression shall be in excess of 250 Joules. Rated voltage is 120V AC with rated output current minimum 15 amperes single phase operation.

Output File #1B Required Modifications
A Resistor Panel with twelve 10W 2kΩ resistors is to be mounted on the inside of the Output File on the right side panel (as viewed from the rear of...
the Output File with the rear panel dropped down). These resistors are to be connected between all Odd Phase Green and Yellow Outputs on one side and AC- on the other side.

A Display Interface Panel Harness with a 57 pin AMP 206151-1 (or equivalent) panel mount connector is to be mounted to the rear panel of the Output File and the other end terminated as follows:

<table>
<thead>
<tr>
<th>DISPLAY INF (DP1S)</th>
<th>CONNECT TO</th>
</tr>
</thead>
<tbody>
<tr>
<td>(LOCATED IN OUTPUT FILE)</td>
<td></td>
</tr>
<tr>
<td>PIN 1 Ø1 GREEN</td>
<td>127</td>
</tr>
<tr>
<td>PIN 2 Ø1 YELLOW</td>
<td>126</td>
</tr>
<tr>
<td>PIN 3 Ø1 RED</td>
<td>125</td>
</tr>
<tr>
<td>PIN 4 Ø2 GREEN</td>
<td>130</td>
</tr>
<tr>
<td>PIN 5 Ø2 YELLOW</td>
<td>129</td>
</tr>
<tr>
<td>PIN 6 Ø2 RED</td>
<td>128</td>
</tr>
<tr>
<td>PIN 7 Ø3 GREEN</td>
<td>118</td>
</tr>
<tr>
<td>PIN 8 Ø3 YELLOW</td>
<td>117</td>
</tr>
<tr>
<td>PIN 9 Ø3 RED</td>
<td>116</td>
</tr>
<tr>
<td>PIN 10 Ø4 GREEN</td>
<td>103</td>
</tr>
<tr>
<td>PIN 11 Ø4 YELLOW</td>
<td>102</td>
</tr>
<tr>
<td>PIN 12 Ø4 RED</td>
<td>101</td>
</tr>
<tr>
<td>PIN 13 Ø5 GREEN</td>
<td>133</td>
</tr>
<tr>
<td>PIN 14 Ø5 YELLOW</td>
<td>132</td>
</tr>
<tr>
<td>PIN 15 Ø5 RED</td>
<td>131</td>
</tr>
<tr>
<td>PIN 16 Ø6 GREEN</td>
<td>136</td>
</tr>
<tr>
<td>PIN 17 Ø6 YELLOW</td>
<td>135</td>
</tr>
<tr>
<td>PIN 18 Ø6 RED</td>
<td>134</td>
</tr>
<tr>
<td>PIN 19 Ø7 GREEN</td>
<td>124</td>
</tr>
<tr>
<td>PIN 20 Ø7 YELLOW</td>
<td>123</td>
</tr>
<tr>
<td>PIN 21 Ø7 RED</td>
<td>122</td>
</tr>
<tr>
<td>PIN 22 Ø8 GREEN</td>
<td>109</td>
</tr>
<tr>
<td>PIN 23 Ø8 YELLOW</td>
<td>108</td>
</tr>
<tr>
<td>PIN 24 Ø8 RED</td>
<td>107</td>
</tr>
<tr>
<td>PIN 25 Ø2 WALK</td>
<td>115</td>
</tr>
<tr>
<td>PIN 26 Ø2 DON'T WALK</td>
<td>113</td>
</tr>
<tr>
<td>PIN 27 Ø4 WALK</td>
<td>106</td>
</tr>
<tr>
<td>PIN 28 Ø4 DON'T WALK</td>
<td>104</td>
</tr>
<tr>
<td>PIN 29 Ø6 WALK</td>
<td>121</td>
</tr>
<tr>
<td>PIN 30 Ø6 DON'T WALK</td>
<td>119</td>
</tr>
<tr>
<td>PIN 31 Ø8 WALK</td>
<td>112</td>
</tr>
<tr>
<td>PIN 32 Ø8 DON'T WALK</td>
<td>110</td>
</tr>
<tr>
<td>PIN 33 NOT USED</td>
<td></td>
</tr>
<tr>
<td>PIN 34 NOT USED</td>
<td></td>
</tr>
<tr>
<td>PIN 35 NOT USED</td>
<td></td>
</tr>
<tr>
<td>PIN 36 NOT USED</td>
<td></td>
</tr>
<tr>
<td>PIN 37 NOT USED</td>
<td></td>
</tr>
<tr>
<td>PIN 38 NOT USED</td>
<td></td>
</tr>
<tr>
<td>PIN 56 AC+ TB01-11</td>
<td></td>
</tr>
<tr>
<td>PIN 57 AC- TB01-10</td>
<td></td>
</tr>
</tbody>
</table>

