Set No. ________
Specifications, Proposal, and Contract Documents for:

TOTEM LAKE CONNECTOR BRIDGE

(NE 124<sup>th</sup> St/124<sup>th</sup> Ave NE Pedestrian Bridge (Totem lake Non-Motorized Bridge))

Job No. XX-XX-XX

City of Kirkland
Department of Public Works
123 Fifth Avenue
Kirkland, Washington 98033
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<th>Section</th>
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<td>Invitation to Bid</td>
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<tr>
<td>General Information, Proposal &amp; Contract</td>
<td>White</td>
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<tr>
<td>Amendments to the Standard Specifications</td>
<td>Pink</td>
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<tr>
<td>Special Provisions</td>
<td>Blue</td>
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<tr>
<td>Prevailing Wage Rates</td>
<td>Yellow</td>
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<tr>
<td>Appendix A: Plans (Under Separate Cover)</td>
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<td>Appendix B: Pre-Approved Plans</td>
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<td>Appendix C: Permits</td>
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GENERAL INFORMATION,
PROPOSAL,
& CONTRACT
# CITY OF KIRKLAND

## TABLE OF CONTENTS – PROPOSAL

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information for Bidders</td>
<td>2</td>
</tr>
<tr>
<td>Bidder Responsibility Criteria</td>
<td>4</td>
</tr>
<tr>
<td>Subcontractor Responsibility Criteria</td>
<td>5</td>
</tr>
<tr>
<td>Bid Proposal</td>
<td>6</td>
</tr>
<tr>
<td>Bid Schedule</td>
<td>9</td>
</tr>
<tr>
<td>Bid Deposit</td>
<td>10</td>
</tr>
<tr>
<td>Bid Bond</td>
<td>11</td>
</tr>
<tr>
<td>Non-collusion Affidavit</td>
<td>12</td>
</tr>
<tr>
<td>Statement of Bidder's Qualifications</td>
<td>13</td>
</tr>
<tr>
<td>Subcontractor Identification for Contracts Estimated to be in Excess of One Million Dollars ($1,000,000)</td>
<td>14</td>
</tr>
<tr>
<td>Subcontractor Identification</td>
<td>15</td>
</tr>
<tr>
<td>Bidder's Checklist</td>
<td>16</td>
</tr>
</tbody>
</table>
Bidders must bid on all items contained in the proposal. The omission or deletion of any bid item will be considered non-responsive and shall be cause for rejection of the bid.

Submit your proposal on the Bid Proposal and other forms which are enclosed, or make a copy of the required forms and submit these documents.

**The following forms must be executed in full with submittal of the bid:**

1. **BIDDER RESPONSIBILITY CRITERIA CHECKLIST**
2. **SUBCONTRACTOR RESPONSIBILITY CRITERIA CHECKLIST**
3. **PROPOSAL**
   - The lump sum or unit prices must be shown in the spaces provided on the bid schedule.
   - Show total bid price in both words and figures on the Proposal.
   - The Proposal form must be completed in full, signed and dated.
4. **BID BOND**
   - A surety issued bid bond must be executed by the bidder and its surety company. The amount of the bid bond shall be not less than five percent (5%) of the total amount bid and may be shown in dollars or on a percentage basis. (A cashier’s check payable to the City of Kirkland and issued for an amount not less than 5% of the total bid may be submitted in lieu of a bid bond.)
5. **NONCOLLUSION AFFIDAVIT - Notarized**
6. **STATEMENT OF BIDDER’S QUALIFICATIONS**
   - This form must be filled in and signed. The owner reserves the right to check all statements and to judge the adequacy of the bidder's qualifications.
7. **SUBCONTRACTOR IDENTIFICATION LIST**
   - This form must be completed for HVAC, plumbing, and electrical subcontractors if the estimate exceeds $1,000,000.

**The following forms are to be executed after the contract is awarded:**

1. **CONTRACT**
   - This agreement is to be executed by the successful bidder.
2. **PERFORMANCE AND PAYMENT BOND**
   - To be executed by the successful bidder and its surety company.
3. **CONTRACTOR’S DECLARATION OF OPTION FOR MANAGEMENT OF STATUTORY RETAINED PERCENTAGE; RETAINED PERCENTAGE ESCROW AGREEMENT**
   - To be executed by the successful bidder based on bidder’s selection of option.
4. **CERTIFICATES OF INSURANCE**
   - To be executed by the successful bidder and by an acceptable insurance company. The City of Kirkland must be named as an additional insured.
5. **STATEMENT(S) OF INTENT TO PAY PREVAILING WAGES**
   - Affidavit certifying all employees of Contractor and Subcontractor shall be paid no less than the Prevailing Wage Rate(s) as determined by the Industrial Statistician of the Washington State Department of Labor and Industries.

**SPECIAL NOTE:** Prior to commencing work, the contractor and all subcontractors must have applied and paid for a City of Kirkland business license.
CITY OF KIRKLAND
Bidder Responsibility Criteria

It is the intent of City to award a contract to the low responsible bidder. Before award, the bidder must meet the following bidder responsibility criteria to be considered a responsible bidder. The bidder may be required by the City to submit documentation demonstrating compliance with the criteria. The bidder must:

1. Have a current certificate of registration as a contractor in compliance with chapter 18.27 RCW, which must have been in effect at the time of bid submittal;
   □ 2. Have a current Washington Unified Business Identifier (UBI) number;
   □ 3. Have:
   Industrial Insurance (workers’ compensation) coverage for the bidder’s employees working in Washington, as required in Title 51 RCW;
   A Washington Employment Security Department number, as required in Title 50 RCW;
   A Washington Department of Revenue state excise tax registration number, as required in Title 82 RCW;
   □ 4. Not be disqualified from bidding on any public works contract under RCW 39.06.010 or 39.12.065(3). **Meet responsibility criteria in RCW 39.04.350**
   □ 5. Until December 31, 2017, not have violated more than one time the off-site, prefabricated, non-standard, project specific items reporting requirements of RCW 39.04.370.
   □ 6. For public works projects subject to the apprenticeship utilization requirements of RCW 39.04.320, not have been found out of compliance by the Washington state apprenticeship and training council for working apprentices out of ratio, without appropriate supervision, or outside their approved work processes as outlined in their standards of apprenticeship under chapter 49.04 RCW for the one-year period immediately preceding the first date of advertising for the project.

CITY OF KIRKLAND
Subcontractor Responsibility Criteria
□ A. The Contractor shall include the language of this section in each of its first tier subcontracts, and shall require each of its subcontractors to include the same language of this section in each of their subcontracts, adjusting only as necessary the terms used for the contracting parties. Upon request of the Owner, the Contractor shall promptly provide documentation to the Owner demonstrating that the subcontractor meets the subcontractor responsibility criteria below. The requirements of this section apply to all subcontractors regardless of tier.

□ B. At the time of subcontract execution, the Contractor shall verify that each of its first tier subcontractors meets the following bidder responsibility criteria:

□ 1. Have a current certificate of registration in compliance with chapter 18.27 RCW, which must have been in effect at the time of subcontract bid submittal;

□ 2. Have a current Washington Unified Business Identifier (UBI) number;

□ 3. Have:
Industrial Insurance (workers’ compensation) coverage for the subcontractor’s employees working in Washington, as required in Title 51 RC
A Washington Employment Security Department number, as required in Title 50 RCW;
A Washington Department of Revenue state excise tax registration number, as required in Title 82 RCW;
An electrical contractor license, if required by Chapter 19.28 RCW;
An elevator contractor license, if required by Chapter 70.87 RCW.

□ 4. Not be disqualified from bidding on any public works contract under RCW 39.06.010 or 39.12.065 (3). **Meet responsibility criteria in RCW 39.04.350**

□ 5. Until December 31, 2017, not have violated more than one time the off-site, prefabricated, non-standard, project specific items reporting requirements of RCW 39.04.370.

□ 6. For public works projects subject to the apprenticeship utilization requirements of RCW 39.04.320, not have been found out of compliance by the Washington state apprenticeship and training council for working apprentices out of ratio, without appropriate supervision, or outside their approved work processes as outlined in their standards of apprenticeship under chapter 49.04 RCW for the one-year period immediately preceding the first date of advertising for the project.
CITY OF KIRKLAND
BID PROPOSAL

PROJECT TITLE
CIP NO.
JOB NO. XX-XX-XX

To: Director of Finance
    City of Kirkland
    123 Fifth Avenue
    Kirkland, Washington 98033

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

The bidder further declares that it has carefully examined the contract documents for the construction of the project; that it has personally inspected the site; that it has satisfied itself as to the quantities involved, including materials and equipment and conditions of work involved, including the fact that the description of the quantities of work materials, as included herein, is brief and is intended only to indicate the general nature of the work and to identify the said quantities with the detailed requirements of the contract documents; and that this proposal is made according to the provisions and under the terms of the contract documents, which documents are hereby made a part of this proposal.

The bidder further agrees that it has exercised its own judgment regarding the interpretation of subsurface information and has utilized all data which it believes pertinent from the engineer-architect, owner, and other sources in arriving at its conclusions.

The bidder agrees to hold its bid proposal open for 45 days after the actual date of bid opening and to accept the provisions of the Instructions to Bidders regarding disposition of bid bond.

The bidder agrees that if this proposal is accepted, it will, within ten (10) calendar days after notification of acceptance, execute the contract with the Owner in the form of contract included in the contract documents, and will, at the time of execution of the contract, deliver to the Owner the Performance and Payment Bond and all Certificates of Insurance required therein, and will, to the extent of its proposals, furnish all machinery, tools, apparatus, and other means of construction and do the work in the manner, in the time, and according to the methods as specified in the contract documents and required by the engineer or other project manager designated thereunder.

The bidder further agrees, if awarded the contract, to begin work within ten (10) calendar days after the date of the execution of the contract and to complete the construction within the time specified in Section 1-08.5 of the Special Provisions.

In the event the bidder is awarded the contract and shall fail to complete the work within the time limit or extended time limit agreed upon as more particularly set forth in the contract documents,
liquidated damages shall be paid to the Owner per the specifications contained in the contract documents.

The bidder further proposes to accept as full payment for the work proposed herein, the amounts computed under the provisions of the contract documents and based upon the lump sum and unit price amounts entered by the bidder for the various bid items included in the Bid Schedule. The bidder further agrees the lump sum and unit prices entered for the various bid items included in the Bid Schedule include all use taxes, overhead, profit, bond premiums, insurance premiums and all other miscellaneous and incidental expenses as well as all costs of materials, labor, tools and equipment required to perform and complete the work.

Within the three-year period immediately preceding the date of the bid solicitation for this Project, bidder has not been determined by a final and binding citation and notice of assessment issued by the department of labor and industries or through a civil judgment entered by a court of limited or general jurisdiction to have willfully violated, as defined in RCW 49.48.082, any provision of chapter 49.46, 49.48, or 49.52 RCW.

The undersigned bids and agrees to complete all construction of the PROJECT TITLE; JOB NO. XX-XX-XX for the following:

| Total Computed Price (in figures): | $___________ |
| Washington State Sales Tax 10% (in figures): | $___________ |
| Total Bid (in figures): | $___________ |
| Total Bid (in words): | ________________________________________________ |

Receipt of Addenda No(s). ________________ is hereby acknowledged.

I certify (or declare) under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct:

CONTRACTOR (Firm Name) Location or Place Executed: (City, State)

By ________________________________ Name and title of person signing

(Indicate whether Contractor is Partnership, Corporation, or Sole Proprietorship)

______________________________ Date

______________________________
Washington State Contractor's Registration Number

Contractor's Industrial Insurance Account Number

Employment Security Identification Number

Uniform Business Identification (UBI) Number

Contractor's Address:

___________________________________

Telephone Number

___________________________________

Fax Number

___________________________________

EMAIL

** Bid proposal to be submitted in a sealed envelope marked "Bid Enclosed" for JOB TITLE, JOB NO. XX-XX-XX.**
CITY OF KIRKLAND
BID SCHEDULE

Note: Unit prices for all items, all extensions, and the total amount of the bid must be shown. All entries must be typed or entered in ink.

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item Description</th>
<th>Spec Ref.</th>
<th>Est. Qty.</th>
<th>Unit</th>
<th>Unit Price</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mobilization</td>
<td>1-09</td>
<td>1</td>
<td>LS</td>
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<td>2</td>
<td>Construction Surveying</td>
<td>1-05</td>
<td>1</td>
<td>LS</td>
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<tr>
<td>3</td>
<td>Temporary Erosion and Sedimentation Control</td>
<td>8-01</td>
<td>1</td>
<td>FA</td>
<td>$10,000</td>
<td>$10,000</td>
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<td>4</td>
<td>Traffic Control Labor</td>
<td>1-10</td>
<td>1250</td>
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<td>5</td>
<td>Minor Change</td>
<td>1-04</td>
<td>1</td>
<td>FA</td>
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BID DEPOSIT

TOTAL COMPUTED PRICE: $__________________________

Herewith find deposit in the form of a cashier’s check or certified check in the amount of $__________________________ which amount is not less than five percent (5%) of the total bid.

SIGN

HERE__________________________
BID BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, ________________________________________, as Principal, and ________________________________________, as Surety, are held and firmly bound unto the City of Kirkland, as Obligee, in the penal sum of ________________________________________ dollars, for the payment of which the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, by these presents.

The condition of this obligation is such that if the Obligee shall make any award to the Principal for

______________________________

Project Name 

Number

according to the terms of the proposal or bid made by the Principal therefor, and the Principal shall duly make and enter into a contract with the Obligee in accordance with the terms of said proposal or bid and award and shall give bond for faithful performance thereof, with Surety or Sureties approved by the Obligee; or if the Principal shall, in case of failure to do so, pay and forfeit to the Obligee the penal amount of the deposit specified in the call for bids, then this obligation shall be null and void; otherwise it shall be and remain in full force and effect and the Surety shall forthwith pay and forfeit to the Obligee, as penalty and liquidated damages, the amount of this bond.

SIGNED, SEALED AND DATED THIS ___________ DAY OF ____________, 20______.

PRINCIPAL: ________________________________

SURETY: ________________________________

Note: If a Bid Bond is provided, it must be accompanied by a power of attorney which appoints the Surety’s true and lawful attorney-in-fact to make, execute, seal and deliver this Bid Bond.
CITY OF KIRKLAND
NONCOLLUSION AFFIDAVIT

PROJECT TITLE
CIP NO.
JOB NO. XX-XX-XX

STATE OF WASHINGTON  )
COUNTY OF KING  ) SS

The undersigned, being duly sworn, on oath deposes and says that the person(s), firm,
association, partnership or corporation herein named has 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.

Firm Name

Authorized Signature

Type Name

Title

Sworn to before me, this _____ day of __________________________, 20__.

Notary Public in and for the State of Washington
Residing at __
My Commission Expires ____

NOTICE TO ALL BIDDERS

To report bid 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., ET. 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.
CITY OF KIRKLAND

STATEMENT OF BIDDER’S QUALIFICATIONS

Contractor Name: __________________________ Contact: __________________________
Business Address: __________________________
Business phone: __________________________ Fax: __________________________
Number of years the Contractor has been engaged in the construction business under the present firm name: ______
Describe the general character of work performed by your company: ______

List five projects of a similar nature which Contractor has completed within the last 10 years. Include contract amount and contact information for references:

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Amount</th>
<th>Owner/Agency</th>
<th>Contact</th>
<th>Phone</th>
<th>Year Completed</th>
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</table>

List major equipment anticipated to be used on this project; indicate whether Contractor-owned or to be leased from others: __________________________

______________________________

Bank reference(s): __________________________

Washington State Contractor Registration No.: __________________________

Uniform Business Identification No.: __________________________

I certify that other contracts now in progress or hereafter obtained will not interfere with timely performance of the City of Kirkland project should I become the successful bidder.

Authorized Signature: __________________________

Print Name: __________________________

Title: __________________________
CITY OF KIRKLAND
SUBCONTRACTOR IDENTIFICATION FOR CONTRACTS ESTIMATED TO BE IN EXCESS OF ONE MILLION DOLLARS ($1,000,000.00)

RCW 39.30.060 requires the following:

“Every invitation to bid on a prime contract that is expected to cost one million dollars or more for the construction, alteration, or repair of any public building or public work of the state or a state agency or municipality as defined under RCW 39.04.010 … shall require each prime contract bidder to submit as part of the bid, or within one hour after the published bid submittal time [see note below], the names of the subcontractors with whom the bidder, if awarded the contract, will subcontract for performance of the work of: HVAC (heating, ventilation, and air conditioning); plumbing as described in chapter 18.106 RCW; and electrical as described in chapter 19.28 RCW, or to name itself for the work. The prime contract bidder shall not list more than one subcontractor for each category of work identified, unless subcontractors vary with bid alternates, in which case the prime contract bidder must indicate which subcontractor will be used for which alternate. Failure of the prime contract bidder to submit as part of the bid the names of such subcontractors or to name itself to perform such work or the naming of two or more subcontractors to perform the same work shall render the prime contract bidder’s bid non-responsive and, therefore, void.”

NOTE: The City of Kirkland has elected not to allow bidders to submit the information required by RCW 39.30.060 after the published bid submittal time. A proposal will be considered irregular and will be rejected if the bidder does not provide the above list as part of its proposal when submitting its bid.

Each bidder shall submit a list of:

1. HVAC, plumbing, and electrical subcontractors; and

2. The specific items of work those subcontractors will perform on the contract; and

3. The specific items of work that will be performed by the bidder on the contract.
PROPOSAL

CITY OF KIRKLAND
SUBCONTRACTOR IDENTIFICATION LIST

*REQUIRED IF ESTIMATE AMOUNT EXCEEDS $1,000,000 *(Reference RCW 39.30.060 RCW)*

Proposed Subcontractors and items of work to be performed:
Subcontractor Name: ____________________________________________
Item Numbers: __________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
Subcontractor Name: ____________________________________________
Item Numbers: __________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
Subcontractor Name: ____________________________________________
Item Numbers: __________________________________________________
_________________________________________________________________
_________________________________________________________________
Subcontractor Name: ____________________________________________
Item Numbers: __________________________________________________
_________________________________________________________________

- make additional pages if necessary -

Work to be performed by Prime Contractor:
Item Numbers: __________________________________________________
_________________________________________________________________
_________________________________________________________________

CITY OF KIRKLAND
**BIDDER'S CHECKLIST**

1. Have you reviewed the Bidder Responsibility and Subcontractor Responsibility Criteria?
2. Have you enclosed a bid bond or certified check with your bid? (Must be at least 5% of the total amount bid)
3. Have you entered a bid amount for all items and all schedules?
4. Do the written amounts of the proposal agree with the amounts shown in the figures?
5. Have you acknowledged receipt of addenda?
6. Has the proposal been properly completed and signed?
7. Have you completed the Statement of Bidder's Qualifications?
8. Have you completed the City of Kirkland Non-collusion Affidavit?
9. Have you completed the Subcontractor Identification List? (This is to be completed for HVAC, plumbing, and electrical subcontractors if the estimate amount exceeds $1,000,000.)
10. Bid proposal to be submitted in a sealed envelope marked "Bid Enclosed" for:
<table>
<thead>
<tr>
<th>Document</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract</td>
<td>1</td>
</tr>
<tr>
<td>Performance and Payment Bond</td>
<td>4</td>
</tr>
<tr>
<td>Labor and Material Payment Bond</td>
<td>5</td>
</tr>
<tr>
<td>Contractor's Declaration of Option for Management of Statutory Retained Percentage</td>
<td>7</td>
</tr>
<tr>
<td>Retainage Bond</td>
<td>8</td>
</tr>
<tr>
<td>Retained Percentage Escrow Agreement</td>
<td>9</td>
</tr>
<tr>
<td>Retainage Release Requirements</td>
<td>12</td>
</tr>
</tbody>
</table>
CITY OF KIRKLAND
PUBLIC WORKS AGREEMENT
PROJECT NAME
JOB NO. XX-XX-XX

This agreement is made and entered into this _____ day of ____________, 20____, by and between CONTRACTOR NAME, hereinafter called the "Contractor" and the City of Kirkland, hereinafter called the "Owner."

W I T N E S S E T H:

Whereas, pursuant to the invitation of the Owner extended through an officially published "Invitation to Bid," the Contractor did, in accordance therewith, file with the Owner a proposal containing an offer which was invited by said notice, and

Whereas, the Owner has heretofore determined that said offer was the lowest responsible bid submitted; now, therefore, it is agreed:

Section 1. That Contractor shall comply in every way with the requirements of those certain specifications entitled: "PROJECT NAME, Job No. XX-XX-XX"

The further terms, conditions and covenants of the contract are set forth in the following contract documents which are hereby made a part of this agreement by actual attachment or by this reference thereto as follows:

A. Any Invitation to Bid, as published by the Owner.
B. Any Specifications prepared for this project by the Owner and named above by title.
C. Any detailed Plans listed and described in said Specifications, together with those which may be issued as supplements thereof.
D. The bid proposals submitted by the Contractor as to those items and/or alternatives accepted by the Owner.
E. Any change orders, additions or deletions, if any, issued by the Owner.

Section 2. In consideration of faithful compliance with the terms and conditions of this agreement, whether set forth herein or incorporated by reference, the Owner shall pay to the Contractor, at the times and in the manner provided in said specifications, the total sum of ______________________ dollars ($__________) which sum is subject, however, to increase or decrease in such proportion as the quantities named in said proposal are so changed, all as in said specifications and proposal provided.

In witness whereof, said Contractor and said Owner have caused this agreement to be executed on the day and year first written above.

CONTRACTOR (Firm Name)

______________________________
Signature of authorized officer

______________________________
Name and title of officer (print or type)
INFORMATIONAL

WA Contractor's Registration Number

Industrial Insurance Account Number

Uniform Business Identification (UBI) Number

Phone Number

(For corporations, LLC’s and other legal entities)

STATE OF WASHINGTON

) SS

COUNTY OF KING

)

On this day before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared ________________________________, to me known to be the _______________________ of ______________________, the legal entity that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said legal entity, for the uses and purposes therein set forth, and on oath stated that he/she was authorized to sign said instrument.

Given under my hand and official seal this ______ day of ________________, 2____.

________________________________
Print Name: ________________________
NOTARY PUBLIC in and for the State of Washington, residing __________
Commission expires:  __________

(For individuals and d/b/a’s)

STATE OF WASHINGTON

) SS

COUNTY OF KING

)

On this day before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared _________________________________ and _______________________________ to me known to be the individual(s) described herein and who executed the foregoing instrument, and acknowledged that he/she/they signed the same as his/her/their free and voluntary act and deed, for the uses and purposes therein mentioned.

Given under my hand and official seal this _____ day of ________________, 2____.

________________________________
Print Name: ________________________
NOTARY PUBLIC in and for the State of Washington, residing __________
Commission expires:  _________

CITY OF KIRKLAND

BY: __
INFORMATIONAL

Tracey Dunlap, Deputy City Manager

PERFORMANCE BOND

Surety to have an A.M. Best rating of A-:VII or better.

Bond No. ___________________________

KNOW ALL PERSONS BY THESE PRESENTS, that CONTRACTOR NAME, as Principal, and _____________________________, (insert name of surety), as Surety, a corporation duly organized under the laws of the State of ________________________, (insert name of principal), a corporation duly organized under the laws of the State of Washington, are held and firmly bound unto the City of Kirkland (City) in the sum of _____________________________ dollars ($_____________), lawful money of the United States of America, plus the total amount of extra orders issued by the City to the Principal pursuant to the terms of the Contract referred to in the next succeeding paragraph hereof, for the payment whereof Principal and Surety bind ourselves, and our heirs, executors, administrators, representatives, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has been awarded, and is about to enter into, a written Contract with the City for PROJECT NAME, Job #XX-XX-XX, which is hereby made a part of this bond as if fully set forth herein;

NOW, THEREFORE, the condition of this bond is such that:

1. If the Principal shall completely and faithfully perform all of its obligations under the Contract, including any warranties required thereunder, and all modifications, amendments, additions, and alterations thereto, including modifications which increase the contract price or time for completion, with or without notice to the surety; and

2. If the Principal shall indemnify and hold the City harmless from any and all losses, liability, damages, claims, judgments, liens, costs, and fees of any type that the City may be subject to because of the failure or default of the Principal in the performance of any of the terms, conditions, or obligations of the Contract, including all modifications, amendments, additions, and alterations thereto, and any warranties required thereunder;

THEN THIS obligation shall be null and void; otherwise to remain in full force and effect. If the City shall declare Principal to be in default of the Contract, and shall so notify Surety, Surety shall, within a reasonable time which shall not exceed 14 days, except for good cause shown, notify the City in writing of the manner in which surety will satisfy its obligations under this Bond.

Nonpayment of the Bond premium will not invalidate this Bond nor shall the City be obligated for the payment thereof. The Surety hereby waives notice of any modification of the Contract or extension of time made by the City.

Signed this __________ day of ________________________, 2____.

Principal: ____________________________     Surety: ____________________________

By: ____________________________     By: ____________________________

Title: ____________________________     Title: ____________________________

Address: ____________________________     Address: ____________________________

City/Zip: ____________________________     City/Zip: ____________________________

Telephone: ____________________________     Telephone: ____________________________

Note: A power of attorney must be provided which appoints the Surety's true and lawful attorney-in-fact to make, execute, seal and deliver this performance bond.
INFORMATIONAL

LABOR, MATERIAL and taxes PAYMENT BOND
Surety to have an A.M. Best rating of A-:VII or better.

Bond No. _______________________________________

KNOW ALL PERSONS BY THESE PRESENTS, that, **CONTRACTOR NAME**, as Principal, and
_________________________________________, (insert name of surety), as Surety, a
corporation duly organized under the laws of the State of __________________ (insert Surety's
state of incorporation), and authorized to do business as a surety in the State of Washington, are
held and firmly bound unto the City of Kirkland (City) for the use and benefit of claimants as
hereinafter defined, in the sum of __________________________ Dollars ($__________),
lawful money of the United States of America, plus the total amount of any
extra orders issued by the City, for the payment whereof Principal and Surety bind themselves,
their heirs, executors, administrators, representatives, successors, and assigns, jointly and
severally, firmly by these presents.