**Output File #2 Required Modifications**

A total of eight 10W 2kΩ resistors are to be soldered directly to the Output File #2 Load Switch sockets of each Odd phase Yellow and Green Outputs.
The resistors will connect to the standard phase Yellow and Green Outputs on one side and AC- on the other side.

Outlet Strip
The outlet strip shall consist of 12 Right Angle outlets (six facing into the cabinet and six facing out of the cabinet) and be an EIA Rail mounting version.

The outlet strip shall be mounted across the EIA Rails on the left hand rack at the bottom when viewed from the rear of the cabinet.

Cabinet Wiring

Cabinet Wiring Diagram
Two sets of non-fading (comparable to Xerox 2080) cabinet wiring diagrams and one CD with a .PDF version of wiring diagrams shall be supplied with each cabinet. The diagrams shall be nonproprietary. They shall identify all circuits in such a manner as to be readily interpreted. The wiring diagrams and CD shall be placed in the Rack Drawer.

One cabinet manual shall be provided in the Rack Drawer along with the wiring diagram.

Conductors
All conductors used in cabinet wiring shall terminate with properly sized clear insulated spring-spade type terminals except when soldered to a through-panel solder lug on the rear side of the terminal block or as specified otherwise. All crimp-style connectors shall be applied with a power tool which prevents opening of the handles until the crimp is completed.

Sizes
Conductors between the service terminal AC- and Equipment Ground and their associated bus, the equipment ground bus conductor to Power Distribution Assembly and cage rail, AC- Bus to Power Distribution Assembly shall be 8 AWG or larger.

Types
All conductors unless otherwise specified shall be 22 AWG or larger with a minimum of 19 copper strands. Conductors shall conform to Military Specification MIL-W-16878D, Type B, or better. The insulation shall have a minimum thickness of 10 mils and shall be nylon jacketed polyvinyl chloride except that conductors 14 AWG and larger may have type THHN insulation (without nylon jacket), and shall be stranded with a minimum of seven copper strands.

Labels
All conductors, except the main input AC+, AC-, and EQGND, shall be labeled. Labels attached to each end of the conductor shall identify the destination of the other end of the conductor.
**Color Code Requirements**

All conductors shall conform to the following color code requirements:

(a) The grounded conductors of AC circuits shall be identified by solid white colored insulation.

(b) The equipment grounding conductors shall be identified by solid green colored insulation.

(c) The DC logic ground conductors shall be identified by solid white colored insulation with a red stripe.

(d) The ungrounded AC+ conductors shall be identified by solid black colored insulation.

(e) The logic ungrounded conductors shall be identified by any color insulation not specified above.

**DC Logic Ground and Equipment Ground**

Within the cabinet, resistance between any two of the DC Logic Ground, the Equipment Ground, and the AC Grounded Conductor shall be a minimum of 500MΩ when tested at 250V DC.

**AC- Copper Terminal Bus**

The AC- copper terminal bus shall not be grounded to the cabinet or connected to logic ground. Nylon screws with a minimum diameter of 0.25 in shall be used for securing the bus to the service panel.

**Power Supply DC Ground**

The cabinet power supply DC Ground shall be connected to the DC logic ground bus using a 14 AWG or larger stranded copper wire.

**Input Terminal**

Each detector lead-in pair, from the field terminals in the cabinet to the sensor unit rack connector, shall be a cable of UL Type 2092 or better. The stranded tinned copper drain wire shall be connected to a terminal on the input file terminal block. This input terminal shall be connected to the equipment grounding bus through a single conductor.

**Terminal Blocks**

The terminal blocks shall be barrier type rated at 20 Amperes, 600V RMS minimum. The terminal screws shall be 0.3125 in minimum length nickel plated brass binder head type with screw inserts of same material. Screw size is called out under associated cabinet assembly, file or side panel.

**Additional Equipment**

The following additional equipment shall be included with each signal controller cabinet:

- One Econolite 2070 Controller (ASC/3 Software)
- One Econolite Industrial 56K Dial-Up Modem
Controller cabinets specifically designated as “Master” in the Plans shall also include an Econolite 2070 ASC2/M Master Controller and all required supporting equipment.

9-29.16 Vehicular Signal Heads, Displays, and Housing

Traffic Signal Cover
Section 9-29.16(4) is supplemented with the following:

(******)
When properly covered, no lenses, visors, or backplates shall be visible. Plastic bags are not an approved signal head covering.

At any intersection where there is a combination of operational and covered signal heads, signal head covers shall be yellow or orange in color.

9-29.17 Signal Head Mounting Brackets and Fittings
Section 9-29.17 is supplemented with the following:

(******)
The plumbizer required for the Type M mount shall provide a wireway capable of accepting a 5-conductor cable without damage to the sheath, shall include three stainless steel set screws, and shall be mounted with a 3/8 inch stainless steel through-bolt with washers.

9-29.18 Vehicle Detector
Section 9-29.18 is supplemented with the following:

(******)
Preformed Loops
If the Contractor uses preformed loops, they shall be designed for installation in hot asphalt overlay or in concrete as called for in the Plans.

All preformed loops shall consist of a minimum of four turns of #16 wire with Type TFFN insulation. The loop wires shall be encased in 0.35 in. polypropylene conduit in the square portion of the loop. The conduit shall be injected with hot rubber asphalt sealant to prevent the entrance of water and the movement of wires within the conduit. The loops shall contain sealed expansion-contraction joints.

All preformed loops shall carry a warranty stating that the loops will be free from defects in materials and workmanship for a service period of ten (10) years from the date of purchase.

Induction Loop Detectors
Section 9-29.18(1) is supplemented with the following:

(******)
Induction Loop Sealant
Induction loop sealant shall be installed in accordance with the manufacturer’s recommendations and shall be one of the following:
1. Crafco, Inc. – Loop Detector Sealant 271

2. QCM Industrial – EAS-14 Epoxy Adhesive System Loop

3. Detector Sealant Type 1 – High Viscosity.


9-29.19 Pedestrian Push Buttons

Section 9-29.19 is deleted and replaced with the following:

(******)

Where specified in the Contract, type PPB-M and type PPB-W pedestrian pushbuttons of tamper-resistant construction shall be furnished and installed. They shall consist of a 2 ¼-inch diameter chrome plated mushroom plunger and a single momentary contact switch in a cast metal housing assembled with the push button sign shown in the plans. The switch shall have a snap action contacts, actuated by a three bladed beryllium copper spring, and shall be rated 10 amperes, 125 volts. The assembly shall be installed such that it is effectively bonded to any electrically conductive materials and to the supply system grounded equipment.

The pedestrian push-button assembly shall be constructed and mounted as detailed in the Contract.