WHEREAS, Principal has been awarded, and is about to enter into, a Contract with City of Kirkland
for **PROJECT NAME**, Job #XX-XX-XX, which contract is by this reference made a part hereof;
WHEREAS, the contract is a public works contract,
subject to the provisions of RCW Titles 39 and
60;

NOW, THEREFORE, the conditions of this obligation are such that, if the Principal shall promptly
make payment to all claimants as hereinafter defined, for (a) all labor and material used or
reasonably required for use in the performance of the contract and (b) all taxes, increases, and
penalties incurred on the above-referenced contract under Titles 50, 51, and 82 RCW which may
be due, then this obligation shall be void; otherwise, it shall remain in full force and effect, subject,
however, to the following conditions: A claimant is defined as and includes (a) a person claiming
to have supplied labor or materials for the prosecution of the work provided for in the contract,
including any person having direct contractual relationship with the contractor furnishing the bond
or direct contractual relationship with any subcontractor, or an assignee of such person, (b) the
state with respect to taxes incurred on the above-referenced contract under Titles 50, 51, and 82
RCW which may be due and (c) any other person or entity as allowed or required by law.
The Principal and Surety hereby jointly and severally agree with the City that every claimant as
herein defined, who has not been paid in full prior to Final Acceptance of the project, or materials
were furnished by such claimant, has an action on this bond for such sum or sums as may be
justly due claimant, and may have execution thereon. The City shall not be liable for the payment
of any costs or expenses of any such suit or action.

(Form continues on next page)

No suit or action shall be commenced hereunder by any claimant (except the state with respect
to taxes, increases, and penalties incurred on the above-referenced contract under Titles 50, 51,
and 82 RCW which may be due) unless the claimant has sent the written notice required under
RCW Title 39 to the Principal and to the City’s Purchasing Agent by registered or certified mail, or
by hand delivery, no later than 30 days after Final Acceptance of the Project.
The amount of this bond shall be reduced by and to the extent of any payment or payments
made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may
be filed of record against the improvement, whether or not claim for the amount of such lien be presented under and against this bond. The Surety hereby waives notice of any modification of the contract or extension of time made by the City. Signed this ___________ day of ____________________, 2______

Principal: ___________________________ Surety: ___________________________

By: ___________________________ By: ___________________________

Title: ___________________________ Title: ___________________________

Address: ___________________________ Address: ___________________________

City/Zip: ___________________________ City/Zip: ___________________________

Telephone: ( ) __________________ Telephone: ( ) __________________

Note: A power of attorney must be provided which appoints the Surety’s true and lawful attorney-in-fact to make, execute, seal and deliver this performance bond.

END OF LABOR, MATERIAL AND TAXES PAYMENT BOND FORM

CITY OF KIRKLAND

CONTRACTOR'S DECLARATION OF OPTION FOR MANAGEMENT OF STATUTORY RETAINED PERCENTAGE

JOB TITLE

JOB NO. XX-XX-XX

Monies reserved under provisions of Chapter 60.28 RCW, at the option of the Contractor, shall be:

Select One

[ ] (1) Retained in a fund by the City. No interest will be earned on the retained percentage amount under this election.

[ ] (2) Retainage Bond
(3) Placed in escrow with a bank or trust company by the City. When the monies reserved are to be placed in escrow, the City will issue a check representing the sum of the monies reserved payable to the bank or trust company and the Contractor jointly. Such check shall be converted into bonds and securities chosen by the Contractor and approved by the City and the bonds and securities held in escrow. (For the convenience of those Contractors choosing option (3) a City approved Form of Escrow Agreement is included on the next page and should be completed and submitted with the executed contract.)

The Contractor in choosing option (3) agrees to assume full responsibility to pay all costs which may accrue from escrow services, brokerage charges or both, and further agrees to assume all risks in connection with the investment of the retained percentages in securities.

(4) Deposited by the City in an interest-bearing account at the FDIC insured bank currently providing contracted banking services to the City of Kirkland. Interest on such account shall be paid to the contractor. Any fees incurred shall be the responsibility of the contractor.

CONTRACTOR:

Signature: ___

Print or Type Name: _

Title: _

Date: _

RETAINAGE BOND
RETURN THIS FORM IF RETAINAGE BOND OPTION IS SELECTED

<table>
<thead>
<tr>
<th>Contract Title</th>
<th>___________________________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract Number</td>
<td>___________________________________</td>
</tr>
<tr>
<td>Contractor Name</td>
<td>___________________________________</td>
</tr>
</tbody>
</table>

The Undersigned, ______________________________________, existing under and by virtue of the laws of the State of Washington and authorized to do business in the State of Washington as Principal, and __________________________________________ organized and existing under the laws of the State of__________ and authorized to transact business in the State of Washington as Surety, are jointly and severally held and bound unto________________, hereinafter called Obligee, and are similarly held and bound unto the beneficiaries of the trust fund created by RCW 60.28, in the penal sum of ($______________), Which is 5% of the principal’s price on Contract ID______________.

WHEREAS, on the _____________ day of __________, 2____, the said principal herein executed a contract with the Obligee, for the Contract specified above, Contract ID Number_______.

______________________________________
WHEREAS, said contract and RCW 60.28 require the Obligee to withhold from the Principal the sum of ___% from monies earned on estimates during the progress of the construction, herein after referred to as earned retained funds.

NOW WHEREAS, Principal has requested that the Obligee not retain any earned retained funds as allowed under RCW 60.28.

NOW THEREFORE, the condition of the obligation is such that the Principal and Surety are held and bound unto the beneficiaries of the trust fund created by RCW 60.28 in the penal sum of ______ percent (___%) of the final contract cost which shall include any increases due to change orders, increases in quantities of work or the addition of any new item of work. If the Principal shall use the earned retained funds, which will not be retained, for the trust fund purposes of RCW 60.28, then this obligation shall be null and void; otherwise, it shall remain in full force and effect until release is authorized in writing by the Obligee. This bond and any proceeds therefrom shall be made subject to all claims and liens and in the same manner and priority as set forth for retained percentages in RCW 60.28.

PROVIDED HOWEVER, that:
The liability of the surety under this bond shall not exceed 5% or 50% of the total amount earned by the Principal if no monies are retained by the Obligee on estimates during the progress of construction. Any suit under this bond must be instituted within the time provided by applicable law.

Witness our hands this ______ day of ____________, 2____.

SURETY

By: ___________________________  By: ___________________________
Name/Title

OF: ___________________________

Surety Name and Local Office of Agent: ________________________________

Surety Address and Phone of Local Office and Agent: ________________________________

_________ ___________________________

CITY OF KIRKLAND

RETAINED PERCENTAGE ESCROW AGREEMENT

JOB TITLE

JOB NO. XX-XX-XX

Escrow No. __

City of Kirkland
123 Fifth Avenue
Kirkland, Washington 98033

Contractor: __________
Address: __________

Project Description: ________

__________________________
TO: Escrow Bank or Trust Company:

Name: 
Address: 
Attention: 

The undersigned, _____________________________________________, herein referred to as the Contractor, has directed the City of Kirkland to deliver to you its warrants, which shall be payable to you and the Contractor jointly. Such warrants are to be held and disposed of by you in accordance with the following instructions and upon the terms and conditions hereinafter set forth.

INSTRUCTIONS

1. Warrants or checks made payable to you and the Contractor jointly upon delivery to you shall be endorsed by you and forwarded for collection. The moneys will then be used by you to purchase, as directed by the Contractor, bonds or other securities chosen by the Contractor and approved by the City of Kirkland. Attached is a list of such bonds, or other securities approved by the City of Kirkland. Other bonds or securities, except stocks, may be selected by the Contractor, subject to the express written approval of the City of Kirkland. Purchase of such bonds or other securities shall be in a form which shall allow you alone to reconvert such bonds or other securities into money if you are required to do so at the direction of the City of Kirkland and Contractor.

2. When and as interest on the securities held by you pursuant to this agreement accrues and is paid, you shall collect such interest and forward it to the Contractor at its address designated below unless otherwise directed by the Contractor.

3. You are not authorized to deliver to the Contractor all or any part of the securities held by you pursuant to this agreement (or any moneys derived from the sale of such securities, or the negotiation of the City of Kirkland’s warrants) except in accordance with written instructions from the City of Kirkland. Compliance with such instructions shall relieve you of any further liability related thereto. The estimated completion date on the contract underlying this Escrow Agreement is ____________________________.

4. The Contractor agrees to pay you as compensation for your services hereunder as follows:

Payment of all fees shall be the sole responsibility of the Contractor and shall not be deducted from any property placed with you pursuant to this agreement until and unless the City of Kirkland directs the release to the Contractor of the securities and moneys held hereunder whereupon you shall be granted a first lien upon such property released and shall be entitled to reimburse yourself from such property for the entire amount of your fees as provided for hereinabove. In the event that you are made a party to any litigation with respect to the property held by you hereunder, or in the event that the conditions of this escrow are not promptly fulfilled or that you are required to render any service not provided for in these instructions, or that there is any assignment of the interests of this escrow or any modification hereof, you shall be entitled to reasonable compensation for such extraordinary services from the Contractor and reimbursement from the Contractor for all costs and expenses, including attorneys fees occasioned by such default, delay, controversy, or litigation.
5. This agreement shall not be binding until executed by the Contractor and the City of Kirkland and accepted by you.

6. This instrument contains the entire agreement between you, the Contractor and the City of Kirkland, with respect to this escrow and you are not a part nor bound by any instrument or agreement other than this; you shall not be required to take notice of any default or any other matter nor be bound by nor required to give notice or demand, nor required to take any action whatever, except as herein expressly provided; you shall not be liable for any loss or damage not caused by your own negligence or willful misconduct.

7. The foregoing provisions shall be binding upon the assigns, successors, personal representatives, and heirs of the parties hereto.

8. The Contractor’s Federal Income Tax Identification number is ____________________________.

** Please note: Written release will be issued by the Director of Finance & Administration. For further information, contact the Purchasing Agent at (425) 587-3123.
The undersigned have read and hereby approve the instructions as given above governing the administration of this escrow and do hereby execute this agreement on this _____ day of ______________________, 2____.

CONTRACTOR: CITY OF KIRKLAND:

By: ____________________________ By: ____________________________
   Signature                      Signature
   ____________________________  ____________________________
   Print or Type Name             Print or Type Name
   ____________________________  ____________________________
   Title                         Title

Address: ____________________________ 123 Fifth Avenue
          ____________________________ Kirkland, Washington  98033

The above escrow instructions received and accepted this _____ day of ______________________, 2____.

ESCROW BANK OR TRUST CO:

________________________

By: ____________________________
   Authorized Signature
   ____________________________
   Print or Type Name
   ____________________________
   Title

Securities Authorized by City of Kirkland (select one):

1. Bills, certificates, notes or bonds of the United States;
2. Other obligations of the United States or its agencies;
3. Obligations of any corporation wholly-owned by the government of the United States;
4. Indebtedness of the Federal National Mortgage Association; and
5. Time deposits in commercial banks.

RETURN THIS SIGNED AGREEMENT TO:

City of Kirkland
Attn: Purchasing Agent
123 Fifth Avenue
Kirkland, Washington  98033
CITY OF KIRKLAND
RETAINAGE RELEASE REQUIREMENTS

DOCUMENTS REQUIRED TO BE ON FILE PRIOR TO RELEASE OF RETAINAGE

1. Intent to Pay Prevailing Wage (Contractor must generation including for subcontractors)
   Department of Labor/Industries
   Employment Standards Division
   General Administration Building
   Olympia, Washington  98504
   (360) 956-5335

2. Notice of Completion of Public Works Contract (City generates)
   Department of Revenue
   Excise Tax Division
   Olympia, Washington  98504

3. Affidavit of Wages Paid (Contractor must generate including for subcontractors)
   Department of Labor/Industries

4. Certificate of Release - State Excise Tax by Public Works Contractor (Letter from State to City)
   Department of Revenue
   Department of Labor and Industries
   Employment Security Department

Receipt for Payment in full or Release of Lien signed by Lien Claimant and filed with City
(Responsibility of Contractor to obtain)
Claims against retainage or Payment Bond filed with City by any such subcontractor,
workman, or material supplier.

Current insurance certificate through retainage release (Contractor generates)
Produce final invoice for retainage if bond is not selected (Contractor generates)
AMENDMENTS TO THE STANDARD SPECIFICATIONS
INTRODUCTION

The following Amendments and Special Provisions shall be used in conjunction with the 2018 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 6, 2018

1-01.3 Definitions
The following new term and definition is inserted before the definition for “Shoulder”:

Sensitive Area – Natural features, which may be previously altered by human activity, that are present on or adjacent to the project location and protected, managed, or regulated by local, tribal, state, or federal agencies.

The following new term and definition is inserted after the definition for “Working Drawings”:

WSDOT Form – Forms developed and maintained by WSDOT that are required or available for use on a project. These forms can be downloaded from the forms catalogue at:

http://wsdot.wa.gov/forms/pdfForms.html

1-02.AP1

Section 1-02, Bid Procedures and Conditions
June 3, 2019

1-02.4(1) General
This section is supplemented with the following:

Prospective Bidders are advised that the Contracting Agency may include a partially completed 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. When the Contracting Agency requires the transfer of coverage of the CSWGP to the Contractor, an informational copy of the Transfer of Coverage and the associated CSWGP will be included in the appendices. As a condition of Section 1-03.3, 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.

1-02.5 Proposal Forms
The first sentence of the first paragraph is revised to read:

At the request of a Bidder, the Contracting Agency will provide a physical Proposal Form for any project on which the Bidder is eligible to Bid.

1-02.6 Preparation of Proposal
Item number 1 of the second paragraph is revised to read:

1. A unit price for each item (omitting digits more than two places to the right of the decimal point),

In the third sentence of the fourth paragraph, “WSDOT Form 422-031” is revised to read “WSDOT Form 422-031U”.

The following new paragraph is inserted before the last paragraph:

The Bidder shall submit with their Bid a completed Contractor Certification Wage Law Compliance form (WSDOT Form 272-009). Failure to return this certification as part of the Bid Proposal package will make this Bid Nonresponsive and ineligible for Award. A Contractor Certification of Wage Law Compliance form is included in the Proposal Forms.

1-02.13 Irregular Proposals
Item 1(h) is revised to read:

h. The Bidder fails to submit Underutilized Disadvantaged Business Enterprise 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;

Item 1(i) is revised to read the following three items:

i. The Bidder fails to submit a UDBE Bid Item Breakdown form, if applicable, as required in Section 1-02.6, or if the documentation that is submitted fails to meet the requirements of the Special Provisions;

j. The Bidder fails to submit UDBE Trucking Credit Forms, if applicable, as required in Section 1-02.6, or if the documentation that is submitted fails to meet the requirements of the Special Provisions; or

k. The Bid Proposal does not constitute a definite and unqualified offer to meet the material terms of the Bid invitation.
1-03.AP1
Section 1-03, Award and Execution of Contract
January 2, 2018

1-03.3 Execution of Contract
The first paragraph is revised to read:

Within 20 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, a satisfactory bond as required by law and Section 1-03.4, the Transfer of Coverage form for the Construction Stormwater General Permit with sections I, III, and VIII completed when provided, and shall be registered as a contractor in the state of Washington.

1-03.5 Failure to Execute Contract
The first sentence is revised to read:

Failure to return the insurance certification and bond with the signed Contract as required in Section 1-03.3, or failure to provide Disadvantaged, Minority or Women’s Business Enterprise information if required in the Contract, or failure or refusal to sign the Contract, or failure to register as a contractor in the state of Washington, or failure to return the completed Transfer of Coverage for the Construction Stormwater General Permit to the Contracting Agency when provided shall result in forfeiture of the proposal bond or deposit of this Bidder.

1-05.AP1
Section 1-05, Control of Work
August 6, 2018

1-05.5 Vacant
This section, including title, is revised to read:

1-05.5 Tolerances
Geometrical tolerances shall be measured from the points, lines, and surfaces defined in Contract documents.

A plus (+) tolerance increases the amount or dimension to which it applies, or raises a deviation from level. A minus (-) tolerance decreases the amount or dimension to which it applies, or lowers a deviation from level. Where only one signed tolerance is specified (+ or -), there is no specified tolerance in the opposing direction.

Tolerances shall not be cumulative. The most restrictive tolerance shall control.

Tolerances shall not extend the Work beyond the Right of Way or other legal boundaries identified in the Contract documents. If application of tolerances causes the extension of the Work beyond the Right of Way or legal boundaries, the tolerance shall be reduced for that specific instance.

Tolerances shall not violate other Contract requirements. If application of tolerances causes the Work to violate other Contract requirements, the tolerance shall be reduced for that specific instance. If application of tolerances causes conflicts with other components or aspects of the Work, the tolerance shall be reduced for that specific instance.
1-05.9 Equipment
The following new paragraph is inserted before the first paragraph:

Prior to mobilizing equipment on site, the Contractor shall thoroughly remove all loose dirt and vegetative debris from drive mechanisms, wheels, tires, tracks, buckets and undercarriage. The Engineer will reject equipment from the site until it returns clean.

This section is supplemented with the following:

Upon completion of the Work, the Contractor shall completely remove all loose dirt and vegetative debris from equipment before removing it from the job site.

1-06.AP1
Section 1-06, Control of Material
January 7, 2019

1-06.1(3) Aggregate Source Approval (ASA) Database
This section is supplemented with the following:

Regardless of status of the source, whether listed or not listed in the ASA database the source owner may be asked to provide testing results for toxicity in accordance with Section 9-03.21(1).

1-06.2(2)D Quality Level Analysis
This section is supplemented with the following new subsection:

1-06.2(2)D5 Quality Level Calculation – HMA Compaction
The procedures for determining the quality level and pay factor for HMA compaction are as follows:

1. Determine the arithmetic mean, \( X_m \), for compaction of the lot:

\[
X_m = \frac{\sum x}{n}
\]

Where:
\( x \) = individual compaction test values for each sublot in the lot.
\( \sum x \) = summation of individual compaction test values
\( n \) = total number test values

2. Compute the sample standard deviation, “\( S \)”, for each constituent:

\[
S = \left[ \frac{n\sum x^2 - (\sum x)^2}{n(n-1)} \right]^{\frac{1}{2}}
\]

Where:
\( \sum x^2 \) = summation of the squares of individual compaction test values
\( (\sum x)^2 \) = summation of the individual compaction test values squared
3. Compute the lower quality index ($Q_L$):

$$Q_L = \frac{X_m - LSL}{S}$$

Where:

$$LSL = 92.0$$

4. Determine $P_L$ (the percent within the lower Specification limit which corresponds to a given $Q_L$) from Table 1. For negative values of $Q_L$, $P_L$ is equal to 100 minus the table $P_L$. If the value of $Q_L$ does not correspond exactly to a figure in the table, use the next higher value.

5. Determine the quality level (the total percent within Specification limits):

$$\text{Quality Level} = P_L$$

6. Using the quality level from step 5, determine the composite pay factor (CPF) from Table 2.

7. If the CPF determined from step 6 is 1.00 or greater: use that CPF for the compaction lot; however, the maximum HMA compaction CPF using an LSL = 92.0 shall be 1.05.

8. If the CPF from step 6 is not 1.00 or greater: repeat steps 3 through 6 using an LSL = 91.5. The value thus determined shall be the HMA compaction CPF for that lot; however, the maximum HMA compaction CPF using an LSL = 91.5 shall be 1.00.

1-06.2(2)D1 Quality Level Analysis
The following new sentence is inserted after the first sentence:

The quality level calculations for HMA compaction are completed using the formulas in Section 1-06.2(2)D5.

1-06.2(2)D4 Quality Level Calculation
The first paragraph (excluding the numbered list) is revised to read:

The procedures for determining the quality level and pay factors for a material, other than HMA compaction, are as follows:

1-06.6 Recycled Materials
The first three sentences of the second paragraph are revised to read:

The Contractor shall submit a Recycled Material Utilization Plan on WSDOT Form 350-075A within 30 calendar days after the Contract is executed. The plan shall provide the Contractor’s anticipated usage of recycled concrete aggregates for meeting the requirements of these Specifications. The quantity of recycled concrete aggregate will be provided in tons and as a percentage of the Plan quantity for eligible material listed in Section 9-03.21(1)E Table on Maximum Allowable percent (By Weight) of Recycled Material.

The last paragraph is revised to read:
Within 30 calendar days after Physical Completion, the Contractor shall report the quantity of recycled concrete aggregates that were utilized in the construction of the project for each eligible item listed in Section 9-03.21(1)E. The Contractor’s report shall be provided on WSDOT Form 350-075A, Recycled Materials Reporting.

1-06.6(1)A General
Item 1(a) in the second paragraph is revised to read:

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 documented price quote from the supplier with the lowest total cost for the Work.

1-07.AP1
Section 1-07, Legal Relations and Responsibilities to the Public
April 1, 2019

1-07.5 Environmental Regulations
This section is supplemented with the following new subsections:

1-07.5(5) U.S. Army Corps of Engineers
When temporary fills are permitted, the Contractor shall remove fills in their entirety and the affected areas returned to pre-construction elevations.

If a U.S. Army Corps of Engineers permit is noted in Section 1-07.6 of the Special Provisions, the Contractor shall retain a copy of the permit or the verification letter (in the case of a Nationwide Permit) on the worksite for the life of the Contract. The Contractor shall provide copies of the permit or verification letter to all subcontractors involved with the authorized work prior to their commencement of any work in waters of the U.S.

1-07.5(6) U.S. Fish/Wildlife Services and National Marine Fisheries Service
The Contracting Agency will provide fish exclusion and handling services if the Work dictates. However, if the Contractor discovers any fish stranded by the project and a Contracting Agency biologist is not available, they shall immediately release the fish into a flowing stream or open water.

1-07.5(1) General
The first sentence is deleted and replaced with the following:

No Work shall occur within areas under the jurisdiction of resource agencies unless authorized in the Contract.

The third paragraph is deleted.

1-07.5(2) State Department of Fish and Wildlife
This section is revised to read:

In doing the Work, the Contractor shall:

1. Not degrade water in a way that would harm fish, wildlife, or their habitat.
2. Not place materials below or remove them from the ordinary high water line except as may be specified in the Contract.

3. Not allow equipment to enter waters of the State except as specified in the Contract.

4. Revegetate in accordance with the Plans, unless the Special Provisions permit otherwise.

5. Prevent any fish-threatening silt buildup on the bed or bottom of any body of water.


7. Dispose of any project debris by removal, burning, or placement above high-water flows.

8. Immediately notify the Engineer and stop all work causing impacts, if at any time, as a result of project activities, fish are observed in distress or a fish kill occurs.

If the Work in (1) through (3) above differs little from what the Contract requires, the Contracting Agency will measure and pay for it at unit Contract prices. But if Contract items do not cover those areas, the Contracting Agency will pay pursuant to Section 1-09.4. Work in (4) through (8) above shall be incidental to Contract pay items.

1-07.5(3) State Department of Ecology
This section is revised to read:

In doing the Work, the Contractor shall:


2. Perform Work in such a manner that all materials and substances not specifically identified in the Contract documents to be placed in the water do not enter waters of the State, including wetlands. These include, but are not limited to, petroleum products, hydraulic fluid, fresh concrete, concrete wastewater, process wastewater, slurry materials and waste from shaft drilling, sediments, sediment-laden water, chemicals, paint, solvents, or other toxic or deleterious materials.

3. Use equipment that is free of external petroleum-based products.

4. Remove accumulations of soil and debris from drive mechanisms (wheels, tracks, tires) and undercarriage of equipment prior to using equipment below the ordinary high water line.

5. Clean loose dirt and debris from all materials placed below the ordinary high water line. No materials shall be placed below the ordinary high water line without the Engineer’s concurrence.

6. When a violation of the Construction Stormwater General Permit (CSWGP) occurs, immediately notify the Engineer and fill out WSDOT Form 422-011, Contractor ECAP Report, and submit the form to the Engineer within 48 hours of the violation.
7. Once Physical Completion has been given, prepare a Notice of Termination (Ecology Form ECY 020-87) and 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.

8. Transfer the CSWGP coverage to the Contracting Agency when Physical Completion has been given and the Engineer has determined that the project site is not stabilized from erosion.

9. Submit copies of all correspondence with Ecology electronically to the Engineer in a PDF format within four calendar days.

1-07.5(4) Air Quality
This section is revised to read:

The Contractor shall comply with all regional clean air authority and/or State Department of Ecology rules and regulations.

The air quality permit process may include additional State Environment Policy Act (SEPA) requirements. Contractors shall contact the appropriate regional air pollution control authority well in advance of beginning Work.

When the Work includes demolition or renovation of any existing facility or structure that contains Asbestos Containing Material (ACM) and/or Presumed Asbestos-Containing Material (PACM), the Contractor shall comply with the National Emission Standards for Hazardous Air Pollutants (NESHAP).

Any requirements included in Federal and State regulations regarding air quality that applies to the “owner or operator” shall be the responsibility of the Contractor.

1-07.7(1) General
The first sentence of the third paragraph is revised to read:

When the Contractor moves equipment or materials on or over Structures, culverts or pipes, the Contractor may operate equipment with only the load-limit restrictions in Section 1-07.7(2).

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

Unit prices shall cover all costs for operating over Structures, culverts and pipes.

1-07.9(1) General
The last sentence of the sixth paragraph is revised to read:

Generally, the Contractor initiates the request by preparing standard form 1444 Request for Authorization of Additional Classification and Rate, available at https://www.dol.gov/whd/recovery/dbsurvey/conformance.htm, and submitting it to the Engineer for further action.

1-07.9(2) Posting Notices
The second sentence of the first paragraph (up until the colon) is revised to read:
The Contractor shall ensure the most current edition of the following are posted:

The revision dates are deleted from all items in the numbered list.

The following new items are inserted after item number 1:

2. **Mandatory Supplement to EEOC P/E-1** published by US Department of Labor. Post for projects with federal-aid funding.


Item number 2 through 12 are renumbered to 4 through 14, respectively.

**1-07.11(2) Contractual Requirements**

In this section, “creed” is revised to read “religion”.

Item numbers 1 through 9 are revised to read 2 through 10, respectively.

After the preceding Amendment is applied, the following new item number 1 is inserted:

1. The Contractor shall maintain a Work site that is free of harassment, humiliation, fear, hostility and intimidation at all times. Behaviors that violate this requirement include but are not limited to:
   
a. Persistent conduct that is offensive and unwelcome.

b. Conduct that is considered to be hazing.

c. Jokes about race, gender, or sexuality that are offensive.

d. Unwelcome, unwanted, rude or offensive conduct or advances of a sexual nature which interferes with a person’s ability to perform their job or creates an intimidating, hostile, or offensive work environment.

e. Language or conduct that is offensive, threatening, intimidating or hostile based on race, gender, or sexual orientation.

f. Repeating rumors about individuals in the Work Site that are considered to be harassing or harmful to the individual’s reputation.

**1-07.11(5) Sanctions**

This section is supplemented with the following:

Immediately upon the Engineer’s request, the Contractor shall remove from the Work site any employee engaging in behaviors that promote harassment, humiliation, fear or intimidation including but not limited to those described in these specifications.

**1-07.11(6) Incorporation of Provisions**

The first sentence is revised to read:
The Contractor shall include the provisions of Section 1-07.11(2) Contractual Requirements (1) through (5) and the Section 1-07.11(5) Sanctions in every subcontract including procurement of materials and leases of equipment.

1-07.15(1) Spill Prevention, Control, and Countermeasures Plan
The last sentence of the first paragraph is revised to read:


1-07.16(2)A Wetland and Sensitive Area Protection
The first sentence of the first paragraph is revised to read:

Existing wetland and other sensitive areas, where shown in the Plans or designated by the Engineer, shall be saved and protected through the life of the Contract.

1-07.18 Public Liability and Property Damage Insurance
Item number 1 is supplemented with the following new sentence:

This policy shall be kept in force from the execution date of the Contract until the Physical Completion Date.

1-08.AP1
Section 1-08, Prosecution and Progress January 7, 2019

1-08.1 Subcontracting
The first sentence of the seventh paragraph is revised to read:

All Work that is not performed by the Contractor will be considered as subcontracting except: (1) purchase of sand, gravel, crushed stone, crushed slag, batched concrete aggregates, ready-mix concrete, off-site fabricated structural steel, other off-site fabricated items, and any other materials supplied by established and recognized commercial plants; or (2) delivery of these materials to the Work site in vehicles owned or operated by such plants or by recognized independent or commercial hauling companies hired by those commercial plants.

The following new paragraph is inserted after the seventh paragraph:

The Contractor shall not use businesses (material suppliers, vendors, subcontractors, etc.) with federal purchasing exclusions. Businesses with exclusions are identified using the System for Award Management web page at www.SAM.gov.

1-08.5 Time for Completion
Item number 2 of the sixth paragraph is supplemented with the following:

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).
1-08.7 Maintenance During Suspension
The fifth paragraph is revised to read:

The Contractor shall protect and maintain all other Work in areas not used by traffic. All costs associated with protecting and maintaining such Work shall be the responsibility of the Contractor.

1-09.AP1
Section 1-09, Measurement and Payment
August 6, 2018

1-09.2(1) General Requirements for Weighing Equipment
The last paragraph is supplemented with the following:

When requested by the Engineer, the Contractor’s representative shall collect the tickets throughout the day and provide them to the Engineer’s designated receiver, not later than the end of shift, for reconciliation. Tickets for loads not verified as delivered will receive no pay.

1-09.2(2) Specific Requirements for Batching Scales
The last sentence of the first paragraph is revised to read:

Batching scales used for concrete or hot mix asphalt shall not be used for batching other materials.

1-09.10 Payment for Surplus Processed Materials
The following sentence is inserted after the first sentence of the second paragraph:

For Hot Mix Asphalt, the Plan quantity and quantity used will be adjusted for the quantity of Asphalt and quantity of RAP or other materials incorporated into the mix.

2-01.AP2
Section 2-01, Clearing, Grubbing, and Roadside Cleanup
April 1, 2019

2-01.2(3) Disposal Method No. 3 – Chipping
Item number 2 of the first paragraph is revised to read:

2. Chips shall be disposed outside of sensitive areas, and in areas that aren’t in conflict with permanent Work.

2-02.AP2
Section 2-02, Removal of Structures and Obstructions
April 2, 2018

2-02.3(3) Removal of Pavement, Sidewalks, Curbs, and Gutters
In item number 3 of the first paragraph, the second sentence is revised to read:

For concrete pavement removal, a second vertical full depth relief saw cut offset 12 to 18 inches from and parallel to the initial saw cut is also required, unless the Engineer allows otherwise.
2-03.AP2
Section 2-03, Roadway Excavation and Embankment
April 1, 2019

2-03.3(14)F Displacement of Unsuitable Foundation Materials
This section, including title, is revised to read:

2-03.3(14)F Vacant

2-09.AP2
Section 2-09, Structure Excavation
April 1, 2019

2-09.2 Materials
In the first paragraph, the references to “Portland Cement” and “Aggregates for Portland Cement Concrete” are revised to read:

Cement 9-01
Fine Aggregate for Concrete 9-03.1(2)

2-09.3(3)B Excavation Using Open Pits – Extra Excavation
The last two paragraphs are deleted and replaced with the following:

The excavation height (Ht) shall be calculated within a vertical plane as the difference between the lowest elevation in the excavation and the highest elevation of the ground surface immediately adjacent to the excavation. Pavement thickness and other surface treatments existing at the time of the excavation shall be included in the height calculation.

Submittals and Design Requirements
Excavations 4-feet and less in height do not require design and submittals. The Contractor shall provide a safe work environment and shall execute the work in a manner that does not damage adjacent pavements, utilities, or structures. If the Engineer determines the Contractor’s work may potentially affect adjacent traffic, pavements, utilities, or structures, the Engineer may request a Type 1 Working Drawing from the Contractor. The Contractor shall explain in the Type 1 Working Drawing how the Engineer’s concerns will be addressed, why infrastructure will not be damaged by the work, and how worker safety will be preserved.

For excavations that have soil types and slope geometries defined in WAC 296-155 part N and are between 4-feet and 20-feet in height, the Contractor shall submit Type 2 Working Drawings. Required submittal elements include, at a minimum, the following:

1. A plan view showing the limits of the excavation and its relationship to traffic, structures, utilities and other pertinent project elements. If the stability of the excavation requires no-load zones or equipment setback distances, those shall be shown on the plan view.

2. A typical or controlling cross section showing the proposed excavation, original ground line, and locations of traffic, existing structures, utilities, site constraints, surcharge loads, or other conditions that could affect the stability of the slope. If the
stability of the excavation requires no-load zones or equipment setback distances, those shall be shown in cross section.

3. A summary clearly describing subsurface conditions, soil type for WAC 296-155 part N, and groundwater conditions, sequencing considerations, and governing assumptions.

Where WAC 296-155 part N requires an engineer’s design, the Contractor shall submit Type 2E Working Drawings. Required submittal elements include, at a minimum, the three items above and the following additional items:

4. Supporting calculations for the design of the excavation, the soil and material properties selected for design, and the justification for the selection for those properties, in accordance with the WSDOT Geotechnical Design Manual M 46-03.

5. Safety factors, or load and resistance factors used, and justification for their selection, in accordance with the WSDOT Geotechnical Design Manual M 46-03, and referenced AASHTO design manuals.

6. A monitoring plan to evaluate the excavation performance throughout its design life.

7. Any supplemental subsurface explorations made by the Contractor to meet the requirements for geotechnical design of excavation slopes, in accordance with the WSDOT Geotechnical Design Manual M 46-03.

2-09.3(3)D Shoring and Cofferdams
The first sentence of the sixth paragraph is revised to read:

Structural shoring and cofferdams shall be designed for conditions stated in this Section using methods shown in Division I Section 5 of the AASHTO Standard Specifications for Highway Bridges Seventeenth Edition – 2002 for allowable stress design, or the AASHTO LRFD Bridge Design Specifications for load and resistance factor design.

3-01.AP3
Section 3-01, Production from Quarry and Pit Sites
April 2, 2018

3-01.1 Description
The first paragraph is revised to read:

This Work shall consist of manufacturing and producing crushed and screened aggregates including pit run aggregates of the kind, quality, and grading specified for use in the construction of concrete, hot mix asphalt, crushed surfacing, maintenance rock, ballast, gravel base, gravel backfill, gravel borrow, riprap, and bituminous surface treatments of all descriptions.
4-04.AP4
Section 4-04, Ballast and Crushed Surfacing
April 2, 2018

4-04.3(5) Shaping and Compaction
This section is supplemented with the following new paragraph:

When using 100% Recycled Concrete Aggregate, the Contractor may submit a written request to use a test point evaluation for compaction acceptance testing in lieu of compacting to 95% of the standard density as determined by the requirements of Section 2-03.3(14)D. The test point evaluation shall be performed in accordance with SOP 738.

5-01.AP5
Section 5-01, Cement Concrete Pavement Rehabilitation
January 7, 2019

5-01.2 Materials
The reference for Concrete Patching Material is revised to read:

Concrete Patching Material, Grout, and Mortar 9-20.1

5-01.3(1)A1 Concrete Patching Materials
In this section, each reference to “9-20” is revised to read “9-20.1”.

5-01.3(4) Replace Cement Concrete Panel
This section’s content is deleted and replaced with the following new subsections:

5-01.3(4)A General
Curing, cold weather work, concrete pavement construction in adjacent lines, and protection of pavement shall meet the requirements of Section 5-05.3(13) through Section 5-05.3(15). The Contractor, at no cost to the Contracting Agency, shall repair any damage to existing pavement caused by the Contractor’s operations.

5-01.3(4)B Sawing and Dimensional Requirements
Concrete slabs to be replaced as shown in the Plans or staked by the Engineer shall be at least 6.0 feet long and full width of an existing pavement panel. The portion of the panel to remain in place shall have a minimum dimension of 6 feet in length and full panel width; otherwise the entire panel shall be removed and replaced. There shall be no new joints closer than 3.0 feet to an existing transverse joint or crack. A vertical full depth saw cut is required along all longitudinal joints and at transverse locations and, unless the Engineer allows otherwise, an additional vertical full depth relief saw cut located 12 to 18 inches from and parallel to the initial longitudinal and transverse saw cut locations is also required. Removal of existing cement concrete pavement shall not cause damage to adjacent slabs that are to remain in place. In areas that will be ground, slab replacements shall be performed prior to pavement grinding.

Side forms shall meet the requirements of Section 5-05.3(7)B whenever a sawed full depth vertical face cannot be maintained.
5-01.3(4)C Dowel Bars and Tie Bars
For the half of a dowel bar or tie bar placed in fresh concrete, comply with the requirements of Section 5-05.

For the half of a dowel bar or tie bar placed in hardened concrete, comply with the Standard Plans and the following.

After drilling, secure dowel bars and tie bars into the existing pavement with either an epoxy bonding agent Type I or IV as specified in Section 9-26.1, or a grout Type 2 for non-shrink applications as specified in Section 9-20.3.

Dowel bars shall be placed at the mid depth of the concrete slab, centered over the transverse joint, and parallel to the centerline and to the roadway surface, within the tolerances in the table below. Dowel bars may be adjusted to avoid contact with existing dowel bars in the transverse joint at bridge approach slabs or existing panels provided the adjusted dowel bars meet the tolerances below.

Tie bars shall be placed at the mid depth of the concrete slab, centered over the joint, perpendicular to centerline, and parallel to the roadway surface, within the tolerances in the table below. The horizontal position of tie bars may be adjusted to avoid contact with existing tie bars in the longitudinal joint where panel replacement takes place, provided the adjusted tie bars meet the tolerances below.

<table>
<thead>
<tr>
<th>Placement Tolerances</th>
<th>Dowel Bars</th>
<th>Tie Bars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vertical: Center of Bar to Center of Slab Depth</td>
<td>± 1.00 inch max</td>
<td>± 1.00 inch max</td>
</tr>
<tr>
<td>Dowel Bar Centered Over the Transverse Joint</td>
<td>± 1.00 inch max</td>
<td>N/A</td>
</tr>
<tr>
<td>Tie Bar Centered Over the Longitudinal Joint</td>
<td>N/A</td>
<td>± 1.00 inch max</td>
</tr>
<tr>
<td>Parallel to Centerline Over the Length of the Dowel Bar</td>
<td>± 0.50 inch max</td>
<td>N/A</td>
</tr>
<tr>
<td>Perpendicular to Longitudinal Joint Over the Length of the Tie Bar</td>
<td>N/A</td>
<td>± 1.00 inch max</td>
</tr>
<tr>
<td>Parallel to Roadway Surface Over the Length of the Bar</td>
<td>± 0.50 inch max</td>
<td>± 1.00 inch max</td>
</tr>
</tbody>
</table>

Dowel bars and tie bars shall be placed according to the Standard Plan when multiple panels are placed. Panels shall be cast separately from the bridge approach slab.

Dowel bars to be drilled into existing concrete or at a new transverse contraction joint shall have a parting compound, such as curing compound, grease, or other Engineer accepted equal, applied to them prior to placement.

Clean the drilled holes in accordance with the epoxy or grout manufacturer’s instructions. Holes shall be clean and dry at the time of placing the epoxy, or grout and tie bars. Completely fill the void between the tie bar and the outer limits of the drilled hole with epoxy or grout. Use retention rings to prevent leakage of the epoxy or grout and support the tie bar to prevent movement until the epoxy or grout has cured the minimum time recommended by the manufacturer.
5-01.3(4)D Foundation Preparation
The Contractor shall smooth the surfacing below the removed panel and compact it to the satisfaction of the Engineer. Crushed surfacing base course, or hot mix asphalt may be needed to bring the surfacing to grade prior to placing the new concrete.

If the material under the removed panel is uncompactable and the Engineer requires it, the Contractor shall excavate the Subgrade 2 feet, place a soil stabilization construction geotextile meeting the requirements of Section 9-33, and backfill with crushed surfacing base course. This Work may include:

1. Furnishing and hauling crushed surfacing base course to the project site.
2. Excavating uncompactable material.
3. Furnishing and placing a soil stabilization construction geotextile.
4. Backfilling and compacting crushed surfacing base course.
5. Removing, hauling and restocking any unused crushed surfacing base course.

5-01.3(4)E Concrete Finishing
Grade control shall be the responsibility of the Contractor.

All panels shall be struck off level with the adjacent panels and floated to a smooth surface.

Final finish texturing shall meet the requirements of Section 5-05.3(11).

In areas where the Plans do not require grinding, the surface smoothness will be measured with a 10-foot straightedge by the Engineer in accordance with Section 5-05.3(12). If the replacement panel is located in an area that will be ground as part of concrete pavement grinding in accordance with Section 5-01.3(9), the surface smoothness shall be measured, by the Contractor, in conjunction with the smoothness measurement done in accordance with Section 5-01.3(10).

5-01.3(4)F Joints
All transverse and longitudinal joints shall be sawed and sealed in accordance with Section 5-05.3(8). The Contractor may use a hand pushed single blade saw for sawing joints.

5-01.3(4)G Cracked Panels
Replacement panels that crack shall be repaired as specified in Section 5-05.3(22) at no cost to the Contracting Agency. When repairing replacement panels that have cracked, epoxy-coated dowel bars meeting the requirements of Section 9-07.5(1) may be substituted for the corrosion resistant dowel bars specified.

5-01.3(4)H Opening to Traffic
Opening to traffic shall meet the requirements of Section 5-05.3(17).

5-01.3(5) Partial Depth Spall Repair
The second sentence of the third paragraph is revised to read:

All sandblasting residue shall be removed.
5-01.3(7) Sealing Existing Concrete Random Cracks
The second sentence of the second paragraph is revised to read:

Immediately prior to sealing, the cracks shall be clean.

5-01.3(8) Sealing Existing Longitudinal and Transverse Joint
The first sentence of the fifth paragraph is revised to read:

Immediately prior to sealing, the cracks shall be clean.

5-01.3(10) Pavement Smoothness
This section is revised to read:

Pavement surface smoothness for cement concrete pavement grinding on this project will include International Roughness Index (IRI) testing. Ride quality will be evaluated using the Mean Roughness Index (MRI) calculated by averaging the IRI data for the left and right wheel path within the section.

Smoothness Testing Equipment and Operator Certification
Use an inertial profiler and operator that meet the requirements of Section 5-05.3(3)E.

Surface Smoothness
Operate the inertial profiler in accordance with AASHTO R 57. Collect two longitudinal traces, one in each wheel path. Collect the control profile at locations designated in Table 2 prior to any pavement rehabilitation Work on the areas to be tested. Collect an acceptance profile at locations designated in Table 2 after completion of all cement concrete pavement grinding on the project. Profiles shall be collected in a continuous pass including areas excluded from pay adjustments. Provide notice to the Engineer a minimum of seven calendar days prior to testing.

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Locations Requiring MRI Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Travel lanes where cement concrete grinding is shown in the plans</td>
<td>Control profile</td>
</tr>
<tr>
<td>Additional locations designated by the Engineer</td>
<td>Control profile</td>
</tr>
<tr>
<td>Travel lanes with completed cement concrete pavement grinding</td>
<td>Acceptance profile</td>
</tr>
<tr>
<td>Bridges, approach panels and 0.02 miles before and after bridges and approach panels and other excluded areas within lanes requiring testing</td>
<td>Control and acceptance profile</td>
</tr>
<tr>
<td>Ramps, Shoulders and Tapers</td>
<td>Do not test</td>
</tr>
</tbody>
</table>

Within 30 calendar days after the Contractor’s testing, the Engineer may perform verification testing. If the verification testing shows a difference in MRI greater than the 10 percent, the following resolution process will be followed:
1. The profiles, equipment and procedures will be evaluated to determine the cause of the difference.

2. If the cause of the discrepancy cannot be resolved the pavement shall be retested with both profilers at a mutually agreed time. The two profilers will test the section within 30 minutes of each other. If the retest shows a difference in MRI equal or greater than the percentages shown in Table 2 of AASHTO R 54 the Engineer’s test results will be used for pavement smoothness acceptance.

The Contractor shall evaluate profiles for acceptance or corrective action using the current version of ProVAL and provide the results including the profile data in unfiltered electronic Engineering Research Division (ERD) file format to the Engineer within 3 calendar days of completing each days profile testing. If the profile data files are created using an export option in the manufacturer’s software where filter settings can be specified, use the filter settings that were used to create data files for certification.

Analyze the entire profile. Exclude areas listed in Table 3.

<table>
<thead>
<tr>
<th>Table 3 Areas Excluded from MRI Acceptance Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
</tr>
<tr>
<td>Beginning and end of grinding</td>
</tr>
<tr>
<td>Bridges and approach slabs</td>
</tr>
<tr>
<td>Defects in the existing roadway identified by the Contractor that adversely affect the MRI such as dips, depressions and wheel path longitudinal joints.¹</td>
</tr>
</tbody>
</table>

¹The presence of defects is subject to verification by the Engineer

Report the MRI results in inches per mile for each 0.01-mile section and each 0.10-mile section. Do not truncate 0.10-mile sections for areas excluded from MRI acceptance requirements. MRI requirements will not apply to 0.10-mile sections with more than three 0.01 mile-sections excluded. MRI requirements for the individual 0.01-mile sections shall still apply. The Engineer will verify the analysis.

The MRI for each 0.10 mile of ground lane will comply with the following:

<table>
<thead>
<tr>
<th>Control Profile MRI per 0.10 Mile</th>
<th>Maximum MRI of Acceptance Profile per 0.10 Mile</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤130 inches/mile</td>
<td>78 inches/mile</td>
</tr>
<tr>
<td>&gt;130 inches/mile</td>
<td>0.6 x Control Profile MRI</td>
</tr>
</tbody>
</table>

The MRI for each 0.01 mile of the completed cement concrete grinding shall not exceed 160 inches/mile.

All Work is subject to parallel and transverse 10-foot straightedge requirements, corrective work and disincentive adjustments.
Surface smoothness of travel lanes including areas subject to MRI testing shall not vary more than ⅛ inch from the lower edge of a 10-foot straightedge placed on the surface parallel to the centerline.

The smoothness perpendicular to the centerline will be measured with a 10-foot straightedge within the lanes. There shall be no vertical elevation difference of more than a ¼ inch between lanes.

Pavement that does not meet these requirements will be subject to corrective Work. All corrective Work shall be completed at no additional expense, including traffic control, to the Contracting Agency. Pavement shall be repaired by one or more of the following methods:

1. Diamond grinding.
2. By other method accepted by the Engineer.

Repair areas shall be re-profiled to ensure they no longer require corrective Work. With concurrence of the Engineer, a 10-foot straight edge may be used in place of the inertial profiler.

If correction of the roadway as listed above either will not or does not produce satisfactory results as to smoothness or serviceability the Engineer may accept the completed pavement and a credit will be calculated in accordance with Section 5-01.5. Under these circumstances, the decision whether to accept the completed pavement or to require corrective work as described above shall be vested entirely in the Engineer.

5-01.5 Payment
This section is supplemented with the following:

“Grinding Smoothness Compliance Adjustment”, by calculation.
Grinding Smoothness Compliance Adjustments will be based on the requirements in Section 5-01.3(10) and the following calculations:

A smoothness compliance adjustment will be calculated in the sum of minus $100 for each and every section of single traffic lane 0.01 mile in length and $1,000 for each and every section of single traffic lane 0.10 mile in length that does not meet the requirements in Section 5-01.3(10) after corrective Work.

5-02.AP5
Section 5-02, Bituminous Surface Treatment
April 1, 2019

5-02.3(5) Application of Aggregates
The first sentence of the eleventh paragraph is revised to read:

The Contractor shall use a pickup broom in all curbed areas, on all bridges, within city limits, within sensitive areas, and where shown in the Plans both before the application of emulsified asphalt and during the final brooming operation.
5-04.AP5
Section 5-04, Hot Mix Asphalt
April 1, 2019

5-04.1 Description
The last sentence of the first paragraph is revised to read:

The manufacture of HMA may include additives or processes that reduce the optimum mixing temperature (Warm Mix Asphalt) or serve as a compaction aid in accordance with these Specifications.

5-04.2 Materials
The reference to “Warm Mix Asphalt Additive” is revised to read “HMA Additive”.

5-04.2(1) How to Get an HMA Mix Design on the QPL
The last bullet in the first paragraph is revised to read:

• Do not include HMA additives that reduce the optimum mixing temperature or serve as a compaction aid when developing a mix design or submitting a mix design for QPL evaluation. The use of HMA 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.

In the table, “WSDOT Standard Practice QC-8” is revised to read “WSDOT Standard Practice QC-8 located in the WSDOT Materials Manual M 46-01”.

5-04.2(1)C Mix Design Resubmittal for QPL Approval
Item number 3 of the first paragraph is revised to read:

3. Changes in modifiers used in the asphalt binder.

5-04.2(2)B Using Warm Mix Asphalt Processes
This section, including title, is revised to read:

5-04.2(2)B Using HMA Additives
The Contractor may, at the Contractor’s discretion, elect to use additives that reduce the optimum mixing temperature or serve as a compaction aid for producing HMA. Additives include organic additives, chemical additives and foaming processes. The use of Additives is subject to the following:

• Do not use additives that reduce the mixing temperature in accordance with Section 5-04.3(6) in the production of High RAP/Any RAS mixtures.

• Before using additives, obtain the Engineer’s approval using WSDOT Form 350-076 to describe the proposed additive and process.

5-04.3(3)A Mixing Plant
Item number 5 of the first paragraph is revised to read:

5. Provide HMA sampling equipment that complies with FOP for AASHTO T 168:

• Use a mechanical sampling device accepted by the Engineer, or
• Platforms or devices to enable sampling from the truck transport without entering
the truck transport for sampling HMA.

5-04.3(4) Preparation of Existing Paved Surfaces
The first sentence of the fourth paragraph is revised to read:

Unless otherwise allowed by the Engineer, use cationic emulsified asphalt CSS-1, CSS-1h,
or Performance Graded (PG) asphalt for tack coat.

5-04.3(6) Mixing
The first paragraph is revised to read:

The asphalt supplier shall introduce recycling agent and 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.

The seventh paragraph is revised to read:

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

5-04.3(7) Spreading and Finishing
The last row of the table is revised to read:

| 3/8 inch | 0.25 feet | 0.30 feet |

5-04.3(8) Aggregate Acceptance Prior to Incorporation in HMA
The following new paragraph is inserted after the first paragraph:

The Contracting Agency’s combined aggregate bulk specific gravity (Gsb) blend as shown
on the HMA Mix Design will be used for VMA calculations until the Contractor submits a
written request for a Gsb test. The new Gsb will be used in the VMA calculations for HMA
from the date the Engineer receives the written request for a Gsb retest. The Contractor may
request aggregate specific gravity (Gsb) testing be performed by the Contracting Agency
twice per project. The Gsb blend of the combined stockpiles will be used to calculate voids
in mineral aggregate (VMA) of any HMA produced after the new Gsb is determined.

5-04.3(9)A1 Test Section – When Required, When to Stop
The following new row is inserted after the second row in Table 9:

| VMA | Minimum PF, of 0.95 based on the criteria in Section 5-04.3(9)B4 | None |

5-04.3(9)A2 Test Section – Evaluating the HMA Mixture in a Test Section
In Table 9a, the test property “Gradation, Asphalt Binder, and Vₐ” is revised to read “Gradation,
Asphalt Binder, VMA, and Vₐ”
In Table 9a, the first column of the third row is revised to read:

<table>
<thead>
<tr>
<th>Aggregates:</th>
<th>Sand Equivalent</th>
<th>Uncompacted Void Content</th>
<th>Fracture</th>
</tr>
</thead>
</table>

5-04.3(9)B3 Mixture Statistical Evaluation – Acceptance Testing
In Table 11, “V_a” is revised to read “VMA and V_a”

5-04.3(9)B5 Mixture Statistical Evaluation – Composite Pay Factors (CPF)
The following new row is inserted above the last row in Table 12:

| Voids in Mineral Aggregate (VMA) | 2 |

5-04.3(9)B7 Mixture Statistical Evaluation – Retests
The second to last sentence is revised to read:

The sample will be tested for a complete gradation analysis, asphalt binder content, VMA 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 subplot sample test results.

5-04.3(10)A HMA Compaction – General Compaction Requirements
The last paragraph is revised to read:

On bridge decks and on roadway approaches within five feet of a bridge/back of pavement seat, rollers shall not be operated in a vibratory mode, defined as a mode in which the drum vibrates vertically. However, unless otherwise noted on the plans, rollers may be operated in an oscillatory mode, defined as a mode in which the drum vibrates in the horizontal direction only.

5-04.3(10)C1 HMA Compaction Statistical Evaluation – Lots and Sublots
The bulleted item in the fourth paragraph is revised to read:

• For a compaction lot in progress with a compaction CPF less than 0.75 using an LSL = 91.5, 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.

5-04.3(10)C2 HMA Compaction Statistical Evaluation – Acceptance Testing
In the table, “WSDOT FOP for AASHTO T 355” is revised to read “FOP for AASHTO T 355”.

5-04.3(10)C3 HMA Statistical Compaction – Price Adjustments
In the first paragraph, “WSDOT FOP for AASHTO T 355” is revised to read “FOP for AASHTO T 355”.

The first sentence in the second paragraph is revised to read:
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)D5 to determine the appropriate Composite Pay Factor (CPF).

The last two paragraphs are revised to read:

Determine the Compaction Price Adjustment (CPA) from the table below, selecting the equation for CPA that corresponds to the value of CPF determined above.

<table>
<thead>
<tr>
<th>Calculating HMA Compaction Price Adjustment (CPA)</th>
<th>Equation for Calculating CPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value of CPF</td>
<td></td>
</tr>
<tr>
<td>When CPF &gt; 1.00</td>
<td>CPA = [1.00 x (CPF – 1.00)] x Q x UP</td>
</tr>
<tr>
<td>When CPF = 1.00</td>
<td>CPA = $0</td>
</tr>
<tr>
<td>When CPF &lt; 1.0</td>
<td>CPA = [0.60 x (CPF – 1.00)] x Q x UP</td>
</tr>
</tbody>
</table>

Where

CPA = Compaction Price Adjustment for the compaction lot ($)
CPF = Composite Pay Factor for the compaction lot (maximum is 1.05)
Q = Quantity in the compaction lot (tons)
UP = Unit price of the HMA in the compaction lot ($/ton)

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

The first sentence is revised to read:

For a compaction sublot that has been tested with a nuclear density gauge that did not meet the minimum of 91.5 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.