9-29.20 Pedestrian Signals

Section 9-29.20 is supplemented with the following:

(******)

Accessible Pedestrian Signal

Each accessible pedestrian signal (APS) shall be a complete APS pushbutton system at each pedestrian pushbutton location shown in the Plans. Equipment shall be a Polara 4 Wire Navigator (Part Number EN43TN1-B), black in color, with an integral 9" x 15" R10-3e sign. Each unit requires a PHCU4W module and interconnect cable for its associated pedestrian signal display. Each interconnect cable may be obtained from Polara, or it may be supplied by the Contractor. Contractor provided interconnect cable shall be four conductor cable meeting the requirements of Section 9-29.3(2)B unless otherwise designated in the Plans.

Only one Polara Navigator Configurator controller per location is required under this Contract.

Dual button adaptor brackets are required for all installations with two APS pushbuttons on the same Type PPB, Type PS, or Type I Signal Standard. Where dual button adaptor brackets and extension brackets are required, they shall be obtained from Polara. Brackets and extensions from other manufacturers shall not be used.

All units shall include speech messages ordered from the manufacturer and pre-installed prior to installation. An electronic copy of the speech messages shall be
Speech messages shall be provided in the following format:
- “Wait.”
- “Wait to cross ___(A)____ at _____(B)____.”
- “Walk sign is on to cross ___(A)____.”

The following table lists the entries for (A) and (B) above:

<table>
<thead>
<tr>
<th>Street (A)</th>
<th>Street (B)</th>
<th>Arrow Direction</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>34th Ave E</td>
<td>Pacific Hwy E</td>
<td>L</td>
<td>4</td>
</tr>
<tr>
<td>34th Ave E</td>
<td>Pacific Hwy E</td>
<td>R</td>
<td>4</td>
</tr>
</tbody>
</table>

Order forms shall be completed by the Contractor using the information presented above.

9-30 WATER DISTRIBUTION MATERIALS

9-30.1 Pipe

**9-30.1(1) Ductile Iron Pipe**

Section 9-30.1(1) is supplemented with the following:

(******)

Ductile iron pipe and fittings shall be encased in polyethylene film with a minimum thickness of 8 mil.

9-30.2 Fittings

Revise Section 9-30.2 with the following:

(******)

Fittings shall conform to City of Fife Water Standard Detail W6.

**9-30.2(1) Ductile Iron Pipe**

Revise Section 9-30.2(1) to read:

(******)

Ductile iron pipe shall conform to City of Fife Water Standard Detail W6.

9-30.3 Valves

**9-30.3(6) Valve Stem Extensions**

Revise the second sentence in Section 9-30.3(6) to read:

(******)

Valves with an operating nut more than 3 feet below grade shall have a valve stem extension to raise the operating nut to within 36 inches of the ground surface.
**9-30.3(8) Tapping Sleeve and Assembly**

Revise Section 9-30.3(8) to read:

(******)
Tapping sleeves and assemblies shall conform to City of Fife Water Standard Detail W6.

**9-30.5 Hydrants**

**9-30.5(2) Hydrant Dimensions**

Revise Section 9-30.5(2) to read:

(******)
Hydrant dimensions shall conform to City of Fife Water Standard Detail W10.

**9-30.5(3) Hydrant Extensions**

Revise Section 9-30.5(3) to read:

(******)
Hydrant extensions shall conform to City of Fife Water Standard Detail W10.

**9-30.5(4) Hydrant restraints**

Revise Section 9-30.5(4) to read:

(******)
Hydrant restraints shall conform to City of Fife Water Standard Detail W10.

**9-30.6 Water Service Connections (2 Inches and Smaller)**

Revise Section 9-30.6 to read:

(******)
Water service connections and reduced pressure backflow assemblies (including enclosures) shall conform to the City of Fife Water Standard Details.

**APPENDICES**

*(January 2, 2012 WSDOT GSP)*

The following appendices are attached and made a part of this contract:

***

APPENDIX A: Geotechnical Engineering Services Final Report

APPENDIX B: Permits

APPENDIX C: City of Tacoma Special Provisions

APPENDIX D: Utility Standards

APPENDIX E: Plans for Love’s Redevelopment
APPENDIX F: Standard Plans

APPENDIX G: Potholing Information

APPENDIX H: SWPPP Narrative

***

(August 7, 2017 WSDOT GSP)

STANDARD PLANS

The State of Washington Standard Plans for Road, Bridge and Municipal Construction M21-01 transmitted under Publications Transmittal No. PT 16-048, effective August 7, 2017 is made a part of this contract.