5-04.3(13) Surface Smoothness

The second to last paragraph is revised to read:

When 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 concrete pavement. Prior to placing the concrete pavement, bring any such irregularities to the required tolerance by grinding or other means allowed by the Engineer.

5-04.5 Payment

The paragraph following the Bid item “Crack Sealing-LF”, per linear foot is revised to read:

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.
5-05.AP5
Section 5-05, Cement Concrete Pavement
April 1, 2019

5-05.1 Description
In the first paragraph, “portland cement concrete” is revised to read “cement concrete”.

5-05.2 Materials
In the first paragraph, the reference to “Portland Cement” is revised to read:

| Cement | 9-01 |

In the first paragraph, the section reference for Concrete Patching Material is revised to read “9-20.1”.

The second paragraph is revised to read:

Cementitious materials are considered to be the following: portland cement, blended hydraulic cement, fly ash, ground granulated blast furnace slag and microsilica fume.

5-05.3(1) Concrete Mix Design for Paving
The table title in item number 4 is revised to read Concrete Batch Weights.

In item 4a, “Portland Cement” is revised to read “Cement”.

5-05.3(3)E Smoothness Testing Equipment
This section is revised to read:

Inertial profilers shall meet all requirements of AASHTO M 328 and be certified in accordance with AASHTO R 56 within the preceding 12 months.

The inertial profiler operator shall be certified as required by AASHTO R 56 within three years preceding profile measurement.

Equipment or operator certification by other states or a profiler certification facility will be accepted provided the certification meets the requirements of AASHTO R 56. Documentation verifying certification by another state shall be submitted to the Engineer a minimum of 14 calendar days prior to profile measurement. Equipment certification documentation shall include the information required by part 8.5 and 8.6 of AASHTO R 56. Operator documentation shall include a statement from the certifying state that indicates the operator is certified to operate the inertial profiler to be used on the project. The decision whether another state’s certification meets the requirements of AASHTO R 56 shall be vested entirely in the Engineer.

5-05.3(4) Measuring and Batching Materials
Item number 2 is revised to read:

2. **Batching Materials** – On all projects requiring more than 2,500 cubic yards of concrete for paving, the batching plant shall be equipped to proportion aggregates and cement by weight by means of automatic and interlocked proportioning devices of accepted type.
5-05.3(4)A  Acceptance of Portland Cement Concrete Pavement
This section’s title is revised to read:

Acceptance of Portland Cement or Blended Hydraulic Cement Concrete Pavement

The first sentence is revised to read:

Acceptance of portland cement or blended hydraulic cement concrete pavement shall be as provided under statistical or nonstatistical acceptance.

5-05.3(7)  Placing, Spreading, and Compacting Concrete
This section’s content is deleted.

5-05.3(10)  Tie Bars and Corrosion Resistant Dowel Bars
The first sentence of the last paragraph is revised to read:

The tie bar holes shall be clean before grouting.

5-05.3(12)  Surface Smoothness
This section is revised to read:

Pavement surface smoothness for this project will include International Roughness Index (IRI) testing. The Contractor shall perform IRI testing on each through lane, climbing lane, and passing lane, greater than 0.25 mile in length and these lanes will be subject to incentive/disincentive adjustments. Ride quality will be evaluated using the Mean Roughness Index (MRI) calculated by averaging the IRI data for the left and right wheel path within the section.

Ramps, shoulders and tapers will not be included in MRI testing for pavement smoothness and will not be subject to incentive adjustments. All Work is subject to parallel and transverse 10-foot straightedge requirements, corrective work and disincentive adjustments.

Operate the inertial profiler in accordance with AASHTO R 57. Collect two longitudinal traces, one in each wheel path. Collect profile data after completion of all concrete paving on the project in a continuous pass including areas excluded from pay adjustments. Provide notice to the Engineer a minimum of seven calendar days prior to testing.

Within 30 calendar days after the Contractor’s testing, the Engineer may perform verification testing. If the verification testing shows a difference in MRI greater than the percentages shown in Table 2 of AASHTO R 54 the following resolution process will be followed:

1. The profiles, equipment and procedures will be evaluated to determine the cause of the difference.

2. If the cause of the discrepancy cannot be resolved the pavement shall be retested with both profilers at a mutually agreed time. The two profilers will test the section within 30 minutes of each other. If the retest shows a difference in MRI equal or greater than the percentages shown in Table 2 of AASHTO R 54 the Engineer’s test results will be used to establish pay adjustments.
Surface smoothness of travel lanes not subject to MRI testing will be measured with a 10-foot straightedge no later than 5:00 p.m. of the day following the placing of the concrete. The completed surface of the wearing course shall not vary more than $\frac{1}{8}$ inch from the lower edge of a 10-foot straightedge placed on the surface parallel to the centerline.

Smoothness perpendicular to the centerline will be measured with a 10-foot straightedge across all lanes with the same cross slope, including shoulders when composed of cement concrete pavement. The overlapping 10-foot straightedge measurement shall be discontinued at a point 6 inches from the most extreme outside edge of the finished cement concrete pavement. The completed surface of the wearing course shall not vary more than $\frac{1}{4}$ inch from the lower edge of a 10-foot straightedge placed on the surface perpendicular to the centerline. Any deviations in excess of the above tolerances shall be corrected.

The Contractor shall evaluate profiles for acceptance, incentive payments, disincentive payments, or corrective action using the current version of ProVAL and provide the results including the profile data in unfiltered electronic Engineering Research Division (ERD) file format to the Engineer within 2 calendar days of completing testing each section of pavement. If the profile data files are created using an export option in the manufacturer’s software where filter settings can be specified, use the filter settings that were used to create data files for certification. Analyze the entire profile. Exclude any areas specifically identified in the Contract. Exclude from the analysis the first 100 feet after the start of the paving operations and last 100 feet prior to the end of the paving operation, the first 100 feet on either side of bridge Structures and bridge approach slab. Report the MRI results in inches per mile for each 52.8 foot section and horizontal distance measurements in project stationing to the nearest foot. Include pay adjustments in the results. The Engineer will verify the analysis.

Corrective work for pavement smoothness may be taken by the Contractor prior to MRI testing. After completion of the MRI testing the Contractor shall measure the smoothness of each 52.8-foot section with an MRI greater than 125 inches per mile with a 10-foot straightedge within 14 calendar days or as allowed by the Engineer. The Contractor shall identify all locations that require corrective work and provide the straight edge measurements at each location that exceeds the allowable limit to the Engineer. If all measurements in a 52.8-foot section comply with smoothness requirements, the Contractor shall provide the maximum measurement to the Engineer and a statement that corrective work is not required. Unless allowed by the Engineer, corrective work shall be taken by the Contractor for pavement identified by the Contractor or Engineer that does not meet the following requirements:

1. The completed surface shall be of uniform texture, smooth, uniform as to crown and grade, and free from defects of all kinds.

2. The completed surface shall not vary more than $\frac{1}{8}$ inch from the lower edge of a 10-foot straightedge placed on the surface parallel to the centerline.

3. The completed surface shall vary not more than $\frac{1}{4}$ inch in 10 feet from the rate of transverse slope shown in the Plans.

All corrective work shall be completed at no additional expense, including traffic control, to the Contracting Agency. Corrective work shall not begin until the concrete has reached its design strength unless allowed by the Engineer. Pavement shall be repaired by one or more of the following methods:
1. Diamond grinding; repairs shall not reduce pavement thickness by more than ¼ inch less than the thickness shown in the Plans. When required by the Engineer, the Contractor shall verify the thickness of the concrete pavement by coring. Thickness reduction due to corrective work will not be included in thickness measurements for calculating the Thickness Deficiency in Section 5-05.5(1)A.

2. Removal and replacement of the cement concrete pavement.

3. By other method allowed by the Engineer.

For repairs following MRI testing the repaired area shall be checked by the Contractor with a 10-foot straightedge to ensure it no longer requires corrective work. With concurrence of the Engineer an inertial profiler may be used in place of the 10-foot straight edge.

If correction of the roadway as listed above either will not or does not produce satisfactory results as to smoothness or serviceability the Engineer may accept the completed pavement and a credit will be calculated in accordance with Section 5-05.5. The credit will be in addition to the price adjustment for MRI. Under these circumstances, the decision whether to accept the completed pavement or to require corrective work as described above shall be vested entirely in the Engineer.

5-05.3(22) Repair of Defective Pavement Slabs
The last sentence of the fourth paragraph is revised to read:

All sandblasting residue shall be removed.

5-05.4 Measurement
Item number 3 of the second paragraph is revised to read:

3. The depth shall be determined in accordance with Section 5-05.5(1). The depth utilized to calculate the volume shall not exceed the Plan depth plus 0.04 feet.

The third paragraph is revised to read:

The volume of cement concrete pavement in each thickness lot shall equal the measured length × width × thickness measurement.

The last paragraph is revised to read:

The calculation for cement concrete compliance adjustment is the volume of concrete represented by the CPF and the Thickness deficiency adjustment.

5-05.5 Payment
The paragraph following the Bid item “Cement Conc. Pavement”, per cubic yard is supplemented with the following:

All costs associated with performing the magnetic pulse induction thickness testing shall be included in the unit Contract price per cubic yard for “Cement Conc. Pavement”.

The Bid item “Ride Smoothness Compliance Adjustment”, by calculation, and the paragraph following this bid item are revised to read:
“Ride Smoothness Compliance Adjustment”, by calculation.

Smoothness Compliance Adjustments will be based on the requirements in Section 5-05.3(12) and the following calculations:

1. Final MRI acceptance and incentive/disincentive payments for pavement smoothness will be calculated as the average of the ten 52.8-foot sections in each 528 feet in accordance with the price adjustment schedule.

   a. For sections of a lane that are a minimum of 52.8 feet and less than 528 feet, the price adjustment will be calculated using the average of the 52.8 foot MRI values and the price adjustment prorated for the length of the section.

   b. MRI values per 52.8-feet that were measured prior to corrective work will be included in the 528 foot price adjustment for sections with corrective work.

2. In addition to the price adjustment for MRI a smoothness compliance adjustment will be calculated in the sum of minus $1000.00 for each and every section of single traffic lane 52.8 feet in length in that does not meet the 10-foot straight edge requirements in Section 5-05.3(12) after corrective Work.

<table>
<thead>
<tr>
<th>Price Adjustment Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRI for each 528 ft. section</td>
</tr>
<tr>
<td>in. / mi.</td>
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<tr>
<td>&lt; 30</td>
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<td>104</td>
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</tbody>
</table>
The bid item “Portland Cement Concrete Compliance Adjustment”, by calculation, and the paragraph following this bid item are revised to read:

“Cement Concrete Compliance Adjustment”, by calculation.

Payment for “Cement Concrete Compliance Adjustment” will be calculated by multiplying the unit Contract price for the cement concrete pavement, times the volume for adjustment, times the percent of adjustment determined from the calculated CPF and the Deficiency Adjustment listed in Section 5-05.5(1A).

5-05.5(1) Pavement Thickness
This section is revised to read:

Cement concrete pavement shall be constructed in accordance with the thickness requirements in the Plans and Specifications. Tolerances allowed for Subgrade construction and other provisions, which may affect thickness, shall not be construed to modify such thickness requirements.

Thickness measurements in each lane paved shall comply with the following:

<table>
<thead>
<tr>
<th>Thickness Testing of Cement Concrete Pavement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness Lot Size</td>
</tr>
<tr>
<td>Thickness test location determined by</td>
</tr>
<tr>
<td>Sample method</td>
</tr>
<tr>
<td>Sample preparation performed by</td>
</tr>
<tr>
<td>Measurement method</td>
</tr>
<tr>
<td>Thickness measurement performed by</td>
</tr>
</tbody>
</table>
Reflectors shall be located at within 0.5 feet of the center of the panel. The Contractor shall supply a sufficient number of 300 mm-diameter round reflectors meeting the requirements of AASHTO T 359 to accomplish the required testing.

The Contractor shall supply a sufficient number of 300 mm-diameter round reflectors meeting the requirements of AASHTO T 359 to accomplish the required testing.

Thickness measurements shall be rounded to the nearest 0.01 foot.

Each thickness test location where the pavement thickness is deficient by more than 0.04 foot, shall be subject to price reduction or corrective action as shown in Table 2.

<table>
<thead>
<tr>
<th>Thickness Deficiency</th>
<th>Percent Price Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.04' &lt; Thickness Deficiency ≤ 0.06'</td>
<td>10</td>
</tr>
<tr>
<td>0.06' &lt; Thickness deficiency ≤ 0.08'</td>
<td>25</td>
</tr>
<tr>
<td>Thickness deficiency &gt; 0.08'</td>
<td>Remove and replace the panels or the panels may be accepted with no payment at the discretion of the Engineer.</td>
</tr>
</tbody>
</table>

The price reduction shall be computed by multiplying the percent price reduction in Table 2 by the unit Contract price by the volume of pavement represented by the thickness test lot.

Additional cores may be taken by the Contractor to determine the limits of an area that has a thickness deficiency greater than 0.04 feet. Cores shall be taken at the approximate center of the panel. Only the panels within the limits of the deficiency area as determined by the cores will be subject to a price reduction or corrective action. The cores shall be taken in the presence of the Engineer and delivered to the Engineer for measurement. All costs for the additional cores including filling the core holes with patching material meeting the requirements of Section 9-20 will be the responsibility of the Contractor.

5-05.5(1)A Thickness Deficiency of 0.05 Foot or Less
This section, including title, is revised to read:

5-05.5(1)A Vacant

5-05.5(1)B Thickness Deficiency of More Than 0.05 Foot
This section, including title, is revised to read:

5-05.5(1)B Vacant

6-01.AP6
Section 6-01, General Requirements for Structures
January 7, 2019

This section is supplemented with the following new subsections:

6-01.16 Repair of Defective Work
6-01.16(1) General
When using repair procedures that are described elsewhere in the Contract Documents, the Working Drawing submittal requirements of this Section shall not apply to those repairs unless noted otherwise.
Repair procedures for defective Work shall be submitted as Type 2 Working Drawings. Type 2E Working Drawings shall be submitted when required by the Engineer. As an alternative to submitting Type 2 or 2E Working Drawings, defective Work within the limits of applicability of a pre-approved repair procedure may be repaired using that procedure. Repairs using a pre-approved repair procedure shall be submitted as a Type 1 Working Drawing.

Pre-approved repair procedures shall consist of the following:

- The procedures listed in Section 6-01.16(2)
- For precast concrete, repair procedures in the annual plant approval process documents that have been approved for use by the Contracting Agency.

All Working Drawings for repair procedures shall include:

- A description of the defective Work including location, extent and pictures
- Materials to be used in the repair. Repairs using manufactured products shall include written manufacturer recommendations for intended uses of the product, surface preparation, mixing, aggregate extension (if applicable), ambient and surface temperature limits, placement methods, finishing and curing.
- Construction procedures
- Plan details of the area to be repaired
- Calculations for Type 2E Working Drawings

Material manufacturer’s instructions and recommendations shall supersede any conflicting requirements in pre-approved repair procedures.

The Engineer shall be notified prior to performing any repair procedure and shall be given an opportunity to inspect the repair work being performed.

6-01.16(2) Pre-Approved Repair Procedures
6-01.16(2)A Concrete Spalls and Poor Consolidation (Rock Pockets, Honeycombs, Voids, etc.)

This repair shall be limited to the following areas:

- Areas that are not on top Roadway surfaces (with or without an overlay) including but not limited to concrete bridge decks, bridge approach slabs or cement concrete pavement
- Areas that are not underwater
- Areas that are not on precast barrier, except for the bottom 4 inches (but not to exceed 1 inch above blockouts)
- Areas that do not affect structural adequacy as determined by the Engineer.
The repair procedure is as follows:

1. Remove all loose and unsound concrete. Impact breakers shall not exceed 15 pounds in weight when removing concrete adjacent to reinforcement or other embedments and shall not exceed 30 pounds in weight otherwise. Operate impact breakers at angles less than 45 degrees as measured from the surface of the concrete to the tool and moving away from the edge of the defective Work. Concrete shall be completely removed from exposed surfaces of existing steel reinforcing bars. If half or more of the circumference of any steel reinforcing bar is exposed, if the reinforcing bar is loose or if the bond to existing concrete is poor then concrete shall be removed at least ¾ inch behind the reinforcing bar. Do not damage any existing reinforcement. Stop work and allow the Engineer to inspect the repair area after removing all loose and unsound concrete. Submit a modified repair procedure when required by the Engineer.

2. Square the edges of the repair area by cutting an edge perpendicular to the concrete surface around the repair area. The geometry of the repair perimeter shall minimize the edge length and shall be rectangular with perpendicular edges, avoiding reentrant corners. The depth of the cut shall be a minimum of ¾ inch, but shall be reduced if necessary to avoid damaging any reinforcement. For repairs on vertical surfaces, the top edge shall slope up toward the front at a 1-vertical-to-3-horizontal slope.

3. Remove concrete within the repair area to a depth at least matching the cut depth at the edges. Large variations in the depth of removal within short distances shall be avoided. Roughen the concrete surface. The concrete surface should be roughened to at least Concrete Surface Profile (CSP) 5 in accordance with ICRI Guideline No. 310.2R, unless a different CSP is recommended by the patching material manufacturer.

4. Inspect the concrete repair surface for delaminations, debonding, microcracking and voids using hammer tapping or a chain drag. Remove any additional loose or unsound concrete in accordance with steps 1 through 3.

5. Select a patching material in accordance with Section 9-20.2 that is appropriate for the repair location and thickness. The concrete patching material shall be pumpable or self-consolidating as required for the type of placement that suits the repair. The patching material shall have a minimum compressive strength at least equal to the specified compressive strength of the concrete.

6. Prepare the concrete surface and reinforcing steel in accordance with the patching material manufacturer’s recommendations. At a minimum, clean the concrete surfaces (including perimeter edges) and reinforcing steel using oil-free abrasive blasting or high-pressure (minimum 5,000 psi) water blasting. All dirt, dust, loose particles, rust, laitance, oil, film, microcracked/bruised concrete or foreign material of any sort shall be removed. Damage to the epoxy coating on steel reinforcing bars shall be repaired in accordance with Section 6-02.3(24)H.
7. Construct forms if necessary, such as for patching vertical or overhead surfaces or where patching extends to the edge or corner of a placement.

8. When recommended by the patching material manufacturer, saturate the concrete in the repair area and remove any free water at the concrete surface to obtain a saturated surface dry (SSD) substrate. When recommended by the patching material manufacturer, apply a primer, scrub coat or bonding agent to the existing surfaces. Epoxy bonding agents, if used, shall be Type II or Type V in accordance with Section 9-26.1.

9. Place and consolidate the patching material in accordance with the manufacturer’s recommendations. Work the material firmly into all surfaces of the repair area with sufficient pressure to achieve proper bond to the concrete.

10. The patching material shall be textured, cured and finished in accordance with the patching material manufacturer’s recommendations and/or the requirements for the repaired component. Protect the newly placed patch from vibration in accordance with Section 6-02.3(6)D.

11. When the completed repair does not match the existing concrete color and will be visible to the public, a sand and cement mixture that is color matched to the existing concrete shall be rubbed, brushed, or applied to the surface of the patching material and the concrete.

6-01.10 Utilities Supported by or Attached to Bridges
In the third paragraph, “Federal Standard 595” is revised to read “SAE AMS Standard 595”.

6-01.12 Final Cleanup
The second sentence of the first paragraph is revised to read:

Structure decks shall be clean.

The second paragraph is deleted.

6-02.AP6
Section 6-02, Concrete Structures
April 1, 2019

6-02.1 Description
The first sentence is revised to read:

This Work consists of the construction of all Structures (and their parts) made of portland cement or blended hydraulic cement concrete with or without reinforcement, including bridge approach slabs.

6-02.2 Materials
In the first paragraph, the references to “Portland Cement” and “Aggregates for Portland Cement Concrete” are revised to read:
The reference to metakaolin is deleted.

6-02.3(2) Proportioning Materials
The second paragraph is revised to read:

Unless otherwise specified, the Contractor shall use Type I or II portland cement or blended hydraulic cement in all concrete as defined in Section 9-01.2(1).

The last sentence of the fifth paragraph is revised to read:

With the Engineer’s written concurrence, microsilica fume may be used in all classifications of Class 4000, Class 3000, and commercial concrete and is limited to a maximum of 10 percent of the cementitious material.

6-02.3(2)A Contractor Mix Design
The last sentence of the last paragraph is revised to read:

For all other concrete, air content shall be a minimum of 4.5 percent and a maximum of 7.5 percent for all concrete placed above the finished ground line unless noted otherwise.

6-02.3(2)A1 Contractor Mix Design for Concrete Class 4000D
Item number 5 of the first paragraph is deleted.

Item number 6 of the first paragraph (after the preceding Amendment is applied) is renumbered to 5.

6-02.3(2)B Commercial Concrete
The second paragraph is revised to read:

Where concrete Class 3000 is specified for items such as, culvert headwalls, plugging culverts, concrete pipe collars, pipe anchors, monument cases, Type PPB, PS, I, FB and RM signal standards, pedestals, cabinet bases, guardrail anchors, fence post footings, sidewalks, concrete curbs, curbs and gutters, and gutters, the Contractor may use commercial concrete. If commercial concrete is used for sidewalks, concrete curbs, curbs and gutters, and gutters, it shall have a minimum cementitious material content of 564 pounds per cubic yard of concrete, shall be air entrained, and the tolerances of Section 6-02.3(5)C shall apply.

6-02.3(4) Ready-Mix Concrete
The first sentence of the first paragraph is revised to read:

All concrete, except lean concrete, shall be batched in a prequalified manual, semi-automatic, or automatic plant as described in Section 6-02.3(4)A.

6-02.3(4)D Temperature and Time For Placement
The following is inserted after the first sentence of the first paragraph:
The upper temperature limit for placement for Class 4000D concrete may be increased to a maximum of 80°F if allowed by the Engineer.

6-02.3(5)C Conformance to Mix Design
Item number 1 of the second paragraph is revised to read:

1. Cement weight plus 5 percent or minus 1 percent of that specified in the mix design.

6-02.3(6)A1 Hot Weather Protection
The first paragraph 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, the mixing water is adjusted for the free water in the aggregate and the coarse aggregate is removed from at least 1 foot above the bottom of the pile. Sprinkling of fine aggregate piles with water is not allowed. Refrigerating mixing water or replacing all or part of the mixing water with crushed ice is permitted, provided the ice is completely melted by placing time.

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

These surfaces include forms, reinforcing steel, steel beam flanges, and any others that touch the concrete.

6-02.3(7) Vacant
This section, including title, is revised to read:

6-02.3(7) Tolerances
Unless noted otherwise, concrete construction tolerances shall be in accordance with this section. Tolerances in this section do not apply to cement concrete pavement.

Horizontal deviation of roadway crown points, cross-slope break points, and curb, barrier or railing edges from alignment or work line: ±1.0 inch

Deviation from plane: ±0.5 inch in 10 feet

Deviation from plane for roadway surfaces: ±0.25 inch in 10 feet

Deviation from plumb or specified batter: ±0.5 inch in 10 feet, but not to exceed a total of ±1.5 inches

Vertical deviation from profile grade for roadway surfaces: ±1 inch

Vertical deviation of top surfaces (except roadway surfaces): ±0.75 inch

Thickness of bridge decks and other structural slabs not at grade: ±0.25 inch

Length, width and thickness of elements such as columns, beams, crossbeams, diaphragms, corbels, piers, abutments and walls, including dimensions to construction joints in initial placements: +0.5 inch, -0.25 inch

Length, width and thickness of spread footing foundations: +2 inches, -0.5 inch
Horizontal location of the as-placed edge of spread footing foundations: The greater of ±2% of the horizontal dimension of the foundation perpendicular to the edge and ±0.5 inch. However, the tolerance shall not exceed ±2 inches.

Location of opening, insert or embedded item at concrete surface: ±0.05 inch

Cross-sectional dimensions of opening: ±0.5 inch

Bridge deck, bridge approach slab, and bridge traffic barrier expansion joint gaps with a specified temperature range, measured at a stable temperature: ±0.25 inch

Horizontal deviation of centerline of bearing pad, oak block or other bearing assembly: ±0.125 inch

Horizontal deviation of centerline of supported element from centerline of bearing pad, oak block or other bearing assembly ±0.25 inch

Vertical deviation of top of bearing pad, oak block or other bearing assembly: ±0.125 inch

6-02.3(10)C Finishing Equipment
The first paragraph is revised to read:

The finishing machine shall be self-propelled and be capable of forward and reverse movement under positive control. The finishing machine shall be equipped with augers and a rotating cylindrical single or double drum screed. The finishing machine shall have the necessary adjustments to produce the required cross section, line, and grade. The finishing machine shall be capable of raising the screeds, augers, and any other parts of the finishing mechanical operation to clear the screeded surface, and returning to the specified grade under positive control. Unless otherwise allowed by the Engineer, a finishing machine manufacturer technical representative shall be on site to assist the first use of the machine on the Contract.

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

For bridge deck widening of 20 feet or less, and for bridge approach slabs, or where jobsite conditions do not allow the use of the conventional configuration finishing machines, or modified conventional machines as described above; the Contractor may submit a Type 2 Working Drawing proposing the use of a hand-operated motorized power screed such as a “Texas” or “Bunyan” screed.

6-02.3(10)D4 Monitoring Bridge Deck Concrete Temperature After Placement
This section, including title, is revised to read:

6-02.3(10)D4 Vacant

6-02.3(10)D5 Bridge Deck Concrete Finishing and Texturing
In the third subparagraph of the first paragraph, the last sentence is revised to read:

The Contractor shall texture the bridge deck surface to within 3-inches minimum and 24-inches maximum of the edge of concrete at expansion joints, within 1-foot minimum and 2-
feet maximum of the curb line, and within 3-inches minimum and 9-inches maximum of the perimeter of bridge drain assemblies.

6-02.3(10)F Bridge Approach Slab Orientation and Anchors
The second to last paragraph is revised to read:

The compression seal shall be a 2½ inch wide gland and shall conform to Section 9-04.1(4).

The last paragraph is deleted.

6-02.3(13)A Strip Seal Expansion Joint System
In item number 3 of the third paragraph, “Federal Standard 595” is revised to read “SAE AMS Standard 595”.

6-02.3(13)B Compression Seal Expansion Joint System
The first paragraph is revised to read:

Compression seal glands shall conform to Section 9-04.1(4) and be sized as shown in the Plans.

6-02.3(14)C Pigmented Sealer for Concrete Surfaces
This section is supplemented with the following new paragraph:

Pigmented Sealer Materials shall be a product listed in the current WSDOT Qualified Products List (QPL). If the pigmented sealer material is not listed in the current WSDOT QPL, a sample shall be submitted to the State Materials Laboratory in Tumwater for evaluation and acceptance in accordance with Section 9-08.3.

6-02.3(20) Grout for Anchor Bolts and Bridge Bearings
The second, third and fourth paragraphs are revised to read:

Grout shall be a workable mix with a viscosity that is suitable for the intended application. Grout shall not be placed outside of the manufacturer recommended range of thickness. The Contractor shall receive concurrence from the Engineer before using the grout.

Field grout cubes and cylinders shall be fabricated and tested in accordance with Section 9-20.3 when requested by the Engineer, but not less than once per bridge pier or once per day.

Before placing grout, the substrate on which it is to be placed shall be prepared as recommended by the manufacturer to ensure proper bonding. The grout shall be cured as recommended by the manufacturer. The grout may be loaded when a minimum of 4,000 psi compressive strength is attained.

The fifth paragraph is deleted.

6-02.3(23) Opening to Traffic
This section is supplemented with the following new paragraph:

After curing bridge approach slabs in accordance with Section 6-02.3(11), the bridge approach slabs may be opened to traffic when a minimum compressive strength of 2,500 psi is achieved.
6-02.3(24)C Placing and Fastening
This section is revised to read:

The Contractor shall position reinforcing steel as the Plans require and shall ensure that the steel is set within specified tolerances. Adjustments to reinforcing details outside of specified tolerances to avoid interferences and for other purposes are acceptable when approved by the Engineer.

When spacing between bars is 1 foot or more, they shall be tied at all intersections. When spacing is less than 1 foot, every other intersection shall be tied. If the Plans require bundled bars, they shall be tied together with wires at least every 6 feet. All epoxy-coated bars in the top mat of the bridge deck shall be tied at all intersections, however they may be tied at alternate intersections when spacing is less than 1 foot in each direction and they are supported by continuous supports meeting all other requirements of supports for epoxy-coated bars. Other epoxy-coated bars shall also be tied at all intersections, but shall be tied at alternate intersections when spacing is less than 1 foot in each direction. Wire used for tying epoxy-coated reinforcing steel shall be plastic coated. **Tack welding is not permitted on reinforcing steel.**

Abrupt bends in the steel are permitted only when one steel member bends around another. Vertical stirrups shall pass around main reinforcement or be firmly attached to it.

For slip-formed concrete, the reinforcing steel bars shall be tied at all intersections and cross braced to keep the cage from moving during concrete placement. Cross bracing shall be with additional reinforcing steel. Cross bracing shall be placed both longitudinally and transversely.

After reinforcing steel bars are placed in a traffic or pedestrian barrier and prior to slip-form concrete placement, the Contractor shall check clearances and reinforcing steel bar placement. This check shall be accomplished by using a template or by operating the slip-form machine over the entire length of the traffic or pedestrian barrier. All clearance and reinforcing steel bar placement deficiencies shall be corrected by the Contractor before slip-form concrete placement.

Precast concrete supports (or other accepted devices) shall be used to maintain the concrete coverage required by the Plans. The precast concrete supports shall:

1. Have a bearing surface measuring not greater than 2 inches in either dimension, and
2. Have a compressive strength equal to or greater than that of the concrete in which they are embedded.

In slabs, each precast concrete support shall have either: (1) a grooved top that will hold the reinforcing bar in place, or (2) an embedded wire that protrudes and is tied to the reinforcing steel. If this wire is used around epoxy-coated bars, it shall be coated with plastic.

Precast concrete supports may be accepted based on a Manufacturer’s Certificate of Compliance.
In lieu of precast concrete supports, the Contractor may use metal or all-plastic supports to hold uncoated bars. Any surface of a metal support that will not be covered by at least ½ inch of concrete shall be one of the following:

1. Hot-dip galvanized after fabrication in keeping with AASHTO M232 Class D;

2. Coated with plastic firmly bonded to the metal. This plastic shall be at least 3/32 inch thick where it touches the form and shall not react chemically with the concrete when tested in the State Materials Laboratory. The plastic shall not shatter or crack at or above -5°F and shall not deform enough to expose the metal at or below 200°F; or

3. Stainless steel that meet the requirements of ASTM A493, Type 302. Stainless steel chair supports are not required to be galvanized or plastic coated.

In lieu of precast concrete supports, epoxy-coated reinforcing bars may be supported by one of the following:

1. Metal supports coated entirely with a dielectric material such as epoxy or plastic,

2. Other epoxy-coated reinforcing bars, or

3. All-plastic supports.

Damaged coatings on metal bar supports shall be repaired prior to placing concrete.

All-plastic supports shall be lightweight, non-porous, and chemically inert in concrete. All-plastic supports shall have rounded seatings, shall not deform under load during normal temperatures, and shall not shatter or crack under impact loading in cold weather. All-plastic supports shall be placed at spacings greater than 1 foot along the bar and shall have at least 25 percent of their gross place area perforated to compensate for the difference in the coefficient of thermal expansion between plastic and concrete. The shape and configuration of all-plastic supports shall permit complete concrete consolidation in and around the support.

A “mat” is two adjacent and perpendicular layers of reinforcing steel. In bridge decks, top and bottom mats shall be supported adequately enough to hold both in their proper positions. If bar supports directly support, or are directly supported on No. 4 bars, they shall be spaced at not more than 3-foot intervals (or not more than 4-foot intervals for bars No. 5 and larger). Wire ties to girder stirrups shall not be considered as supports. To provide a rigid mat, the Contractor shall add other supports and tie wires to the top mat as needed.

Unless noted otherwise, the minimum concrete cover for main reinforcing bars shall be:

3 inches to a concrete surface deposited against earth without intervening forms.

2½ inches to the top surface of a concrete bridge deck or bridge approach slab.

2 inches to a concrete surface when not specified otherwise in this section or in the Contract documents.

1½ inches to a concrete barrier or curb surface.
Except for top cover in bridge decks and bridge approach slabs, minimum concrete cover to ties and stirrups may be reduced by ½ inch but shall not be less than 1 inch. Minimum concrete cover shall also be provided to the outermost part of mechanical splices and headed steel reinforcing bars.

Reinforcing steel bar location, concrete cover and clearance shall not vary more than the following tolerances from what is specified in the Contract documents:

- Reinforcing bar location for members 12 inches or less in thickness: ±0.25 inch
- Reinforcing bar location for members greater than 12 inches in thickness: ±0.375 inch
- Reinforcing bar location for bars placed at equal spacing within a plane: the greater of either ±1 inch or ±1 bar diameter within the plane. The total number of bars shall not be fewer than that specified.

The clearance between reinforcement shall not be less than the greater of the bar diameter or 1 inch for unbundled bars. For bundled bars, the clearance between bundles shall not be less than the greater of 1 inch or a bar diameter derived from the equivalent total area of all bars in the bundle.

Longitudinal location of bends and ends of bars: ±1 inch

Embedded length of bars and length of bar lap splices:

- No. 3 through No. 11: -1 inch
- No. 14 through No. 18: -2 inches

Concrete cover measured perpendicular to concrete surface (except for the top surface of bridge decks, bridge approach slabs and other roadway surfaces): ±0.25 inch

Concrete cover measured perpendicular to concrete surface for the top surface of bridge decks, bridge approach slabs and other roadway surfaces: +0.25 inch, -0 inch

Before placing any concrete, the Contractor shall:

1. Clean all mortar from reinforcement, and
2. Obtain the Engineer’s permission to place concrete after the Engineer has inspected the placement of the reinforcing steel. (Any concrete placed without the Engineer’s permission shall be rejected and removed.)

6-02.3(25)H Finishing
The last paragraph is revised to read:

The Contractor may repair defects in prestressed concrete girders in accordance with Section 6-01.16.

6-02.3(25)I Fabrication Tolerances
Item number 12 of the first paragraph is revised to read:
12. Stirrup Projection from Top of Girder:

Wide flange thin deck and slab girders: ± ½ inch

All other girders: ± ¾ inch

6-02.3(27) Concrete for Precast Units
The last sentence of the first paragraph is revised to read:

Type III portland cement or blended hydraulic cement is permitted to be used in precast concrete units.

6-02.3(28)B Casting
In the second paragraph, the reference to Section 6-02.3(25)B is revised to read Section 6-02.3(25)C.

6-02.3(28)D Contractors Control Strength
In the first paragraph, “WSDOT FOP for AASHTO T 23” is revised to read “FOP for AASHTO T 23”.

6-02.3(28)E Finishing
This section is supplemented with the following:

The Contractor may repair defects in precast panels in accordance with Section 6-01.16.

6-03.AP6
Section 6-03, Steel Structures
January 7, 2019

6-03.2 Materials
In the first paragraph, the material reference for Paints is revised to read:

Paints and Related Materials  9-08

6-03.3(25)A3 Ultrasonic Inspection
The first paragraph (up until the colon) is revised to read:

Complete penetration groove welds on plates 5/16 inch and thicker in the following welded assemblies or Structures shall be 100 percent ultrasonically inspected:

6-03.3(33) Bolted Connections
The first paragraph is supplemented with the following:

After final tightening of the fastener components, the threads of the bolts shall at a minimum be flush with the end of the nut.

The following is inserted after the third sentence of the fourth paragraph:

When galvanized bolts are specified, tension-control galvanized bolts are not permitted.
6-05.AP6
Section 6-05, Piling
January 2, 2018

6-05.3(9)A Pile Driving Equipment Approval
The fourth sentence of the second paragraph is revised to read:

For prestressed concrete piles, the allowable driving stress in kips per square inch shall be $0.095 \cdot \sqrt{f'c}$ plus prestress in tension, and $0.85f'c$ minus prestress in compression, where $f'c$ is the concrete compressive strength in kips per square inch.

6-07.AP6
Section 6-07, Painting
January 7, 2019

6-07.1 Description
The first sentence is revised to read:

This work consists of containment, surface preparation, shielding adjacent areas from work, testing and disposing of debris, furnishing and applying paint, and cleaning up after painting is completed.

6-07.2 Materials
The material reference for Paint is revised to read:

Paint and Related Materials 9-08

6-07.3(1)A Work Force Qualifications for Shop Application of Paint
This section is supplemented with the following new sentence:

The work force may be accepted based on the approved facility.

6-07.3(1)B Work Force Qualifications for Field Application of Paint
The first two paragraphs are revised to read:

The Contractor preparing the surface and applying the paint shall be certified under SSPC-QP 1 or NACE International Institute Contractor Accreditation Program (NIICAP) AS 1.

The Contractor removing and otherwise disturbing existing paint containing lead and other hazardous materials shall be certified under SSPC-QP 2, Category A or NIICAP AS 2.

The third paragraph (up until the colon) is revised to read:

In lieu of the above SSPC or NIICAP certifications, the Contractor performing the specified work shall complete both of the following actions:

2. The Contractor’s quality control inspector(s) for the project shall be NACE-certified CIP Level 3 or SSPC Protective Coating Inspector (PCI) Level 3.
6-07.3(2) Submittals
The first paragraph is supplemented with the following:

Each component of the plan shall identify the specification section it represents.

6-07.3(2)B Contractor’s Quality Control Program Submittal Component
The numbered list in the first paragraph is revised to read:

1. Description of the inspection procedures, tools, techniques and the acceptance criteria for all phases of work.
2. Procedure for implementation of corrective action for non-conformance work.
3. The paint system manufacturer’s recommended methods of preventing defects.
4. The Contractor’s frequency of quality control inspection for each phase of work.
5. Example of each completed form(s) of the daily quality control report used to document the inspection work and tests performed by the Contractor’s quality control personnel.

6-07.3(2)C Paint System Manufacturer and Paint System Information Submittal Component
Item number 1 is revised to read:

1. Product data sheets and Safety Data Sheets (SDS) on the paint materials, paint preparation, and paint application, as specified by the paint manufacturer, including:
   a. All application instructions, including the mixing and thinning directions.
   b. Recommended spray nozzles and pressures.
   c. Minimum and maximum drying time between coats.
   d. Restrictions on temperature and humidity.
   e. Repair procedures for shop and field applied coatings.
   f. Maximum dry film thickness for each coat.
   g. Minimum wet film thickness for each coat to achieve the specified minimum dry film thickness.

6-07.3(2)D Hazardous Waste Containment, Collection, Testing, and Disposal Submittal Component
The first paragraph (up until the colon) is revised to read:

The hazardous waste containment, collection, testing, and disposal shall meet all Federal and State requirements, and the submittal component of the painting plan shall include the following:
6-07.3(2)E Cleaning and Surface Preparation Submittal Component
Item 1(b) of the first paragraph is revised to read:

b. Type, manufacturer, and brand of abrasive blast material and all associated additives, including Safety Data Sheets (SDS).

6-07.3(3)B Quality Control and Quality Assurance for Field Application of Paint
The last sentence of the first paragraph (excluding the numbered list) is revised to read:

The Contractor’s quality control operations shall include a minimum monitoring and documenting the following for each working day:

Item number 1 in the fourth paragraph is revised to read:

1. Environmental conditions for painting in accordance with ASTM E 337.

Item number 4 in the fourth paragraph is revised to read:

4. Pictorial of surface preparation guides in accordance with SSPC-VIS 1, 3, 4, and 5.

Item number 5 in the fourth paragraph is revised to read:

5. Surface profile by Keanne-Tator comparator in accordance with ASTM D 4417 and SSPC PA17.

6-07.3(4) Paint System Manufacturer’s Technical Representative
This section is revised to read:

The paint system manufacturer’s representative shall be present at the jobsite for the pre-painting conference and for the first day of paint application, and shall be available to the Contractor and Contracting Agency for consultation for the full project duration.

6-07.3(5) Pre-Painting Conference
The second paragraph is revised to read:

If the Contractor’s key personnel change between any work operations, an additional conference shall be held if requested by the Engineer.

6-07.3(6)A Paint Containers
In item number 2 of the first paragraph, “Federal Standard 595” is revised to read “SAE AMS Standard 595”.

6-07.3(6)B Paint Storage
Item number 2 of the second paragraph is revised to read:

2. The Contractor shall monitor and document daily the paint material storage facility with a high-low recording thermometer device.

6-07.3(7) Paint Sampling and Testing
The first two paragraphs are revised to read:
The Contractor shall provide the Engineer 1 quart of each paint representing each lot. Samples shall be accompanied with a Safety Data Sheet.

If the quantity of paint required for each component of the paint system for the entire project is 20 gallons or less, then the paint system components will be accepted as specified in Section 9-08.1(7).

6-07.3(8)A Paint Film Thickness Measurement Gages
The first paragraph is revised to read:

Paint dry film thickness measurements shall be performed with either a Type 1 pull-off gage or a Type 2 electronic gage as specified in SSPC Paint Application Specification No. 2, Procedure for Determining Conformance to Dry Coating Thickness Requirements.

6-07.3(9) Painting New Steel Structures
The last sentence of the second paragraph is revised to read:

Welded shear connectors are not required to painted.

The last paragraph is revised to read:

Temporary attachments or supports for scaffolding, containment or forms shall not damage the paint system.

6-07.3(9)A Paint System
The first paragraph is revised to read:

The paint system applied to new steel surfaces shall consist of the following:

Option 1 (component based paint system):

- Primer Coat – Inorganic Zinc Rich
- Intermediate Coat – Moisture Cured Polyurethane
- Intermediate Stripe Coat – Moisture Cured Polyurethane
- Top Coat – Moisture Cured Polyurethane

Option 2 (performance based paint system):

- Primer Coat – Inorganic Zinc Rich
- Intermediate Coat – Epoxy
- Intermediate Stripe Coat – Epoxy
- Top Coat – Polyurethane

The following new paragraph is inserted after the first paragraph:

Paints and related materials shall be products listed in the current WSDOT Qualified Products List (QPL). Component based paint systems shall be listed on the QPL in the applicable sections of Section 9-08. Performance based systems shall be listed on the current Northeast Protective Coatings Committee (NEPCOAT) Qualified Products List “A” as listed on the WSDOT QPL in Section 9-08.1(2)M. If the paint and related materials for the component based system is not listed in the current WSDOT QPL, a sample shall be submitted to the
State Materials Laboratory in Tumwater for evaluation and acceptance in accordance with Section 9-08.

6-07.3(9)C Mixing and Thinning Paint
This section is revised to read:

The Contractor shall thoroughly mix paint in accordance with the manufacturer’s written recommendations and by mechanical means to ensure a uniform and lump free composition. Paint shall not be mixed by means of air stream bubbling or boxing. Paint shall be mixed in the original containers and mixing shall continue until all pigment or metallic powder is in suspension. Care shall be taken to ensure that the solid material that has settled to the bottom of the container is thoroughly dispersed. After mixing, the Contractor shall inspect the paint for uniformity and to ensure that no unmixed pigment or lumps are present.

Catalysts, curing agents, hardeners, initiators, or dry metallic powders that are packaged separately may be added to the base paint in accordance with the paint manufacturer’s written recommendations and only after the paint is thoroughly mixed to achieve a uniform mixture with all particles wetted. The Contractor shall then add the proper volume of curing agent to the correct volume of base and mix thoroughly. The mixture shall be used within the pot life specified by the manufacturer. Unused portions shall be discarded at the end of each work day. Accelerants are not permitted except as allowed by the Engineer.

The Contractor shall not add additional thinner at the application site except as allowed by the Engineer. The amount and type of thinner, if allowed, shall conform to the manufacturer’s specifications. If recommended by the manufacturer and allowed by the Engineer, a measuring cup shall be used for the addition of thinner to any paint with graduations in ounces. No un-measured addition of thinner to paint will be allowed. Any paint found to be thinned by unacceptable methods will be rejected.

When recommended by the manufacturer, the Contractor shall constantly agitate paint during application by use of paint pots equipped with mechanical agitators.

The Contractor shall strain all paint after mixing to remove undesirable matter, but without removing the pigment or metallic powder.

Paint shall be stored and mixed in a secure, contained location to eliminate the potential for spills into State waters and onto the ground and highway surfaces.

6-07.3(9)D Coating Thickness
This section is revised to read:

Dry film thickness shall be measured in accordance with SSPC Paint Application Specification No. 2, Procedure for Determining Conformance to Dry Coating Thickness Requirements.

The minimum dry film thickness of the primer coat shall not be less than 2.5 mils.

The minimum dry film thickness of each coat (combination of intermediate and intermediate stripe, and top) shall be not less than 3.0 mils.

The dry film thickness of each coat shall not be thicker than the paint manufacturer’s recommended maximum thickness.
The minimum wet film thickness of each coat shall be specified by the paint manufacturer to achieve the minimum dry film thickness.

Film thickness, wet and dry, will be measured by gages conforming to Section 6-07.3(8)A.

Wet measurements will be taken immediately after the paint is applied in accordance with ASTM D4414. Dry measurements will be taken after the coating is dry and hard in accordance with SSPC Paint Application Specification No. 2.

Each painter shall be equipped with wet film thickness gages and shall be responsible for performing frequent checks of the paint film thickness throughout application.

Coating thickness measurements may be made by the Engineer after the application of each coat and before the application of the succeeding coat. In addition, the Engineer may inspect for uniform and complete coverage and appearance. One hundred percent of all thickness measurements shall meet or exceed the minimum wet film thickness. In areas where wet film thickness measurements are impractical, dry film thickness measurements may be made. If a question arises about an individual coat’s thickness or coverage, it may be verified by the use of a Tooke gage in accordance with ASTM D4138.

If the specified number of coats does not produce a combined dry film thickness of at least the sum of the thicknesses required per coat, if an individual coat does not meet the minimum thickness, or if visual inspection shows incomplete coverage, the coating system will be rejected and the Contractor shall discontinue painting and surface preparation operations and shall submit a Type 2 Working Drawing of the repair proposal. The repair proposal shall include documentation demonstrating the cause of the less-than-minimum thickness, along with physical test results, as necessary, and modifications to Work methods to prevent similar results. The Contractor shall not resume painting or surface preparation operations until receiving the Engineer’s acceptance of the completed repair.

6-07.3(9)E Surface Temperature Requirements Prior to Application of Paint
This section, including title, is revised to read:

6-07.3(9)E Environmental Condition Requirements Prior to Application of Paint
Paint shall be applied only during periods when:

1. Air and steel temperatures are in accordance with the paint manufacturer’s recommendations but in no case less than 35°F nor greater than 115°F.
2. Steel surface temperature is a minimum of 5°F above the dew point.
3. Steel surface is not wet.
4. Relative humidity is within the manufacturer’s recommended range.
5. The anticipated ambient temperature will remain above 35°F or the manufacturer’s minimum temperature, whichever is greater, during the paint drying and curing period.
Application will not be allowed if conditions are not favorable for proper application and performance of the paint.

Paint shall not be applied when weather conditions are unfavorable to proper curing. If a paint system manufacturer’s recommendations allow for application of a paint under environmental conditions other than those specified, the Contractor shall submit a Type 2 Working Drawing consisting of a letter from the paint manufacturer specifying the environmental conditions under which the paint can be applied. Application of paint under environmental conditions other than those specified in this section will not be allowed without the Engineer’s concurrence.

6-07.3(9)F Shop Surface Cleaning and Preparation
The last sentence is revised to read:

The entire steel surface to be painted, including surfaces specified in Section 6-07.3(9)G to receive a mist coat of primer, shall be cleaned to a near white condition in accordance with SSPC-SP 10, Near-white Metal Blast Cleaning, and shall be in this condition immediately prior to paint application.

6-07.3(9)G Application of Shop Primer Coat
The first paragraph is supplemented with the following:

Repairs of the shop primer coat shall be prepared in accordance with the painting plan. Shop primer coat repair paint shall be selected from the approved component based or performance based paint system in accordance with Section 6-07.3(10)H.

6-07.3(9)H Containment for Field Coating
This section is revised to read:

The Contractor shall use a containment system in accordance with Section 6-07.3(10)A for surface preparation and prime coating of all uncoated areas remaining, including bolts, nuts, washers, and splice plates.

During painting operations of the intermediate, stripe and top coats the Contractor shall furnish, install, and maintain drip tarps below the areas to be painted to contain all spilled paint, buckets, brushes, and other deleterious material, and prevent such materials from reaching the environment below or adjacent to the structure being painted. Drip tarps shall be absorbent material and hung to minimize puddling. The Contractor shall evaluate the project-specific conditions to determine the specific type and extent of containment needed to control the paint emissions and shall submit a containment plan in accordance with Section 6-07.3(2).

6-07.3(9)I Application of Field Coatings
This section is revised to read:

An on-site supervisor shall be present for each work shift at the bridge site.

Upon completion of erection Work, all uncoated or damaged areas remaining, including bolts, nuts, washers, and splice plates, shall be prepared in accordance with Section 6-07.3(9)F, followed by a field primer coat of a zinc-rich primer and final coats of paint selected from the approved component or performance based paint system in accordance with Section 6-
07.3(10)H. The intermediate, intermediate stripe, and top coats shall be applied in accordance with the manufacturer’s written recommendations.

Upon completion of erection Work, welds for steel column jackets may be prepared in accordance with SSPC-SP 15, Commercial Grade Power Tool Cleaning.

The minimum drying time between coats shall be as shown in the product data sheets, but not less than 12 hours. The Contractor shall determine whether the paint has cured sufficiently for proper application of succeeding coats.

The maximum time between intermediate and top coats shall be in accordance with the manufacturer's written recommendations. If the maximum time between coats is exceeded, all newly coated surfaces shall be prepared to SSPC-SP 7, Brush-off Blast Cleaning, and shall be repainted with the same paint that was cleaned, at no additional cost to the Contracting Agency.

Each coat shall be applied in a uniform layer, completely covering the preceding coat. The Contractor shall correct runs, sags, skips, or other deficiencies before application of succeeding coats. Such corrective work may require re-cleaning, application of additional paint, or other means as determined by the Engineer, at no additional cost to the Contracting Agency.

Dry film thickness measurements will be made in accordance with Section 6-07.3(9)D.

All paint damage that occurs shall be repaired in accordance with the manufacturer’s written recommendations. On bare areas or areas of insufficient primer thickness, the repair shall include field-applied zinc-rich primer and the final coats of paint selected from the approved component or performance based paint system in accordance with Section 6-07.3(10)H. On areas where the primer is at least equal to the minimum required dry film thickness, the repair shall include the application of the final two coats of the paint system. All paint repair operations shall be performed by the Contractor at no additional cost or time to the Contracting Agency.

6-07.3(10)A Containment
The first sentence of the third paragraph is revised to read:

Emissions shall be assessed by Visible Emission Observations (Method A) in SSPC Technology Update No. 7, Conducting Ambient Air, Soil, and Water Sampling of Surface Preparation and Paint Disturbance Activities, Section 6.2 and shall be limited to the Level A Acceptance Criteria Option Level 0 Emissions standard.

6-07.3(10)D Surface Preparation Prior to Overcoat Painting
The first paragraph is revised to read:

The Contractor shall remove any visible oil, grease, and road tar in accordance with SSPC-SP 1, Solvent Cleaning.

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 3, *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*.

The second to last sentence of the third paragraph is revised to read:

For small areas, as allowed by the Engineer, the Contractor may substitute cleaning in accordance with SSPC-SP 15, *Commercial Grade Power Tool Cleaning*.

**6-07.3(10)G Treatment of Pack and Rust Gaps**

The second paragraph is revised to read:

Pack rust forming a gap between steel surfaces of \( \frac{1}{16} \) to \( \frac{1}{4} \) inch shall be cleaned to a depth of at least one half of the gap width. The gaps shall be cleaned and prepared in accordance with SSPC-SP6. The cleaned gap shall be treated with rust penetrating sealer, prime coated, and then caulked to form a watertight seal along the top edge and the two sides of the steel pieces involved, using the rust penetrating sealer and caulk as accepted by the Engineer. The bottom edge or lowest edge of the steel pieces involved shall not be caulked.

The third paragraph is supplemented with the following:

Caulk shall be a single-component urethane sealant conforming to Section 9-08.7.

The fifth paragraph is revised to read:

At locations where gaps between steel surfaces exceed \( \frac{1}{4} \) inch, the Contractor shall clean and prepare the gap in accordance SSPC-SP6, apply the rust penetrating sealer, apply the prime coat, and then fill the gap with foam backer rod material as accepted by the Engineer. The foam backer rod material shall be of sufficient diameter to fill the crevice or gap. The Contractor shall apply caulk over the foam backer rod material to form a watertight seal.