The Standard Plans are revised as follows:

A-30.15
DELETED

A-40.10
Section View, PCCP to HMA Longitudinal Joint, callout, was – “Sawed Groove ~ Width 3/16” (IN) MIN. to 5/16” (IN) MAX. ~ Depth 1” (IN) MIN. ~ see Std. Spec. 5-04.3(12)B” is revised to read; “Sawed Groove ~ Width 3/16” (IN) MIN. to 5/16” (IN) MAX. ~ Depth 1” (IN) MIN. ~ see Std. Spec. Section 5-04.3(12)A2”

A-50.10
Sheet 2 of 2, Plan, with Single Slope Barrier, reference C-14a is revised to C-70.10

A-50.20
Sheet 2 of 2, Plan, with Anchored Barrier, reference C-14a is revised to C-70.10

A-50.30
Sheet 2 of 2, Plan (top), reference C-14a is revised to C-70.10

A-60.30
Note 4, was – “If the ACP and membrane is to be removed from the bridge deck, see GSP 023106 for deck preparation before placing new membrane.” Is revised to read; “If the ACP and membrane is to be removed from the bridge deck, see GSP 02.3(10)D.OPT6.GB6 for deck preparation before placing new membrane.”

B-10.20
Substitute “step” in lieu of “handhold” on plan

B-25.20
Note 4, was – “Bolt-Down capability is required on all frames, grates and covers, unless specified in the Contract. Provide two holes in the Frame that are vertically aligned with the grate slots. The frame shall accept the 5/8” x 11 NC x 2” allen head cap screw by being tapped, or other approved mechanism. The location of bolt-down holes varies among manufacturers. See BOLT-DOWN DETAIL, Standard Plan B-30.10. Is revised to read; “Bolt-Down capability is required on all frames, grates and covers, unless specified otherwise in the Contract. Provide 2 holes in the frame that are vertically aligned with the
grate or cover slots. The frame shall accept the 304 Stainless Steel (S.S.) 5/8" (in) - 11 NC x 2" (in) Allen head cap screw by being tapped, or other approved mechanism. The location of bolt-down holes varies by manufacturer.”

See BOLT-DOWN DETAIL, **Standard Plan B-30.10**.

Add Note 7. See Standard Specification Section 8-04 for Curb and Gutter requirements

B-30.70

Note 2, was – “Bolt-Down capability is required on all frames, grates and covers, unless specified otherwise in the Contract. Provide 3 holes in the frame that are vertically aligned with the grate or cover slots. The frame shall accept the 5/8"-1 NC x 2" Allen head cap screw by being tapped, or other approved mechanism. Location of bolt down holes varies by manufacturer.” Is revised to read; “Bolt-Down capability is required on all frames, grates and covers, unless specified otherwise in the Contract. Provide 3 holes in the frame that are vertically aligned with the grate or cover slots. The frame shall accept the 304 Stainless Steel (S.S.) 5/8” (in) - 11 NC x 2” (in) Allen head cap screw by being tapped, or other approved mechanism. Location of bolt-down holes varies by manufacturer.”

RING PLAN, callout, was – “DRILL AND TAP 5/8” – 11NC HOLE FOR 1 1/2" X 5/8” STAINLESS STEEL SOCKET HEAD CAP SCREW (TYP.)” is revised to read; “SEE NOTE 2”

B-90.40

Valve Detail - DELETED

C-16b

DELETED

C-22.14

Note 3, formula, was: “Elevation G = (Elevation S – D x (0.1) + 28” is revised to read:

“Elevation G = (Elevation S – D x (0.1) + 28/12”

C-22.16

Note 3, formula, was: “Elevation G = (Elevation S – D x (0.1) + 31” is revised to read:

“Elevation G = (Elevation S – D x (0.1) + 31/12”

C-22.41

DELETED

C-25.18

DELETED

D-10.10

Wall Type 1 may be used if no traffic barrier is attached on top of the wall. Walls with traffic barriers attached on top of the wall are considered non-standard and shall be designed in accordance with the current WSDOT Bridge Design Manual (BDM) and the revisions stated in the 11/3/15 Bridge Design memorandum.