This section is supplemented with the following new paragraph:

Caulk and backer rod, if needed, shall be placed prior to applying the top coat. The Contractor, with the concurrence of the Engineer, may apply the rust penetrating sealer after application of the prime coat provided the primer is removed in the areas to be sealed. The areas to be sealed shall be re-cleaned and re-prepared in accordance with SSPC-SP6.

**6-07.3(10)H Paint System**

The first paragraph is revised to read:

The paint system applied to existing steel surfaces shall consist of the following five-coat system:

Option 1 (component based system):

<table>
<thead>
<tr>
<th>Primer Coat – Zinc-filled Moisture Cured Polyurethane</th>
<th>9-08.1(2)F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primer Stripe Coat - Moisture Cured Polyurethane</td>
<td>9-08.1(2)F</td>
</tr>
</tbody>
</table>
AMENDMENTS TO THE STANDARD SPECIFICATIONS – JUNE 2019

Intermediate Coat - Moisture Cured Polyurethane 9-08.1(2)G
Intermediate Stripe Coat - Moisture Cured Polyurethane 9-08.1(2)G
Top Coat - Moisture Cured Polyurethane 9-08.1(2)H

Option 2 (performance based system):

Primer Coat – Zinc-rich Epoxy 9-08.1(2)N
Primer Stripe Coat – Epoxy 9-08.1(2)N
Intermediate Coat – Epoxy 9-08.1(2)N
Intermediate Stripe Coat – Epoxy 9-08.1(2)N
Top Coat – Polyurethane 9-08.1(2)N

The following new paragraph is inserted after the first paragraph:

Paints and related materials shall be a product listed in the current WSDOT Qualified Products List (QPL). Component based paint systems shall be listed on the QPL in the applicable sections of Section 9-08. Performance based systems shall be listed on the current Northeast Protective Coatings Committee (NEPCOAT) Qualified Products List “B” as listed on the WSDOT QPL in Section 9-08.1(2)N. If the paint and related material for the component based system is not listed in the current WSDOT QPL, a sample shall be submitted to the State Materials Laboratory in Tumwater for evaluation and acceptance in accordance with Section 9-08.

6-07.3(10)J Mixing and Thinning Paint
This section is revised to read:

Mixing and thinning paint shall be in accordance with Section 6-07.3(9)C.

6-07.3(10)K Coating Thickness
This section is revised to read:

Coating thickness shall be in accordance with Section 6-07.3(9)D except the minimum dry film thickness of each coat (combination of primer and primer stripe, combination of intermediate and intermediate stripe, and top) shall not be less than 3.0 mils.

6-07.3(10)L Environmental Condition Requirements Prior to Application of Paint
This section is revised to read:

Environmental conditions shall be in accordance with Section 6-07.3(9)E.

6-07.3(10)M Steel Surface Condition Requirements Prior to Application of Paint
The third paragraph is revised to read:

Edges of existing paint shall be feathered in accordance with SSPC-PA 1, Shop, Field, and Maintenance Coating of Metals, Note 15.20.

6-07.3(10)N Field Coating Application Methods
The third sentence is revised to read:

The Contractor may apply stripe coat paint using spray or brush but shall follow spray application using a brush to ensure complete coverage around structural geometric...
irregularities and to push the paint into gaps between existing steel surfaces and around rivets and bolts.

6-07.3(10)O Applying Field Coatings
The second to last paragraph is revised to read:

Each application of primer, primer stripe, intermediate, intermediate stripe, and top coat shall be considered as separately applied coats. The Contractor shall not use a preceding or subsequent coat to remedy a deficiency in another coat. The Contractor shall apply the top coat to at least the minimum specified top coat thickness, to provide a uniform appearance and consistent finish coverage.

6-07.3(10)P Field Coating Repair
The second sentence is revised to read:

Repair areas shall be cleaned of all damaged paint and the system reapplied using all coats typical to the paint system and shall meet the minimum coating thickness.

6-07.3(11)A Painting of Galvanized Surfaces
This section is revised to read:

All galvanized surfaces receiving paint shall be prepared for painting in accordance with the ASTM D 6386. The method of preparation shall be brush-off in accordance with SSPC-SP16 *Brush-Off Blast Cleaning of Coated and Uncoated Galvanized Steel, Stainless Steels, and Non-Ferrous Metals* or as otherwise allowed by the Engineer. The Contractor shall not begin painting until receiving the Engineer’s acceptance of the prepared galvanized surface. For galvanized bolts used for replacement of deteriorated existing rivets, the Contractor, with the concurrence of the Engineer and after successful demonstration testing, may prepare galvanized surfaces in accordance with SSPC-SP1 followed by SSPC-SP2, *Hand Tool Cleaning* or SSPC-SP3, *Power Tool Cleaning*. The demonstration testing shall include adhesion testing of the first coat of paint over galvanized bolts, nuts, and washers or a representative galvanized surface. Adhesion testing shall be performed in accordance with ASTM D 4541 for 600 psi minimum adhesion. A minimum of 3 successful tests shall be performed on the galvanized surface prepared and painted using the same methods and materials to be used on the galvanized bolts, nuts and washers in the field.

6-07.3(11)A2 Paint Coat Materials
This section is revised to read:

The Contractor shall paint the dry surface as follows:

1. The first coat over a galvanized surface shall be an epoxy polyamide conforming to Section 9-08.1(2)E. In the case of galvanized bolts used for replacement of deteriorated existing rivets and for small surface areas less than or equal to one square foot, an intermediate moisture cured polyurethane conforming to Section 9-08.1(2)G may be used as a first coat. In both cases the first coat shall be compatible with galvanizing and as recommended by the top coat manufacturer.

2. The second coat shall be a top coat moisture cured aliphatic polyurethane conforming to Section 9-08.1(2)H or a top coat polyurethane conforming to Section 6-07.3(10)H Option 2 NEPCOAT performance based paint specification compatible with the first coat as recommended by the manufacturer.
Each coat shall be dry before the next coat is applied. All coats applied in the shop shall be dried hard before shipment.

6-07.3(11)B  Powder Coating of Galvanized Surfaces
This section is revised to read:

Powder coating of galvanized surfaces shall consist of the following coats:

1. The first coat shall be an epoxy powder primer coat conforming to Section 9-08.2.
2. The second coat shall be a polyester finish coat conforming to Section 9-08.2.

6-07.3(11)B3  Galvanized Surface Cleaning and Preparation
The first three paragraphs are revised to read:

Galvanized surfaces receiving the powder coating shall be cleaned and prepared for coating in accordance with ASTM D 7803, and the project-specific powder coating plan.

Assemblies conforming to the ASTM D 7803 definition for newly galvanized steel shall receive surface smoothing and surface cleaning in accordance with ASTM D 7803, Section 5, and surface preparation in accordance with ASTM D 7803, Section 5.1.3.

Assemblies conforming to the ASTM D 7803 definition for partially weathered galvanized steel shall be checked and prepared in accordance with ASTM D 7803, Section 6, before then receiving surface smoothing and surface cleaning in accordance with ASTM D 7803, Section 5, and surface preparation in accordance with ASTM D 7803, Section 5.1.3.

The fourth paragraph (up until the colon) is revised to read:

Assemblies conforming to the ASTM D 7803 definition for weathered galvanized steel shall be prepared in accordance with ASTM D 7803, Section 7 before then receiving surface smoothing and surface cleaning in accordance with ASTM D 7803, Section 5, and surface preparation in accordance with ASTM D 7803, Section 5.3 except as follows:

6-07.3(11)B5  Testing
Item number 4 in the first paragraph is revised to read:

4. Adhesion testing in accordance with ASTM D 4541 for 600 psi minimum adhesion for the complete two-component system.

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

Rejected assemblies shall be repaired or recoated by the Contractor, at no additional expense to the Contracting Agency, in accordance with the powder coating manufacturer’s recommendation as detailed in the project-specific powder coating plan, until the assemblies satisfy the acceptance testing requirements.

6-07.3(12)  Painting Ferry Terminal Structures
This section is revised to read:
Painting of ferry terminal Structures shall be in accordance with Section 6-07.3 as supplemented below.

This section is supplemented with the following new subsections:

**6-07.3(12)A  Painting New Steel Ferry Terminal Structures**

Painting of new steel Structures shall be in accordance with Section 6-07.3(9) except that all coatings (primer, intermediate, intermediate stripe, and top) shall be applied in the shop with the following exceptions:

1. Steel surfaces to be field welded.
2. Steel surfaces to be greased.
3. The length of piles designated in the Plans not requiring painting.

The minimum drying time between coats shall be as shown in the product data sheets, but not less than 12 hours. The Contractor shall determine whether the paint has cured sufficiently for proper application of succeeding coats.

**6-07.3(12)A1  Paint Systems**

Paint systems for Structural Steel, which includes vehicle transfer spans and towers, pedestrian overhead loading structures and towers, upland structural steel and other elements as designated in the Special Provisions shall be as specified in Section 6-07.3(9)A.

Paint systems for Piling, Landing Aids and Life Ladders shall be as specified in the Special Provisions.

**6-07.3(12)A2  Paint Color**

Paint colors shall be as specified in the Special Provisions.

**6-07.3(12)A3  Coating Thickness**

Coating thicknesses shall be as specified in the Special Provisions.

**6-07.3(12)A4  Application of Field Coatings**

An on-site supervisor shall be present for each work shift at the project site.

Upon completion of erection Work, all uncoated or damaged areas remaining, including bolts, nuts, washers, splice plates, and field welds shall be prepared in accordance with SSPC-SP 1, Solvent Cleaning, followed by SSPC-SP 11, *Power Tool Cleaning to Bare Metal*. Surface preparation shall be measured according to SSPC-VIS 3. SSPC-SP 11 shall be performed for a minimum distance of 1 inch from the uncoated or damaged area. In addition, intact shop-applied coating surrounding the area shall be abraded or sanded for a distance of 6 inches out from the properly prepared clean/bare metal areas to provide adequate roughness for application of field coatings. All sanding dust and contamination shall be removed prior to application of field coatings.

Field applied paint for Structural Steel shall conform to Section 6-07.3(10)H, as applicable. Field applied paint for Piling, Landing Aids and Life Ladders shall be as specified in the Special Provisions.
For areas above the tidal zone, the minimum drying time between coats shall be as shown in the product data sheets, but not less than 12 hours. For areas within the tidal zone, the minimum drying time between coats shall be as recommended by the paint system manufacturer. The Contractor shall determine whether the paint has cured sufficiently for proper application of succeeding coats.

The maximum time between intermediate and top coats shall be in accordance with the manufacturer’s written recommendations. If the maximum time between coats is exceeded, all newly coated surfaces shall be prepared to SSPC-SP 3, *Power Tool Cleaning*, and shall be repainted with the same paint that was cleaned, at no additional cost to the Contracting Agency.

Each coat shall be applied in a uniform layer, completely covering the preceding coat. The Contractor shall correct runs, sags, skips, or other deficiencies before application of succeeding coats. Such corrective work may require re-cleaning, application of additional paint, or other means as determined by the Engineer, at no additional cost to the Contracting Agency.

Surface preparation for underwater locations shall consist of removing all dirt, oil, grease, loose paint, loose rust, and marine growth from the area that is to be repaired. The sound paint surrounding the damaged area shall be roughened to meet the requirements of the manufacturer. Paint for underwater applications shall be as specified in the Special Provisions and shall be applied in accordance with the manufacturer’s recommendations.

6-07.3(12)B Painting Existing Steel Ferry Terminal Structures
Painting of existing steel structures shall be in accordance with Section 6-07.3(10) as supplemented by the following.

6-07.3(12)B1 Containment
Containment for full removal shall be in accordance with Section 6-07.3(10)A. Containment for overcoat systems shall be in accordance with all applicable Permits as required in the Special Provisions.

Prior to cleaning the Contractor shall enclose all exposed electrical and mechanical equipment to seal out dust, water, and paint. Non-metallic surfaces shall not be abrasive blasted or painted. Unless otherwise specified, the following metallic surfaces shall not be painted and shall be protected from abrasive blasting and painting:

1. Galvanized and stainless steel surfaces not previously painted,
2. Non-skid surfaces,
3. Unpainted intentionally greased surfaces,
4. Equipment labels, identification plates, tags, etc.,
5. Fire and emergency containers or boxes,
6. Mechanical hardware such as hoist sheaves, hydraulic cylinders, gear boxes, wire rope, etc.
The Contractor shall submit a Type 2 Working Drawing consisting of materials and equipment used to shield components specified to not be cleaned and painted. The Contractor shall shut off the power prior to working around electrical equipment. The Contractor shall follow the lock-out/tag-out safety provisions of the WAC 296-803 and all other applicable safety standards.

6-07.3(12)B2  Surface Preparation
For applications above high water and within the tidal zone, surface preparation for overcoat painting shall be in accordance with SSPC-SP 1, *Solvent Cleaning*, followed by SSPC-SP 3, *Power Tool Cleaning*. Use of wire brushes is not allowed. After SP 3 cleaning has been completed all surfaces exhibiting coating failure down to the steel substrate, and those exhibiting visible corrosion, shall be prepared down to clean bare steel in accordance with SSPC-SP 15, *Commercial Grade Power Tool Cleaning*. Surface preparation shall be measured according to SSPC-VIS 3. SSPC-SP 15 shall be performed for a minimum distance of 1 inch from the area exhibiting failure or visible corrosion. In addition, intact shop-applied coating surrounding the repair area shall be abraded or sanded for a distance of 6 inches out from the properly prepared clean/bare metal areas to provide adequate roughness for application of repair coatings. All sanding dust and contamination shall be removed prior to application of repair coatings. Surface preparation for full paint removal shall be in accordance with Section 6-07.3(10)E except SSPC-SP 11 will be permitted as detailed in the Contractor’s painting plan and as allowed by the Engineer.

Surface preparation for underwater locations shall consist of removing all dirt, oil, grease, loose paint, loose rust, and marine growth from the area that is to be repaired. The sound paint surrounding the damaged area shall be roughened as required by the coating manufacturer.

Removed marine growth may be released to state waters provided the marine growth is not mixed with contaminants (paint, oil, rust, etc.) and it shall not accumulate on the sea bed. All marine growth containing contaminants shall be collected for proper disposal.

Surface preparation for the underside of bridge decks (consisting of either a steel grid system of main bars or tees and a light gauge metal form, in-filled with concrete or a corrugated light gauge metal form, infilled with concrete) shall be in accordance with SSPC-SP 2, *Hand Tool Cleaning* or SSPC-SP 3, *Power Tool Cleaning* with the intent of not causing further damage to the light gauge metal form. Following removal of any pack rust and corroded sections from the underside of the bridge deck, cleaning and flushing to remove salts and prior to applying the primer coat, the Contractor shall seal the entire underside of the deck system with rust-penetrating sealer. Damage to galvanized metal forms and/or grids shall be repaired in accordance with ASTM A 780, with the preferred method of repair using paints containing zinc dust.

6-07.3(12)B3  Paint Systems
Paint systems for Structural Steel, which includes vehicle transfer spans and towers, pedestrian overhead loading structures and towers, upland structural steel and other elements as designated in the Special Provisions shall be as specified in Section 6-07.3(10)H.

Paint systems for Piling, Landing Aids, Life Ladders, underside of vehicle transfer span bridge decks, non-skid surface treated areas, and anti-graffiti coatings shall be as specified in the Special Provisions.
**6-07.3(12)B4 Paint Color**
Paint colors shall be as specified in the Special Provisions.

**6-07.3(12)B5 Coating Thickness**
Coating thicknesses shall be as specified in the Special Provisions.

**6-07.3(12)B6 Application of Field Coatings**
Application of field coatings shall be in accordance with Section 6-07.3(10)O and Section 6-07.3(12)A2 except for the following:

1. All coatings applied in the field shall be applied using a brush or roller. Spray application methods may be used if allowed by the Engineer.

2. Applied coatings shall not be immersed until the coating has been cured as required by the coating manufacturer.

3. Non-skid surface treatment products shall be applied in accordance with the manufacturer’s recommendations.

4. Anti-graffiti coatings shall be applied in one coat following application of the top coat, where specified in the Plans.

**6-07.3(14)B Reference Standards**
The second standard reference (to SSPC CS 23.00), and its accompanying title, is revised to read:

SSPC CS 23.00 Specification for the Application of Thermal Spray Coatings (Metallizing) of Aluminum, Zinc, and Their Alloys and Composites for the Corrosion Protection of Steel

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**6-08.AP6**

Section 6-08, Bituminous Surfacing on Structure Decks

January 7, 2019

**6-08.3(7)A Concrete Deck Preparation**
The first sentence of the first paragraph is revised to read:

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).

**6-08.3(8)A Structure Deck Preparation**
The second sentence of the last paragraph is revised to read:

Prior to applying the primer or sheet membrane, all dust and loose material shall be removed from the Structure Deck.
6-09.AP6  
Section 6-09, Modified Concrete Overlays  
January 7, 2019

6-09.3 Construction Requirements  
This section is supplemented with the following new subsection:

6-09.3(15) Sealing and Texturing Concrete Overlay  
After the requirements for checking for bond have been met, all joints and visible cracks shall be filled and sealed with a high molecular weight methacrylate resin (HMWM). Cracks 1/16 inch and greater in width shall receive two applications of HMWM. Immediately following the application of HMWM, the wetted surface shall be coated with sand for abrasive finish.

After all cracks have been filled and sealed and the HMWM resin has cured, the concrete overlay surface shall receive a longitudinally sawn texture in accordance with Section 6-02.3(10)D5.

Traffic shall not be permitted on the finished concrete until it has reached a minimum compressive strength of 3,000 psi as verified by rebound number determined in accordance with ASTM C805 and the longitudinally sawn texture is completed.

6-09.3(1)B Rotary Milling Machines  
This section is revised to read:

Rotary milling machines used to remove an upper layer of existing concrete overlay, when present, shall have a maximum operating weight of 50,000 pounds and conform to Section 6-08.3(5)B.

6-09.3(1)C Hydro-Demolition Machines  
The first sentence of this section is revised to read:

Hydro-demolition machines shall consist of filtering and pumping units operating in conjunction with a remote-controlled robotic device, using high-velocity water jets to remove sound concrete to the nominal scarification depth shown in the Plans with a single pass of the machine, and with the simultaneous removal of deteriorated concrete.

6-09.3(1)D Shot Blasting Machines  
This section, including title, is revised to read:

6-09.3(1)D Vacant

6-09.3(1)E Air Compressor  
This section is revised to read:

Air compressors shall be equipped with oil traps to eliminate oil from being blown onto the bridge deck.

6-09.3(1)J Finishing Machine  
This section is revised to read:
The finishing machine shall meet the requirements of Section 6-02.3(10) and the following requirements:

The finishing machine shall be equipped with augers, followed by an oscillating, vibrating screed, vibrating roller tamper, or a vibrating pan, followed by a rotating cylindrical double drum screed. The vibrating screed, roller tamper or pan shall be of sufficient length and width to properly consolidate the mixture. The vibrating frequency of the vibrating screed, roller tamper or pan shall be variable with positive control.

6-09.3(2) Submittals
Item number 1 and 2 are revised to read:

1. A Type 1 Working Drawing consisting of catalog cuts and operating parameters of the hydro-demolition machine selected by the Contractor for use in this project to scarify concrete surfaces.

2. A Type 1 Working Drawing consisting of catalog cuts, operating parameters, axle loads, and axle spacing of the rotary milling machine (if used to remove an upper layer of existing concrete overlay when present).

The first sentence of item number 3 is revised to read:

A Type 2 Working Drawing of the Runoff Water Disposal Plan.

6-09.3(5)A General
The first sentence of the fourth paragraph is revised to read:

All areas of the deck that are inaccessible to the selected scarifying machine shall be scarified to remove the concrete surface matrix to a maximum nominal scarification depth shown in the Plans by a method acceptable to the Engineer.

This section is supplemented with the following:

Concrete process water generated by scarifying concrete surface and removing existing concrete overlay operations shall be contained, collected, and disposed of in accordance with Section 5-01.3(11) and Section 6-09.3(5)C, and the Section 6-09.3(2) Runoff Water Disposal Plan.

6-09.3(5)B Testing of Hydro-Demolition and Shot Blasting Machines
This section’s title is revised to read:

Testing of Hydro-Demolition Machines

The second paragraph is revised to read:

In the “sound” area of concrete, the equipment shall be programmed to remove concrete to the nominal scarification depth shown in the Plans with a single pass of the machine.

6-09.3(5)D Shot Blasting
This section, including title, is revised to read:
6-09.3(5)E Rotomilling

This section, including title, is revised to read:

**6-09.3(5)E Removing Existing Concrete Overlay Layer by Rotomilling**

When the Contractor elects to remove the upper layer of existing concrete overlay, when present, by rotomilling prior to final scarifying, the entire concrete surface of the bridge deck shall be milled to remove the surface matrix to the depth specified in the Plans with a tolerance as specified in Section 6-08.3(5)B. The operating parameters of the rotary milling machine shall be monitored in order to prevent the unnecessary removal of concrete below the specified removal depth.

6-09.3(6) Further Deck Preparation

The first paragraph is revised to read:

Once the lane or strip being overlaid has been cleaned of debris from scarifying, the Contractor, with the Engineer, shall perform a visual inspection of the scarified surface. The Contractor shall mark those areas of the existing bridge deck that are authorized by the Engineer for further deck preparation by the Contractor.

Item number 4 of the second paragraph is deleted.

The first sentence of the third paragraph is deleted.

6-09.3(6)A Equipment for Further Deck Preparation

This section is revised to read:

Further deck preparation shall be performed using either power driven hand tools conforming to Section 6-09.3(1)A, or hydro-demolition machines conforming to Section 6-09.3(1)C.

6-09.3(6)B Deck Repair Preparation

The second paragraph is deleted.

The last sentence of the second paragraph (after the preceding Amendment is applied) is revised to read:

In no case shall the depth of a sawn vertical cut exceed ¾ inch or to the top of the top steel reinforcing bars, whichever is less.

The first sentence of the third to last paragraph is revised to read:

Where existing steel reinforcing bars inside deck repair areas show deterioration greater than 20-percent section loss, the Contractor shall furnish and place steel reinforcing bars alongside the deteriorated bars in accordance with the details shown in the Standard Plans.

The last paragraph is deleted.

6-09.3(7) Surface Preparation for Concrete Overlay

The first seven paragraphs are deleted and replaced with the following:
Following the completion of any required further deck preparation the entire lane or strip being overlaid shall be cleaned to be free from oil and grease, rust and other foreign material that may still be present. These materials shall be removed by detergent-cleaning or other method accepted by the Engineer followed by sandblasting.

After detergent cleaning and sandblasting is completed, the entire lane or strip being overlaid shall be cleaned in final preparation for placing concrete.

Hand tool chipping, sandblasting and cleaning in areas adjacent to a lane or strip being cleaned in final preparation for placing concrete shall be discontinued when final preparation is begun. Scarifying and hand tool chipping shall remain suspended until the concrete has been placed and the requirement for curing time has been satisfied. Sandblasting and cleaning shall remain suspended for the first 24 hours of curing time after the completion of concrete placing.

Scarification, and removal of the upper layer of concrete overlay when present, may proceed during the final cleaning and overlay placement phases of the Work on adjacent portions of the Structure so long as the scarification and concrete overlay removal operations are confined to areas which are a minimum of 100 feet away from the defined limits of the final cleaning or overlay placement in progress. If the scarification and concrete overlay removal impedes or interferes in any way with the final cleaning or overlay placement as determined by the Engineer, the scarification and concrete overlay removal Work shall be terminated immediately and the scarification and concrete overlay removal equipment removed sufficiently away from the area being prepared or overlaid to eliminate the conflict. If the grade is such that water and contaminants from the scarification and concrete overlay removal operation will flow into the area being prepared or overlaid, the scarification and concrete overlay removal operation shall be terminated and shall remain suspended for the first 24 hours of curing time after the completion of concrete placement.

6-09.3(11) Placing Concrete Overlay
The first sentence of item number 3 in the fourth paragraph is revised to read:

Concrete shall not be placed when the temperature of the concrete surface is less than 45°F or greater than 75°F, and wind velocity at the construction site is in excess of 10 mph.

6-09.3(12) Finishing Concrete Overlay
The third paragraph is deleted.

The last paragraph is deleted.

6-09.3(13) Curing Concrete Overlay
The first sentence of the first paragraph is revised to read:

As the finishing operation progresses, the concrete shall be immediately covered with a single layer of clean, new or used, wet burlap.

The last sentence of the second paragraph is deleted.

The following two new paragraphs are inserted after the second paragraph:

As an alternative to the application of burlap and fog spraying described above, the Contractor may propose a curing system using proprietary curing blankets specifically
manufactured for bridge deck curing. The Contractor shall submit a Type 2 Working Drawing consisting of details of the proprietary curing blanket system, including product literature and details of how the system is to be installed and maintained.

The wet curing regimen as described shall remain in place for a minimum of 42-hours.

The last paragraph is deleted.

6-09.3(14) Checking for Bond
The first sentence of the first paragraph is revised to read:

After the requirements for curing have been met, the entire overlaid surface shall be sounded by the Contractor, in a manner accepted by and in the presence of the Engineer, to ensure total bond of the concrete to the bridge deck.

The last sentence of the first paragraph is deleted.

The second paragraph is deleted.

6-10.AP6
Section 6-10, Concrete Barrier
August 6, 2018

6-10.2 Materials
In the first paragraph, the reference to “Portland Cement” is revised to read:

Cement 9-01

6-10.3(6) Placing Concrete Barrier
The first two sentences of the first paragraph are revised to read:

Precast concrete barriers Type 2, Type 4, Type F, precast single slope barrier, and transitions shall rest on a paved foundation shaped to a uniform grade and section. The foundation surface for precast concrete barriers Type 2, Type 4, Type F, precast single slope barrier, and transitions shall meet this test for uniformity: When a 10-foot straightedge is placed on the surface parallel to the centerline for the barrier, the surface shall not vary more than ¼ inch from the lower edge of the straightedge.

6-11.AP6
Section 6-11, Reinforced Concrete Walls
April 2, 2018

6-11.2 Materials
In the first paragraph, the reference to “Aggregates for Portland Cement Concrete” is revised to read:

Aggregates for Concrete 9-03.1
6-12.AP6
Section 6-12, Noise Barrier Walls
August 6, 2018

6-12.2 Materials
In the first paragraph, the reference to “Aggregates for Portland Cement Concrete” is revised to read:

Aggregates for Concrete 9-03.1

The first paragraph is supplemented with the following new material reference:

Noise Barrier Wall Access Door 9-06.17

6-12.3(9) Access Doors and Concrete Landing Pads
The second paragraph is deleted and replaced with the following:

All frame and door surfaces, except stainless steel surfaces, shall be painted in accordance with Section 6-07.3(9). Primer shall be applied to all non-stainless steel surfaces. All primer coated exposed metal surfaces shall be field painted with the remaining Section 6-07.3(9)A paint system coats. The top coat, when dry, shall match the color specified in the Plans or Special Provisions.