D-10.15

Wall Type 2 may be used if no traffic barrier is attached on top of the wall. Walls with traffic barriers attached on top of the wall are considered non-standard and shall be designed
in accordance with the current WSDOT BDM and the revisions stated in the 11/3/15 Bridge Design memorandum.

D-10.20
Wall Type 3 may be used in all cases. The last sentence of Note 6 on Wall Type 3 shall be revised to read: The seismic design of these walls has been completed using a site adjusted (effective) peak ground acceleration of 0.32g.

D-10.25
Wall Type 4 may be used in all cases. The last sentence of Note 6 on Wall Type 4 shall be revised to read: The seismic design of these walls has been completed using a site adjusted (effective) peak ground acceleration of 0.32g.

D-10.30
Wall Type 5 may be used in all cases.

D-10.35
Wall Type 6 may be used in all cases.

D-10.40
Wall Type 7 may be used if no traffic barrier is attached on top of the wall. Walls with traffic barriers attached on top of the wall are considered non-standard and shall be designed in accordance with the current WSDOT BDM and the revisions stated in the 11/3/15 Bridge Design memorandum.

D-10.45
Wall Type 8 may be used if no traffic barrier is attached on top of the wall. Walls with traffic barriers attached on top of the wall are considered non-standard and shall be designed in accordance with the current WSDOT BDM and the revisions stated in the revisions stated in the 11/3/15 Bridge Design memorandum.

D-15.10
STD Plans D-15 series “Traffic Barrier Details for Reinforced Concrete Retaining Walls” are withdrawn. Special designs in accordance with the current WSDOT BDM are required in place of these STD Plans.

D-15.20
STD Plans D-15 series “Traffic Barrier Details for Reinforced Concrete Retaining Walls” are withdrawn. Special designs in accordance with the current WSDOT BDM are required in place of these STD Plans.

D-15.30
STD Plans D-15 series “Traffic Barrier Details for Reinforced Concrete Retaining Walls” are withdrawn. Special designs in accordance with the current WSDOT BDM are required in place of these STD Plans.

F-10.12
Section Title, was – “Depressed Curb Section” is revised to read: “Depressed Curb and Gutter Section”

F-10.40
“EXTRUDED CURB AT CUT SLOPE”, Section detail - Deleted
DELETE – “Extruded Curb at Cut Slope” View

Sheet 2, Elevation, Three-Post Installation, Dimension, upper right, was – “.035” is revised to read: “0.35X”

Sheet 1, View A, Dimension @ Bottom of sign, is = 3” is revised to read: 6”.

Sheet 3, TYPICAL TRUSS DETAILS, BASE ~ TOP, callout, was – “15/16”(IN) DIAM. HOLES FOR FOUR, 7/8” (IN) DIAM. BOLTS (ASTM A 325)” is revised to read: “15/16”(IN) DIAM. HOLES FOR FOUR, 7/8” (IN) DIAM. BOLTS (ASTM F3125, GRADE A325)”

TOP VIEW, callout, was – “Vertical Brace ~ W4 x 13 steel (TYP.) (See Note 4)” is revised to read; “Vertical Brace ~ W4 x 13 steel (TYP.) (See Note 3)”

Sheet 2, Detail “B”, Plan View, callout, was – “5/8” DIAM. ASTM A 325 H.S. BOLT W/HEAVY HEX NUT AND WASHER, GALV. (TYP.) TIGHTEN PER STD. SPEC. 6-03.3(33)” is revised to read: “5/8” DIAM. ASTM F 3125, GRADE A325 H.S. BOLT W/HEAVY HEX NUT AND WASHER, GALV. (TYP.) TIGHTEN PER STD. SPEC. 6-03.3(33)”

Sheet 2, Spacing Detail, Mailbox Support Type 1, reference to Standard Plan I-70.10 is revised to H-70.10

8” Diameter Wattle Spacing Table, lower left corner, was –“Slope:1H : 1V, Maximum Spacing:10’ – 0” is revised to read: “Slope:1H : 1V, Maximum Spacing:8’ – 0”.

Note 18, was – “When service cabinet is installed within right of way fence, see Standard Plan J-10.22 for details.” Is revised to read; “When service cabinet is installed within right of way fence, or the meter base is mounted on the exterior of the cabinet, see Standard Plan J-10.22 for details.”
Key Note 1, was – “Meter base per serving utility requirements~ as a minimum, the meter base shall be safety socket box with factory-installed test bypass facility that meets the requirements of EUSERC drawing 305.” Is revised to read; “Meter base per serving utility requirements~ as a minimum, the meter base shall be safety socket box with factory-installed test bypass facility that meets the requirements of EUSERC drawing 305. When the utility requires meter base to be mounted on the side or back of the service cabinet, the meter base enclosure shall be fabricated from type 304 stainless steel.”


Key Note 14, was – “Hinged dead front with ¼ turn fasteners or slide latch.” Is revised to read; “Hinged dead front with ¼ turn fasteners or slide latch. ~ Dead front panel bolts shall not extend into the vertical limits of the breaker array(s).”

Key Note 15, was – “Cabinet Main Bonding Jumper. Buss shall be 4 lug tinned copper. See Cabinet Main bonding Jumper detail, Standard Plan J-3b.” is revised to read; “Cabinet Main Bonding Jumper Assembly ~ Buss shall be 4 lug tinned copper ~ See Standard Plan J-10.20 for Cabinet Main Bonding Jumper Assembly details.”

J-20.10
Add Note 5, “5. One accessible pedestrian signal assembly per pedestrian pushbutton post.”

J-20.11
Sheet 2, Foundation Detail, Elevation, callout – “Type 1 Signal Pole” is revised to read: “Type PS or Type 1 Signal Pole”

Sheet 2, Foundation Detail, Elevation, add note below Title, “(Type 1 Signal Pole Shown)”
Add Note 6, “6. One accessible pedestrian signal assembly per pedestrian pushbutton post.”

J-20.26
Add Note 1, “1. One accessible pedestrian pushbutton station per pedestrian pushbutton post.”

J-20.16
View A, callout, was – LOCK NIPPLE, is revised to read; CHASE NIPPLE

J-21.10
Sheet 1, Elevation View, Round Concrete Foundation Detail, callout – “ANCHOR BOLTS ~ ¾” (IN) x 30” (IN) FULL THREAD ~ THREE REQ’D. PER ASSEMBLY” IS REVISED TO READ: “ANCHOR BOLTS ~ ¾” (IN) x 30” (IN) FULL THREAD ~ FOUR REQ’D. PER ASSEMBLY”

Sheet 1 of 2, Elevation view (Round), add dimension depicting the distance from the top of the foundation to find 2 #4 reinforcing bar shown, to read; 3” CLR. Delete “(TYP.)” from the 2 ½” CLR. dimension, depicting the distance from the bottom of the foundation to find 2 #4 reinf. Bar.

Sheet 1 of 2, Elevation view (Square), add dimension depicting the distance from the top of the foundation to find 1 #4 reinforcing bar shown, to read; 3” CLR. Delete “(TYP.)” from the 2 ½” CLR. dimension, depicting the distance from the bottom of the foundation to find 1 #4 reinf. Bar.