This section is supplemented with the following:

Access door deadbolt locks shall be capable of accepting a Best CX series core. The Contractor shall furnish and install a spring-loaded construction core lock with each lock. The Engineer will furnish the permanent Best CX series core for the Contractor to install at the conclusion of the project.

6-13.AP6
Section 6-13, Structural Earth Walls
August 6, 2018

6-13.2 Materials
In the first paragraph, the reference to “Aggregates for Portland Cement Concrete” is revised to read:

Aggregates for Concrete 9-03.1

6-13.3(4) Precast Concrete Facing Panel and Concrete Block Fabrication
Item number 1 of the sixth paragraph is revised to read:

1. Vertical dimensions shall be ± 1/16 inch of the Plan dimension, and the rear height shall not exceed the front height.

Item number 3 of the sixth paragraph is revised to read:

3. All other dimensions shall be ± ¼ inch of the Plan dimension.
6-14.AP6  
Section 6-14, Geosynthetic Retaining Walls  
April 2, 2018

6-14.2 Materials  
In the first paragraph, the references to “Portland Cement” and “Aggregates for Portland Cement Concrete” are revised to read:

<table>
<thead>
<tr>
<th>Material</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cement</td>
<td>9-01</td>
</tr>
<tr>
<td>Aggregates for Concrete</td>
<td>9-03.1</td>
</tr>
</tbody>
</table>

6-15.AP6  
Section 6-15, Soil Nail Walls  
January 7, 2019

6-15.3(7) Shotcrete Facing  
The last paragraph is supplemented with the following:

After final tightening of the nut, the threads of the soil nail shall at a minimum be flush with the end of the nut.

6-16.AP6  
Section 6-16, Soldier Pile and Soldier Pile Tieback Walls  
April 2, 2018

6-16.2 Materials  
In the first paragraph, the reference to “Aggregates for Portland Cement Concrete” is revised to read:

<table>
<thead>
<tr>
<th>Material</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregates for Concrete</td>
<td>9-03.1</td>
</tr>
</tbody>
</table>

6-18.AP6  
Section 6-18, Shotcrete Facing  
April 1, 2019

6-18.2 Materials  
The reference to metakaolin is deleted.

6-18.3(3) Testing  
In the last sentence of the first paragraph, “AASHTO T 24” is revised to read “ASTM C1604”.

6-18.3(3)B Production Testing  
In the last sentence, “AASHTO T 24” is revised to read “ASTM C1604”.

6-18.3(4) Qualifications of Contractor’s Personnel  
In the last sentence of the second paragraph, “AASHTO T 24” is revised to read “ASTM C1604”.

AMENDMENTS TO THE STANDARD SPECIFICATIONS – JUNE 2019
6-19.AP6
Section 6-19, Shafts
January 7, 2019

6-19.2 Materials
In the first paragraph, the references to “Portland Cement” and “Aggregates for Portland Cement Concrete” are revised to read:

  Cement  9-01
Aggregates for Concrete  9-03.1

6-19.3(1)A Shaft Construction Tolerances
The last paragraph is supplemented with the following:

  The elevation of the top of the reinforcing cage for drilled shafts shall be within +6 inches and -3 inches from the elevation shown in the Plans.

6-19.3(2)D Nondestructive QA Testing Organization and Personnel
Item number 4 in the first paragraph is revised to read:

  4. Personnel preparing test reports shall be a Professional Engineer, licensed under Title 18 RCW, State of Washington, and shall seal the report in accordance with WAC 196-23-020.

6-19.3(3)C Conduct of Shaft Casing Installation and Removal and Shaft Excavation Operations
The first paragraph is supplemented with the following:

  In no case shall shaft excavation and casing placement extend below the bottom of shaft excavation as shown in the Plans.

6-19.3(6)E Thermal Wire and Thermal Access Point (TAPS)
The third sentence of the third paragraph is revised to read:

  The thermal wire shall extend from the bottom of the reinforcement cage to the top of the shaft, with a minimum of 5-feet of slack wire provided above the top of shaft.

The following new sentence is inserted after the third sentence of the third paragraph:

  All thermal wires in a shaft shall be equal lengths.

6-19.3(9)D Nondestructive QA Testing Results Submittal
The last sentence of the first paragraph is revised to read:

  Results shall be a Type 2E Working Drawing presented in a written report.
7-02.AP7
Section 7-02, Culverts
April 2, 2018

7-02.2 Materials
In the first paragraph, the references to “Portland Cement” and “Aggregates for Portland Cement Concrete” are revised to read:

Cement 9-01
Aggregates for Concrete 9-03.1

7-02.3(6)A4 Excavation and Bedding Preparation
The first sentence of the third paragraph is revised to read:

The 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.

7-05.AP7
Section 7-05, Manholes, Inlets, Catch Basins, and Drywells
August 6, 2018

7-05.3 Construction Requirements
The fourth sentence of the third paragraph is deleted.

7-08.AP7
Section 7-08, General Pipe Installation Requirements
April 2, 2018

7-08.3(3) Backfilling
The fifth sentence of the fourth paragraph is revised to read:

All compaction shall be in accordance with the Compaction Control Test of Section 2-03.3(14)D except in the case that 100% Recycled Concrete Aggregate is used.

The following new sentences are inserted after the fifth sentence of the fourth paragraph:

When 100% Recycled Concrete Aggregate is used, the Contractor may submit a written request to use a test point evaluation for compaction acceptance. Test Point evaluation shall be performed in accordance with SOP 738.

8-01.AP8
Section 8-01, Erosion Control and Water Pollution Control
April 1, 2019

8-01.1 Description
This section is revised to read:

This Work consists of furnishing, installing, maintaining, removing and disposing of best management practices (BMPs), as defined in the Washington Administrative Code (WAC)
173-201A, to manage erosion and water quality in accordance with these Specifications and as shown in the Plans or as designated by the Engineer.

The Contracting Agency may have a National Pollution Discharge Elimination System Construction Stormwater General Permit (CSWGP) as identified in the Contract Special Provisions. The Contracting Agency may or may not transfer coverage of the CSWGP to the Contractor when a CSWGP has been obtained. The Contracting Agency may not have a CSWGP for the project but may have another water quality related permit as identified in the Contract Special Provisions or the Contracting Agency may not have water quality related permits but the project is subject to applicable laws for the Work. Section 8-01 covers all of these conditions.

This section is supplemented with the following new subsection:

8-01.1(1) Definitions

1. pH Affected Stormwater
   a. Stormwater contacting green concrete (concrete that has set/stiffen but is still curing), recycled concrete, or engineered soils (as defined in the Construction Stormwater General Permit (CSWGP)) as a natural process
   b. pH monitoring shall be performed in accordance with the CSWGP, or Water Quality Standards (WQS in accordance with WAC 173-201A (surface) or 173-200C (ground)) when the CSWGP does not apply
   c. May be neutralized and discharged to surface waters or infiltrated

2. pH Affected Non-Stormwater
   a. Conditionally authorized in accordance with CSWGP Special Condition S.1.C., uncontaminated water contacting green concrete, recycled concrete, or engineered soils (as defined in the CSWGP)
   b. Shall not be categorized as cementitious wastewater/concrete wastewater, as defined below
   c. Shall be managed and treated in accordance with the CSWGP, or WQS when the CSWGP does not apply
   d. pH adjustment and dechlorination may be necessary, as specified in the CSWGP or in accordance with WQS when the CSWGP does not apply
   e. May be neutralized, treated, and discharged to surface waters in accordance with the CSWGP, with the exception of water-only shaft drilling slurry. Water-only shaft drilling slurry may be treated, neutralized, and infiltrated but not discharged to surface waters (Refer to Special Conditions S1.C. Authorized Discharges and S1.d Prohibited Discharges of the CSWGP)

3. Cementitious Wastewater/Concrete Wastewater
a. Any water that comes into contact with fine cementitious particles or slurry; any water used in the production, placement and/or clean-up of cementitious products; any water used to cut, grind, wash, or otherwise modify cementitious products

b. When any water, including stormwater, commingles with cementitious wastewater/concrete wastewater, the resulting water is considered cementitious wastewater/concrete wastewater and shall be managed to prevent discharge to waters of the State, including ground water

c. CSWGP Examples include: water used for or resulting from concrete truck/mixer/pumper/tool/chute rinsing or washing, concrete saw cutting and surfacing (sawing, coring, grinding, roughening, hydro-demolition, bridge and road surfacing)

d. Cannot be neutralized and discharged or infiltrated

8-01.2 Materials
The first paragraph is revised to read:

Materials shall meet the requirements of the following sections:

Corrugated Polyethylene Drain Pipe 9-05.1(6)  
Quarry Spalls and Permeable Ballast 9-13  
Erosion Control and Roadside Planting 9-14  
Construction Geotextile 9-33

The second paragraph is deleted.

8-01.3(1) General
This section is revised to read:

Adaptive management shall be employed throughout the duration of the project for the implementation of erosion and water pollution control permit requirements for the current condition of the project site. The adaptive management includes the selection and utilization of BMPs, scheduling of activities, prohibiting unacceptable practices, implementing maintenance procedures, and other managerial practices that when used singularly or in combination, prevent or reduce the release of pollutants to waters of the State. The adaptive management shall use the means and methods identified in this section and means and methods identified in the Washington State Department of Transportation’s Temporary Erosion and Sediment Control Manual or the Washington State Department of Ecology’s Stormwater Management Manuals for construction stormwater.

The Contractor shall install a high visibility fence along the 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 preservation area, acting immediately to repair or restore any high visibility fencing damaged or removed.

All discharges to surface waters shall comply with surface water quality standards as defined in Washington Administrative Code (WAC) Chapter 173-201A. All discharges to groundwater
shall comply with groundwater quality standards WAC Chapter 173-200. The Contractor shall comply with the CSWGP when the project is covered by the CSWGP.

Work, at a minimum, shall include the implementation of:

1. Sediment control measures prior to ground disturbing activities to ensure all discharges from construction areas receive treatment prior to discharging from the site.

2. Flow control measures to prevent erosive flows from developing.

3. Water management strategies and pollution prevention measures to prevent contamination of waters that will be discharged to surface waters or the ground.

4. Erosion control measures to stabilize erodible earth not being worked.

5. Maintenance of BMPs to ensure continued compliant performance.

6. Immediate corrective action if evidence suggests construction activity is not in compliance. Evidence includes sampling data, olfactory or visual evidence such as the presence of suspended sediment, turbidity, discoloration, or oil sheen in discharges.

To the degree possible, the Contractor shall coordinate this Work with permanent drainage and roadside restoration Work the Contract requires.

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>Western Washington</th>
<th>Eastern Washington</th>
</tr>
</thead>
<tbody>
<tr>
<td>(West of the Cascade Mountain Crest)</td>
<td>(East of the Cascade Mountain Crest)</td>
</tr>
<tr>
<td>May 1 through September 30</td>
<td>April 1 through October 31</td>
</tr>
<tr>
<td>17 Acres</td>
<td>17 Acres</td>
</tr>
<tr>
<td>October 1 through April 30</td>
<td>November 1 through March 31</td>
</tr>
<tr>
<td>5 Acres</td>
<td>5 Acres</td>
</tr>
</tbody>
</table>

The Engineer may increase or decrease the limits based on project conditions.

Erodible earth is defined as any surface where soils, grindings, or other materials may be capable of being displaced and transported by rain, wind, or surface water runoff.

Erodible earth not being worked, whether at final grade or not, shall be covered within the specified time period (see the table below), using BMPs for erosion control.

<table>
<thead>
<tr>
<th>Western Washington</th>
<th>Eastern Washington</th>
</tr>
</thead>
<tbody>
<tr>
<td>(West of the Cascade Mountain Crest)</td>
<td>(East of the Cascade Mountain Crest)</td>
</tr>
<tr>
<td>October 1 through April 30</td>
<td>October 1 through June 30</td>
</tr>
<tr>
<td>2 days maximum</td>
<td>5 days maximum</td>
</tr>
</tbody>
</table>
When applicable, the Contractor shall be responsible for all Work required for compliance with the CSWGP including annual permit fees.

If the Engineer, under Section 1-08.6, orders the Work suspended, the Contractor shall continue to comply with this division during the suspension.

8-01.3(1)A Submittals
This section’s content is deleted.

This section is supplemented with the following new subsection:

8-01.3(1)A1 Temporary Erosion and Sediment Control Plan
Temporary Erosion and Sediment Control (TESC) Plans consist of a narrative section and plan sheets that meet the Washington State Department of Ecology’s Stormwater Pollution Prevention Plan (SWPPP) requirement in the CSWGP. For projects that do not require a CSWGP but have the potential to discharge to surface waters of the state, an abbreviated TESC plan shall be used, which may consist of a narrative and/or plan sheets and shall demonstrate compliance with applicable codes, ordinances and regulations, including the water quality standards for surface waters; Chapter 173-201A of the Washington Administrative Code (WAC) and water quality standards for groundwaters in accordance with Chapter 173-200 WAC.

The Contractor shall either adopt the TESC Plan in the Contract or develop a new TESC Plan. If the Contractor adopts the TESC Plan in scenarios in which the CSWGP is transferred to the Contractor, the Contractor shall modify the TESC Plan to match the Contractor’s schedule, method of construction, and to include all areas that will be used to directly support construction activity such as equipment staging yards, material storage areas, or borrow areas. TESC Plans shall include all high visibility fence shown in the 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 adaptively managed throughout construction based on site inspections and required sampling to maintain compliance with the CSWGP, or WQS when no CSWGP applies. 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) 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
This section is revised to read:

The Contractor shall identify the ESC Lead at the preconstruction discussions and in the TESC Plan. The ESC Lead shall have, for the life of the Contract, a current Certificate of Training in Construction Site Erosion and Sediment Control from a course approved by the Washington State Department of Ecology. The ESC Lead must be onsite or on call at all times throughout construction. The ESC Lead shall be listed on the Emergency Contact List required under Section 1-05.13(1).
The ESC Lead shall implement the TESC Plan. Implementation shall include, but is not limited to:

1. Installing, adaptively managing, and maintaining temporary erosion and sediment control BMPs to assure continued performance of their intended function. Damaged or inadequate BMPs shall be corrected immediately.

2. Updating the TESC Plan to reflect current field conditions.

3. Discharge sampling and submitting Discharge Monitoring Reports (DMRs) to the Washington State Department of Ecology in accordance with the CSWGP.

4. Develop and maintain the Site Log Book as defined in the CSWGP. When the Site Log Book or portion thereof is electronically developed, the electronic documentation must be accessible onsite. As a part of the Site Log Book, the Contractor shall develop and maintain a 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 BMPs, 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 Washington State Department of Ecology’s Erosion and Sediment Control Site Inspection Form, located at https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Construction-stormwater-permit, 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**
This section is supplemented with the following new subsections:

**8-01.3(1)C5 Water Management for In-Water Work Below Ordinary High Water Mark (OHWM)**
Work over surface waters of the state (defined in WAC 173-201A-010) or below the OHWM (defined in RCW 90.58.030) shall comply with water quality standards for surface waters of the State of Washington.

**8-01.3(1)C6 Environmentally Acceptable Hydraulic Fluid**
All equipment containing hydraulic fluid that extends from a bridge deck over surface waters of the state or below the OHWM, shall be equipped with a biodegradable hydraulic fluid. The fluid shall achieve either a Pw1 Environmental Persistence Classification stated in ASTM D6046 (≥60% biodegradation in 28 days) or equivalent standard. Alternatively, hydraulic fluid that meets International Organization for Standardization (ISO 15380), the European Union Ecolabel, or equivalent certification will also be accepted.

The Contractor shall submit a Type 1 Working Drawing consisting of a manufacturer catalog cut of the hydraulic fluid used.
The designation of biodegradable hydraulic fluid does not mean fluid spills are acceptable. The Contractor shall respond to spills to land or water in accordance with the Contract, the associated SPCC Plan, and all applicable local, state, and federal regulations.

8-01.3(1)C7 Turbidity Curtain
All Work for the turbidity curtain shall be in accordance with the manufacturer’s recommendations for the site conditions. Removal procedures shall be developed and used to minimize silt release and disturbance of silt. The Contractor shall submit a Type 2 Working Drawing, detailing product information, installation and removal procedures, equipment and workforce needs, maintenance plans, and emergency repair/replacement plans.

Turbidity curtain materials, installation, and maintenance shall be sufficient to comply with water quality standards.

The Contractor shall notify the Engineer 10 days in advance of removing the turbidity curtain. All components of the turbidity curtain shall be removed from the project.

8-01.3(1)C1 Disposal of Dewatering Water
This section is revised to read:

When uncontaminated groundwater is encountered in an excavation on a project it may be infiltrated within vegetated areas of the right of way not designated as Sensitive Areas or incorporated into an existing stormwater conveyance system at a rate that will not cause erosion or flooding in any receiving surface water.

Alternatively, the Contractor may pursue independent disposal and treatment alternatives that do not use the stormwater conveyance system provided it is in compliance with the applicable WACs and permits.

8-01.3(1)C2 Process Wastewater
This section is revised to read:

Wastewater generated on-site as a byproduct of a construction process shall not be discharged to surface waters of the State. Some sources of process wastewater may be infiltrated in accordance with the CSWGP. Some sources of process wastewater may be disposed via independent disposal and treatment alternatives in compliance with the applicable WACs and permits.

8-01.3(1)C3 Shaft Drilling Slurry Wastewater
This section is revised to read:

Wastewater generated on-site during shaft drilling activity shall be managed and disposed of in accordance with the requirements below. No shaft drilling slurry wastewater shall be discharged to surface waters of the State. Neither the sediment nor liquid portions of the shaft drilling slurry wastewater shall be contaminated, as detectable by visible or olfactory indication (e.g., chemical sheen or smell).

1. Water-only shaft drilling slurry or water slurry with accepted flocculants may be infiltrated on-site. Flocculants used shall meet the requirements of Section 9-14.5(1) or shall be chitosan products listed as General Use Level Designation (GULD) on the Washington State Department of Ecology’s stormwater treatment technologies.
webpage for construction treatment. Infiltration is permitted if the following requirements are met:

a. Wastewater shall have a pH of 6.5 – 8.5 prior to discharge.

b. The amount of flocculant added to the slurry shall be kept to the minimum needed to adequately settle out solids. The flocculant shall be thoroughly mixed into the slurry.

c. The slurry removed from the shaft shall be contained in a leak proof cell or tank for a minimum of 3 hours.

d. The infiltration rate shall be reduced if needed to prevent wastewater from leaving the infiltration location. The infiltration site shall be monitored regularly during infiltration activity. All wastewater discharged to the ground shall fully infiltrate and discharges shall stop before the end of each work day.

e. Drilling spoils and settled sediments remaining in the containment cell or tank shall be disposed of in accordance with Section 6-19.3(4)F.

f. Infiltration locations shall be in upland areas at least 150 feet away from surface waters, wells, on-site sewage systems, aquifer sensitive recharge areas, sole source aquifers, well head protection areas, and shall be marked on the plan sheets before the infiltration activity begins.

g. Prior to infiltration, the Contractor shall submit a Shaft Drilling Slurry Wastewater Management and Infiltration Plan as a Type 2 Working Drawing. This Plan shall be kept on-site, adapted if needed to meet the construction requirements, and updated to reflect what is being done in the field. The Working Drawing shall include, at a minimum, the following information:

i. Plan sheet showing the proposed infiltration location and all surface waters, wells, on-site sewage systems, aquifer-sensitive recharge areas, sole source aquifers, and well-head protection areas within 150 feet.

ii. The proposed elevation of soil surface receiving the wastewater for infiltration and the anticipated phreatic surface (i.e., saturated soil).

iii. The source of the water used to produce the slurry.

iv. The estimated total volume of wastewater to be infiltrated.

v. The accepted flocculant to be used (if any).

vi. The controls or methods used to prevent surface wastewater runoff from leaving the infiltration location.

vii. The strategy for removing slurry wastewater from the shaft and containing the slurry wastewater once it has been removed from the shaft.

viii. The strategy for monitoring infiltration activity and adapting methods to ensure compliance.
ix. A contingency plan that can be implemented immediately if it becomes evident that the controls in place or methods being used are not adequate.

x. The strategy for cleaning up the infiltration location after the infiltration activity is done. Cleanup shall include stabilizing any loose sediment on the surface within the infiltration area generated as a byproduct of suspended solids in the infiltrated wastewater or soil disturbance associated with BMP placement and removal.

2. Shaft drilling mineral slurry, synthetic slurry, or slurry with polymer additives not allowed for infiltration shall be contained and disposed of by the Contractor at an accepted disposal facility in accordance with Section 2-03.3(7)C. Spoils that have come into contact with mineral slurry shall be disposed of in accordance with Section 6-19.3(4)F.

8-01.3(1)C4 Management of Off-Site Water
This section is revised to read:

Prior to clearing and grubbing, the Contractor shall intercept all sources of off-site surface water and overland flow that will run-on to the project. Off-site surface water run-on shall be diverted through or around the project in a way that does not introduce construction related pollution. It shall be diverted to its preconstruction discharge location in a manner that does not increase preconstruction flow rate and velocity and protects contiguous properties and waterways from erosion. The Contractor shall submit a Type 2 Working Drawing consisting of the method for performing this Work.

8-01.3(1)E Detention/Retention Pond Construction
This section is revised to read:

Permanent or temporary ponds shall be constructed before beginning other grading and excavation Work in the area that drains into that pond. Detention/retention ponds may be constructed concurrently with grading and excavation when allowed by the Engineer. Temporary conveyances shall be installed concurrently with grading in accordance with the TESC Plan so that newly graded areas drain to the pond as they are exposed.

8-01.3(2) Seeding, Fertilizing, and Mulching
This section’s title is revised to read:

8-01.3(2) Temporary Seeding and Mulching

8-01.3(2)A Preparation for Application
This section is revised to read:

A cleated roller, crawler tractor, or similar equipment, which forms longitudinal depressions at least 2 inches deep shall be used for compaction and preparation of the surface to be seeded. The entire area shall be uniformly covered with longitudinal depressions formed perpendicular to the natural flow of water on the slope. The soil shall be conditioned with sufficient water so the longitudinal depressions remain in the soil surface until completion of the seeding.
8-01.3(2)B Temporary Seeding
This section is revised to read:

8-01.3(2)B Temporary Seeding
Temporary grass seed shall be a commercially prepared mix, made up of low growing grass species that will grow without irrigation at the project location, and accepted by the Engineer. The application rate shall be two pounds per 1000 square feet.

The Contractor shall notify the Engineer not less than 24 hours in advance of any seeding operation and shall not begin the Work until areas prepared or designated for seeding have been accepted. Following the Engineer’s acceptance, seeding of the accepted slopes shall begin immediately.

Temporary seeding may be sown at any time allowed by the Engineer. Temporary seeding shall be sown by one of the following methods:

1. A hydro seeder that utilizes water as the carrying agent, and maintains continuous agitation through paddle blades. It shall have an operating capacity sufficient to agitate, suspend, and mix into a homogeneous slurry the specified amount of seed and water or other material. Distribution and discharge lines shall be large enough to prevent stoppage and shall be equipped with a set of hydraulic discharge spray nozzles that will provide a uniform distribution of the slurry.

2. Blower equipment with an adjustable disseminating device capable of maintaining a constant, measured rate of material discharge that will ensure an even distribution of seed at the rates specified.

3. Power-drawn drills or seeders.

4. Areas in which the above methods are impractical may be seeded by hand methods.

When seeding by hand, the seed shall be incorporated into the top ¼ inch of soil by hand raking or other method that is allowed by the Engineer.

Seed applied using a hydroseeder shall have a tracer added to visibly aid uniform application. This tracer shall not be harmful to plant, aquatic, or animal life. If Short-Term Mulch is used as a tracer, the application rate shall not exceed 250 pounds per acre.

Seed and fertilizer may be applied in one application provided that the fertilizer is placed in the hydroseeder tank no more than 1 hour prior to application.

8-01.3(2)D Mulching
This section, including title, is revised to read:

8-01.3(2)D Temporary Mulching
Temporary mulch shall be straw, wood strand, or HECP mulch and shall be used for the purpose of erosion control by protecting bare soil surface from particle displacement. Mulch shall not be applied below the anticipated water level of ditch slopes, pond bottoms, and
stream banks. HECP mulch shall not be used within the Ordinary High Water Mark. Non-HECP mulches applied below the anticipated water level shall be removed or anchored down so that it cannot move or float, at no additional expense to the Contracting Agency.

Straw or wood strand mulch shall be applied at a rate to achieve at least 95 percent visual blockage of the soil surface.

Short Term Mulch shall be hydraulically applied at the rate of 2500 pounds per acre and may be applied in one lift.

Moderate Term Mulch and Long Term Mulch shall be hydraulically applied at the rate of 3500 pounds per acre with no more than 2000 pounds applied in any single lift.

Mulch sprayed on signs or sign Structures shall be removed the same day.

Areas not accessible by mulching equipment shall be mulched by accepted hand methods.

**8-01.3(2)F Dates for Application of Final Seed, Fertilizer, and Mulch**

This section is deleted in its entirety.

**8-01.3(2)G Protection and Care of Seeded Areas**

This section is deleted in its entirety.

**8-01.3(2)H Inspection**

This section is deleted in its entirety.

**8-01.3(2)I Mowing**

This section is deleted in its entirety.

**8-01.3(3) Placing Biodegradable Erosion Control Blanket**

This section’s title is revised to read:

**8-01.3(3) Placing Erosion Control Blanket**

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

Erosion Control Blankets are used as an erosion prevention device and to enhance the establishment of vegetation.

The second paragraph is revised to read:

When used to enhance the establishment of seeded areas, seeding and fertilizing shall be done prior to blanket installation.

**8-01.3(4) Placing Compost Blanket**

This section is revised to read:

Compost blankets are used for erosion control. Compost blanket shall be only be placed on ground surfaces that are steeper than 3-foot horizontal and 1-foot vertical though steeper slopes shall be broken by wattles or compost socks placed according to the Standard Plans. Compost shall be placed to a depth of 3 inches over bare soil. An organic tackifier shall be
placed over the entire composted area when dry or windy conditions are present or expected. The tackifier shall be applied immediately after the application of compost to prevent compost from leaving the composted area.

Medium compost shall be used for the compost blanket. Compost may serve the purpose of soil amendment as specified in Section 8-02.3(6).

8-01.3(5) Plastic Covering
The first paragraph is revised to read:

Erosion Control – Plastic coverings used to temporarily cover stockpiled materials, slopes or bare soils shall be installed and maintained in a way that prevents water from intruding under the plastic and prevents the plastic cover from being damaged by wind. Plastic coverings shall be placed with at least a 12-inch overlap of all seams and be a minimum of 6 mils thick. Use soil stabilization and energy dissipation BMPs to minimize the erosive energy flows coming off sloped areas of plastic (e.g., toe of slope). When feasible, prevent the clean runoff from plastic from hitting bare soil. Direct flows from plastic to stabilized outlet areas.