Sheet 2 of 2, Elevation view (Round), add dimension depicting the distance from the top of the foundation to find 2 #4 reinforcing bar shown, to read; 3” CLR. Delete “(TYP.)” from
the 2 ½” CLR. dimension, depicting the distance from the bottom of the foundation to find 2 # 4 reinf. Bar. Sheet 2 of 2, Elevation view (Square), add dimension depicting the distance from the top of the foundation to find 1 #4 reinforcing bar shown, to read; 3” CLR. Delete “(TYP.)” from the 2 ½” CLR. dimension, depicting the distance from the bottom of the foundation to find 1 # 4 reinf. Bar. Detail F, callout, “Heavy Hex Clamping Bolt (TYP.) ~ 3/4” (IN) Diam. Torque Clamping Bolts (see Note 3)” is revised to read; “Heavy Hex Clamping Bolt (TYP.) ~ 3/4” (IN) Diam. Torque Clamping Bolts (see Note 1)” Detail F, callout, “3/4” (IN) x 2’ – 6” Anchor Bolt (TYP.) ~ Four Required (See Note 4)” is revised to read; “3/4” (IN) x 2’ – 6” Anchor Bolt (TYP.) ~ Three Required (See Note 2)” J-21.15 Partial View, callout, was – LOCK NIPPLE ~ 1 ½” DIAM., is revised to read; CHASE NIPPLE ~ 1 ½” (IN) DIAM. J-21.16 Detail A, callout, was – LOCK NIPPLE, is revised to read; CHASE NIPPLE J-22.15 Ramp Meter Signal Standard, elevation, dimension 4’ - 6” is revised to read; 6’-0” (2x) Detail A, callout, was – LOCK NIPPLE ~ 1 ½” DIAM. is revised to read; CHASE NIPPLE ~ 1 ½” (IN) DIAM. J-26.20 Sheet 1, NOTES, Note 5, was - “Connecting/clamping bolts AASHTO M 164 (ASTM A325)” is revised to read: “Connecting/clamping bolts ASTM F3125 GRADE A325” Was - “NUTS AASHTO M 291 (ASTM A263) GRADE DH” is revised to read: “NUTS ASTM A563 GRADE DH” J-28.43 KEY notes, note 1, was – “CLAMPING BOLTS, 7/8” (IN) DIAM. HEX HEAD BOLT AND NUT, TWO PLATE WASHERS, ONE HARDENED ROUND WASHER, 87 FT-LBS TORQUE (THREE CLAMPING BOLT ASSEMBLIES PER SLIP BASE) (PER ASTM A325)” is revised to read: “CLAMPING BOLTS, 7/8” (IN) DIAM. HEX HEAD BOLT AND NUT, TWO PLATE WASHERS, ONE HARDENED ROUND WASHER, 87 FT-LBS TORQUE (THREE CLAMPING BOLT ASSEMBLIES PER SLIP BASE) (PER ASTM F3125 GRADE A325)” J-40.10 Sheet 2 of 2, Detail F, callout, “12 – 13 x 1 ½” S.S. PENTA HEAD BOLT AND 12” S. S. FLAT WASHER” is revised to read; “12 – 13 x 1 ½” S.S. PENTA HEAD BOLT AND 1/2” (IN) S. S. FLAT WASHER” J-60.14 All references to J-16b (6x) are revised to read; J-60.11 K-80.30 In the NARROW BASE, END view, the reference to Std. Plan C-8e is revised to Std. Plan K-80.35
Special Provisions to Standard Specs

The following are the Standard Plan numbers applicable at the time this project was advertised. The date shown with each plan number is the publication approval date shown in the lower right-hand corner of that plan. Standard Plans showing different dates shall not be used in this contract.

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City of Fife
Port of Tacoma Road Interchange – Phase 1
Special Provisions to Standard Specs – Conformed

Fed Aid No.STPUL-9927(056)
April 2018
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City of Fife
Port of Tacoma Road Interchange – Phase 1
Special Provisions to Standard Specs – Conformed

Fed Aid No.STPUL-9927(056)        April 2018
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