8-01.3(7) Stabilized Construction Entrance
The first paragraph is revised to read:

Temporary stabilized construction entrance shall be constructed in accordance with the Standard Plans, prior to construction vehicles entering the roadway from locations that generate sediment track out on the roadway. 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 pickup street sweepers shall be used to remove and collect dirt and other debris from the Roadway. 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.

When allowed by the Engineer, power broom sweepers may be used in non-sensitive areas. The broom sweeper shall sweep dirt and other debris from the roadway into the work area. The swept material shall be prevented from entering or washing into waters of the State.

Street washing with water will require the concurrence of the Engineer.

8-01.3(12) Compost Socks
The first two sentences of the first paragraph are revised to read:

Compost socks are used to disperse flow and sediment. Compost socks shall be installed as soon as construction will allow but before flow conditions create erosive flows or discharges from the site. Compost socks shall be installed prior to any mulching or compost placement.

8-01.3(13) Temporary Curb
The last two sentences of the second paragraph are revised to read:
Temporary curbs shall be a minimum of 4 inches in height. Temporary curb shall be installed so that ponding does not occur in the adjacent roadway.

8-01.3(14) Temporary Pipe Slope Drain

The third and fourth paragraphs are revised to read:

The pipe fittings shall be water tight and the pipe secured to the slope with metal posts, wood stakes, or sand bags.

The water shall be discharged to a stabilized conveyance, sediment trap, stormwater pond, rock splash pad, or vegetated strip, in a manner to prevent erosion and maintain water quality compliance.

The last paragraph is deleted.

8-01.3(15) Maintenance

This section is revised to read:

Erosion and sediment control BMPs shall be maintained or adaptively managed as required by the CSWGP until the Engineer determines they are no longer needed. When deficiencies in functional performance are identified, the deficiencies shall be rectified immediately.

The BMPs shall be inspected on the schedule outlined in Section 8-01.3(1)B for damage and sediment deposits. Damage to or undercutting of BMPs shall be repaired immediately.

In areas where the Contractor’s activities have compromised the erosion control functions of the existing grasses, the Contractor shall overseed at no additional cost to the Contracting Agency.

The quarry spalls of construction entrances shall be refreshed, replaced, or screened to maintain voids between the spalls for collecting mud and dirt.

Unless otherwise specified, when the depth of accumulated sediment and debris reaches approximately ½ the height of the BMP the deposits shall be removed. Debris or contaminated sediment shall be disposed of in accordance with Section 2-03.3(7)C. Clean sediments may be stabilized on-site using BMPs as allowed by the Engineer.

8-01.3(16) Removal

This section is revised to read:

The Contractor shall remove all temporary BMPs, all associated hardware and associated accumulated sediment deposition from the project limits prior to Physical Completion unless otherwise allowed by the Engineer. When the temporary BMP materials are made of natural plant fibers unaltered by synthetic materials the Engineer may allow leaving the BMP in place.

The Contractor shall remove BMPs and associated hardware in a way that minimizes soil disturbance. The Contractor shall permanently stabilize all bare and disturbed soil after removal of BMPs. If the installation and use of the erosion control BMPs have compacted or otherwise rendered the soil inhospitable to plant growth, such as construction entrances, the Contractor shall take measures to rehabilitate the soil to facilitate plant growth. This may
include, but is not limited to, ripping the soil, incorporating soil amendments, or seeding with the specified seed.

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 the Washington State Department of Ecology will not apply.

8-01.4 Measurement
This section’s content is deleted and replaced with the following new subsections:

8-01.4(1) Lump Sum Bid for Project (No Unit Items)
When the Bid Proposal contains the 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 except as described in Sections 8-01.4(3) and 8-01.4(4). Also, except as described in Section 8-01.4(3), all of Sections 8-01.4(2) and 8-01.5(2) are deleted.

8-01.4(2) Item Bids
When the Proposal does not contain the items “Erosion Control and Water Pollution Prevention”, Section 8-01.4(1) and 8-01.5(1) are deleted and the Bid Proposal will contain some or all of the following items measured as noted.

ESC lead will be measured per day for each day that an inspection is made and a report is filed.

Erosion control blanket and plastic covering will be measured by the square yard along the ground slope line of surface area covered and accepted.

Turbidity curtains will be measured by the linear foot along the ground line of the installed curtain.

Check dams will be measured per linear foot one time only along the ground line of the completed check dam. No additional measurement will be made for check dams that are required to be rehabilitated or replaced due to wear.
Stabilized construction entrances will be measured by the square yard by ground slope measurement for each entrance constructed.

Tire wash facilities will be measured per each for each tire wash installed.

Street cleaning will be measured by the hour for the actual time spent cleaning pavement, refilling with water, dumping and transport to and from cleaning locations within the project limits, as authorized by the Engineer. Time to mobilize the equipment to or from the project limits on which street cleaning is required will not be measured.

Inlet protections will be measured per each for each initial installation at a drainage structure.

Silt fence, gravel filter, compost berms, and wood chip berms will be measured by the linear foot along the ground line of the completed barrier.

Wattles and compost socks will be measured by the linear foot.

Temporary curbs will be measured by the linear foot along the ground line of the completed installation.

Temporary pipe slope drains will be measured by the linear foot along the flow line of the pipe.

Coir logs will be measured by the linear foot along the ground line of the completed installation.

Outlet protections will be measured per each initial installation at an outlet location.

Temporary seeding, temporary mulching, and tackifiers will be measured by the acre by ground slope measurement.

Compost blanket will be measured by the square yard by ground slope surface area covered and accepted.

8-01.4(3) Reinstating Unit Items with Lump Sum Erosion Control and Water Pollution Prevention
The Contract Provisions may establish the project as lump sum, in accordance with Section 8-01.4(1) and also include one or more of the items included above in Section 8-01.4(2). When that occurs, the corresponding measurement provision in Section 8-01.4(2) is not deleted and the Work under that item will be measured as specified.

8-01.4(4) Items not included with Lump Sum Erosion Control and Water Pollution Prevention
Compost blanket will be measured by the square yard by ground slope surface area covered and accepted.

Temporary mulch will be measured by the acre by ground slope surface area covered and accepted.

High visibility fence will be measured by the linear foot along the ground line of the completed fence.
8-01.5 Payment
This section’s content is deleted and replaced with the following new subsections:

8-01.5(1) Lump Sum Bid for Project (No Unit Items)
Payment will be made for the following Bid item when it is included in the Proposal:

“Erosion Control and Water Pollution Prevention”, lump sum.

The lump sum Contract price for “Erosion Control and Water Pollution Prevention” shall be full pay to perform the Work as described in Section 8-01 except for costs compensated by Bid Proposal items inserted through Contract Provisions as described in Section 8-01.4(2). Progress payments for the lump sum item “Erosion Control and Water Pollution Prevention” will be made as follows:

1. The Contracting Agency will pay 15 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 BMPs, and
   c. Identifying water quality sampling locations.

2. 70 percent of the bid amount will be paid in accordance with Section 1-09.9.

3. Once the project is physically complete and copies of all reports submitted to the Washington State Department of Ecology have been submitted to the Engineer, and, if applicable, transference of the CSWGP back to the Contracting Agency is complete, the remaining 15 percent of the bid amount shall be paid in accordance with Section 1-09.9.

8-01.5(2) Item Bids
“ESC Lead”, per day.

“Turbidity Curtain”, per linear foot.

“Erosion Control Blanket”, per square yard.

“Plastic Covering”, per square yard.

“Check Dam”, per linear foot.

“Inlet Protection”, per each.

“Gravel Filter Berm”, per linear foot.

“Stabilized Construction Entrance”, per square yard.

“Street Cleaning”, per hour.
“Silt Fence”, per linear foot.

“Wood Chip Berm”, per linear foot.

“Compost Berm”, per linear foot.

“Wattle”, per linear foot.

“Compost Sock”, per linear foot.

“Coir Log”, per linear foot.

“Temporary Curb”, per linear foot.

“Temporary Pipe Slope Drain”, per linear foot.

“Temporary Seeding”, per acre.

“Temporary Mulching”, per acre.

“Compost Blanket”, per square yard.

“Outlet Protection”, per each.

“Tackifier”, per acre.

“Erosion/Water Pollution Control”, by force account as provided in Section 1-09.6.

Maintenance and removal of erosion and water pollution control devices including removal and disposal of sediment, stabilization and rehabilitation of soil disturbed by these activities, and any additional Work deemed necessary by the Engineer to control erosion and water pollution will be paid by force account in accordance with Section 1-09.6.

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.

8-01.5(3) Reinstating Unit Items with Lump Sum Erosion Control and Water Pollution Prevention

The Contract may establish the project as lump sum, in accordance with Section 8-01.4(1) and also reinstate the measurement of one or more of the items described in Section 8-01.4(2), except for Erosion/Water Pollution Control, by force account. When that occurs, the corresponding payment provision in Section 8-01.5(2) is not deleted and the Work under that item will be paid as specified.

8-01.5(4) Items not included with Lump Sum Erosion Control and Water Pollution Prevention

Payment will be made for the following Bid item when it is included in the Proposal:

“High Visibility Fence”, per linear foot.
8-02.AP8
Section 8-02, Roadside Restoration
April 1, 2019

This section, including all subsections, is revised to read:

**8-02.1 Description**
This Work consists of preserving, maintaining, establishing and augmenting vegetation on the roadsides and within mitigation or sundry site areas. It includes vegetation preservation, weed and pest control, furnishing and placing topsoil, compost, and soil amendments, and furnishing and planting seed, sod and plants of all forms and container types. It includes performing plant establishment activities and soil bioengineering. Work shall be performed in accordance with these Specifications and as shown in the Plans or as designated by the Engineer.

Trees, whips, shrubs, ground covers, cuttings, live stakes, live poles, live branches, rhizomes, tubers, rootstock, and seedlings will hereinafter be referred to collectively as “plants” or “plant material”. Grass, wildflowers, and other plant materials installed in seed form will hereinafter be referred to collectively as “seed”.

**8-02.2 Materials**
Materials shall meet the requirements of the following sections:

Erosion Control and Roadside Planting  9-14
Water  9-25.2

Botanical identification and nomenclature of plant materials shall be based on descriptions by Hitchcock and Cronquist in “Flora of the Pacific Northwest”. Botanical identification and nomenclature of plant material not found in “Flora” shall be based on Bailey in “Hortus Third” or superseding editions and amendments or as referenced in the Plans.

**8-02.3 Construction Requirements**

**8-02.3(1) Responsibility During Construction**
The Contractor shall prepare, install, and ensure adequate and proper care of all roadside seeded, planted, and lawn areas on the project until all plant establishment periods required by the Contract are complete or until Physical Completion of the project, whichever is last.

Adequate and proper care shall include, but is not limited to, keeping all plant material in a healthy, growing condition by watering, pruning, and other actions deemed necessary for plant health. This Work shall include keeping the project area free from insect infestation, weeds or unwanted vegetation, litter, and other debris along with retaining the finished grades and mulch in a neat uniform condition.

Existing desirable vegetation shall be saved and protected unless removal is required by the Contract or allowed by the Engineer.

The Contractor shall have sole responsibility for the maintenance and appearance of the roadside restoration.
8-02.3(2) Work Plans

Three Work Plan submittals exist under this Section:

1. Roadside Work Plan: This plan is required when Work will disturb the roadside beyond 20 feet from the pavement or where trees or native vegetation will be removed, the Contractor shall submit a Type 2 Working Drawing.

2. Weed and Pest Control Plan: This plan is required when the proposal contains the item "Weed and Pest Control," and prior to application of any chemicals or weed control activities, the Contractor shall submit a Type 2 Working Drawing.

3. Plant Establishment Plan: This plan is required when the proposal contains the item "PSIPE__", and prior to completion of Initial Planting, the Contractor shall submit a Type 2 Working Drawing.

8-02.3(2)A Roadside Work Plan

The Roadside Work Plan shall define the expected impacts to the roadside and restoration resulting from Work necessary to meet all Contract requirements. The Contractor shall define how the roadside restoration Work included in the Contract will be phased and coordinated with project Work such as earthwork, staging, access, erosion and water pollution control, irrigation, etc. The Roadside Work Plan shall include the following:

1. Limiting impacts to roadsides:
   a. Limits of Work including locations of staging or parking.
   b. Means and methods for vegetation protection (in accordance with Section 1-07.16(2)).
   c. Locations outside of clearing limits where vegetation shall be removed to provide access routes or other needs to accomplish the Work.
   d. Plans for removal, preservation and stockpile of topsoil or other native materials, if outside of clearing and grubbing limits and within the project limits.

2. Roadside Restoration:
   a. Plan for propagation and procurement of plants, ground preparation for planting, and installation of plants.
   b. Means and methods to limit soil compaction where seeding and planting are to occur, such as steel plates, hog fuel access roads, wood mats for sensitive areas (including removal) and decompaction for unavoidable impacts.
   c. Plan and timing to incorporate or remove erosion control items.

3. Lawn Installation:
   a. Schedule for lawn installation work.
b. Establishment and maintenance of lawns.

8-02.3(2)B Weed and Pest Control Plan
The Weed and Pest Control Plan shall describe all weed and pest control needs for the project.

The plan shall be prepared and signed by a licensed Commercial Pest Control Operator or Consultant. The plan for control of weeds and pests on the Contract in accordance with Section 8-02.3(3) shall include the following:

1. Names of plan preparer and pesticide operators, including contact information. The Contractor shall furnish the Engineer evidence that all operators are licensed with appropriate endorsements, and that the pesticide used is registered for use by the Washington State Department of Agriculture.

2. Means and methods of weed control, including mechanical and/or chemical.

3. Schedule for weed control including re-entry times for pesticide application by pesticide type.

4. Proposed pesticide use in accordance with Section 8-02.3(3)A: name, application rate, and Safety Data Sheets of all proposed pesticides. Include a copy of the current product label for each pesticide to be used.

5. Plan to ensure worker safety until pesticide re-entry periods are met.

8-02.3(2)C Plant Establishment Plan
The Plant Establishment Plan shall describe activities necessary to ensure continued health and vigor of planted and seeded areas in accordance with the requirements of Sections 8-02.3(12) and 8-02.3(13). Should the plan become unworkable at any time during the first-year plant establishment, the Contractor shall submit a revised plan prior to proceeding with further Work. The Plant Establishment Plan shall include:

1. Proposed scheduling of joint inspection meetings, activities, materials, equipment to be utilized for the first-year plant establishment.

2. Proposed adaptive management activities to ensure successful establishment of seeded, sodded, and planted areas.

3. A contact person.

4. Management of the irrigation system, when applicable.

8-02.3(3) Weed and Pest Control
The Contractor shall control weed and pest species within the project limits using integrated pest management principles consisting of mechanical, biological, and chemical controls that are outlined in the Weed and Pest Control Plan or as designated
by the Engineer. Controlling weeds consists of killing and removing weeds by chemical, mechanical, and hand methods.

8-02.3(3)A Chemical Pesticides
Chemical pesticides include, but are not restricted to, any substance or mixture of substances intended for preventing, destroying, repelling or mitigating any pest, including but not limited to, insecticides, herbicides, fungicides, adjuvants, and additives, including plant regulators, defoliants and desiccants. The Contractor shall apply chemical pesticides in accordance with the label recommendations, the Washington State Department of Ecology, local sensitive area ordinances, and Washington State Department of Agriculture laws and regulations. Only those pesticides listed in the table Herbicides Approved for Use on WSDOT Rights of Way and accepted as part of the Weed and Pest Control Plan or by written authorization from the Engineer may be used (www.wsdot.wa.gov/maintenance/roadside/herbicide_use.htm).

The applicator shall be licensed by the State of Washington as a Commercial Applicator or Commercial Operator, with additional endorsements as required by the Special Provisions or the proposed weed control plan. All chemical pesticides shall be delivered to the job site in the original containers, or if pre-mixed off-site, a certification of the components and formulation from the supplier is required. The licensed applicator or operator shall complete WSDOT Form 540-509, Commercial Pesticide Application Record, each day the pesticide is applied and furnish a copy to the Engineer by the following business day.

The Contractor shall ensure confinement of the chemicals within the designated areas. The use of spray chemical pesticides shall require the use of anti-drift and activating agents and a spray pattern indicator unless otherwise allowed by the Engineer.

The Contractor shall assume all responsibility for rendering any area unsatisfactory for planting by reason of chemical application. Damage to adjacent areas, either on or off the Highway Right of Way, shall be repaired to the satisfaction of the Engineer or the property owner at no additional cost to the Contracting Agency.

8-02.3(3)B Planting and Lawn Area Weed Control
Planting and lawn area weed control consists of controlling weeds and pests in planted and lawn areas shown in the Plans. This Work is included in the bid items for planting and lawn installation.

All planting and lawn areas shall be prepared so that they are weed and debris free at the time of planting and until completion of the project. The planting areas shall include the entire ground surface, regardless of cover, areas around plants, and those areas shown in the Plans.

Within planting or lawn areas, all species that are not shown in the Plans are unwanted and shall be controlled unless specifically allowed by the Engineer to remain.

Grass growing within the mulch ring of a plant, including grass applied in accordance with Sections 8-01.3(2)A1, 8-02.3(9) or 8-02.3(10), shall be considered
a weed and shall be controlled on the project in accordance with the weed and pest control plan.

All applications of post-emergent herbicides shall be made while green and growing tissue is present. Residual herbicides shall not be used where rhizomatous species or perennial species are indicated.

Should unwanted vegetation reach the flowering and seed stage in violation of these Specifications, the Contractor shall physically remove and bag the seed heads prior to seed dispersion. All physically removed vegetation and seed heads shall be disposed of off-site at no cost to the Contracting Agency.

**8-02.3(3)C Project Area Weed and Pest Control**
The Contractor shall control weeds not otherwise covered in accordance with Section 8-02.3(3)B, in all areas within the project limits, including erosion control seeding areas and vegetation preservation areas, as designated by the Engineer.

When the Bid Item "Project Area Weed and Pest Control" is included in the Contract, the Contractor shall also control all weeds specified as noxious by the Washington State Department of Agriculture, the local Weed District, or the County Noxious Weed Control Board outside of planting areas within the project limits.

**8-02.3(4) Topsoil**
Topsoil shall not be worked or placed when the ground or topsoil is frozen, or excessively wet.

The Contractor shall protect topsoil stockpiled for project use to prevent erosion and weed growth. Weed growth on topsoil stockpile sites shall be immediately eliminated in accordance with the accepted Weed and Pest Control Plan and Section 8-02.3(3)C.

The subsoil where topsoil is to be placed shall be tilled to a depth of 1 foot or as specified in the Special Provisions or the Plans. Topsoil of the type specified shall be evenly spread over the specified areas to the depth shown in the Plans or as otherwise ordered by the Engineer. Topsoil depths greater than 6 inches shall be placed in lifts no more than 6 inches in depth. The first lift of topsoil shall be incorporated with sub-soil to a depth of 8 inches and subsequent lifts placed and lightly tamped between lifts. After the topsoil has been spread, all large clods, hard lumps, and rocks 2 inches in diameter and larger, and litter shall be raked up, removed, and disposed.

**8-02.3(4)A Topsoil Type A**
Topsoil Type A shall be as specified in the Special Provisions. The Contractor shall submit a certification by the supplier that the contents of the Topsoil meet the requirements in the Special Provisions.

**8-02.3(4)B Topsoil Type B**
Topsoil Type B shall be naturally occurring topsoil taken from within the project limits and shall meet the requirements of Section 9-14.1(2). Topsoil Type B shall be taken from areas shown in the Plans to the designated depth and stockpiled at locations that will not interfere with the construction of the project, and outside of sensitive areas, as allowed by the Engineer. A minimum of two weeks prior to excavation of Topsoil Type B, the Contractor shall pre-treat the vegetation on the designated Topsoil Type B areas according to the Weed and Pest Control Plan. Areas beyond
the slope stakes shall be disturbed as little as possible in the above operations and under no circumstances shall Topsoil Type B be stockpiled within 10 feet of any existing tree or vegetation area designated to be saved and protected. The Contractor shall protect topsoil stockpile from weed infestation.

The Contractor shall set aside sufficient material to satisfy the needs of the project.

Upon completion of topsoil placement, the Contractor shall dispose of remaining stockpiled Topsoil Type B not required for use on the project at no additional expense to the Contracting Agency in accordance with Section 2-03.3(7)C.

Should a shortage of Topsoil Type B occur, and the Contractor has wasted or otherwise disposed of topsoil material, the Contractor shall furnish Topsoil Type A or C at no additional expense to the Contracting Agency.

### 8-02.3(4)C Topsoil Type C
Topsoil Type C shall be naturally occurring topsoil obtained from a source provided by the Contractor outside of the Contracting Agency-owned Right of Way. Topsoil Type C shall meet the requirements of Sections 8-02.3(4)B and 9-14.1(3). The Contractor shall not begin removal of Topsoil Type C from the proposed source until the material has been allowed for use by the Engineer.

### 8-02.3(5) Roadside Seeding, Lawn and Planting Area Preparation
This Work includes preparing worked areas for the installation of all types of permanent erosion control planting. Work shall be conducted so the flow lines in drainage channels are maintained. Material displaced by the Contractor's operations that interferes with drainage shall be removed from the channel and disposed of as allowed by the Engineer.

#### 8-02.3(5)A Seeding Area Preparation
The Contractor shall prepare roadside seeding areas as follows:

1. Remove all excess material, debris, stumps, and rocks greater than 3 inches in diameter from areas to be seeded. Dispose of removed materials offsite.

2. Prepare roadside seeding area to a weed free and bare condition.

3. Bring area to uniform grade and install topsoil, soil amendments, or compost as specified. Any slopes 3(H) to 1(V) or steeper shall not be tilled unless otherwise specified.

4. Compact to provide a reasonably firm but friable seedbed; tractor walk to uniformly cover the surface with longitudinal depressions at least 2 inches deep formed perpendicular to the natural flow of water on the slope. Condition the soil with sufficient water so the longitudinal depressions remain in the soil surface until completion of the seeding.

5. Seed and mulch within 2 days of preparation.

#### 8-02.3(5)B Lawn Area Preparation
The Contractor shall prepare lawn areas as follows:
1. Prepare lawn area to a weed free and bare condition in accordance with Section 8-02.3(3)B.

2. Remove excess material, stumps, wood or rocks over 3 inches in diameter and remove from site.

3. Bring area to uniform grade and install topsoil or soil amendments in accordance with Section 8-02.3(4) and 8-02.3(6).

4. Till to an 8-inch depth, rake to a smooth even grade without low areas that trap water, and compact with a 50-pound roller. The finished grade of the soil shall be 1 inch below the top of all curbs, junction and valve boxes, walks, driveways, and other Structures.

5. Seed or sod the area within two days of preparation.

8-02.3(5)C Planting Area Preparation
The Contractor shall prepare planting areas as follows:

1. Prepare planting area to a weed free and bare condition in accordance with Section 8-02.3(3)B.

2. Decompact soil to a depth of 18 inches where construction activities have taken place or where native soils are compacted.

3. Return soil to uniform grade even with surrounding areas, leaving no holes or mounds over 3 inches in depth or height.

4. Remove excess material, stumps, wood or rocks over 3 inches in diameter and remove from site.

5. Apply compost or other amendments as indicated in the plans and in accordance with Section 8-02.3(6).

6. Cultivate amendments to a depth of 12 inches to provide a reasonably firm but friable planting area. Do not till any slopes 3(H) to 1(V) or steeper.

7. Return soil to a uniform finished grade, 1 inch, or the specified depth of mulch plus 1 inch, below walks, curbs, junction and valve boxes, catch basins, and driveways, unless otherwise specified.

8. Begin planting and mulching the area within two days of final preparation.

8-02.3(6) Mulch and Amendments
The Contractor shall place soil amendments of the type, quality, and quantities specified where shown in the Plans or as specified in the Special Provisions. Areas receiving soil amendments shall be bare soil or vegetation free prior to application. All soil amendments shall be installed as shown in the Plans within 30 calendar days after delivery to the project site.
8-02.3(6)A Compost
Compost used for soil amendments shall be Fine Compost unless otherwise designated in the Plans. When compost blanket is used for temporary erosion control, the compost blanket may be incorporated into the soil immediately prior to planting when used as compost soil amendment. The area shall be prepared in accordance with Section 8-02.3(5) prior to placing compost.

8-02.3(6)B Fertilizers
The Contractor shall apply fertilizer in the form, mixture, and rate specified in the Special Provisions or as directed by the Engineer. Application procedures shall be in accordance with the manufacturer’s recommendations unless otherwise specified in the Special Provisions.

The Contractor shall submit a guaranteed fertilizer analysis label for the selected product a minimum of one week prior to application for acceptance. Following the Engineer’s acceptance, fertilizing of the accepted ground or vegetated surfaces shall begin immediately.

In seeding and lawn areas to be fertilized, the fertilizer shall be applied concurrently with the seed. When fertilizer is hydraulically applied, the fertilizer shall be suitable for application with seeding as specified in Section 8-02.3(9)C. If hydroseeding, the fertilizer shall be placed in the hydroseeder tank no more than 1 hour prior to application.

Fertilizers for planting areas shall be applied concurrently with compost and applied prior to incorporation, unless tablet form fertilizer is specified. Where tablet form fertilizer is specified, fertilizer shall be applied concurrently with plant installation.

Fertilizer sprayed on signs or sign structures shall be removed the same day.

Areas not accessible by fertilizing equipment shall be fertilized by allowed hand methods.

Second Application: A second application of fertilizer shall be applied as specified in the Special Provisions at the locations designated in the Plans. The fertilizer shall be applied during the months of March, April, or May of the following year after the initial seeding, planting, or lawn installation. The fertilizer shall be dry granular pellets or pearls and applied in accordance with the manufacturer’s recommendations or as specified in the Special Provisions.

8-02.3(7) Layout of Planting, Lawn and Seeding Areas
The Contractor shall lay out and prepare planting and lawn areas and receive the Engineer’s acceptance of layout and preparation prior to any installation activities. The Contractor shall stake the location of all trees larger than 1-inch caliper and the perimeter of all planting areas for acceptance by the Engineer prior to any installation activities.

The Contractor shall locate all trees to be planted in mowable grass areas a minimum of 10 feet from the edge of planting areas, other trees, fence lines, and bottom of ditches unless otherwise specified.
Tree locations shown in the Plans shall be considered approximate unless shown with stationing and offset distance. In irrigated areas, trees shall be located so their trunk is a minimum of ⅓ of the spray radius away from the nearest sprinkler head.

Unless otherwise shown, planting areas located adjacent to Roadways shall begin 6 feet from the edge of shoulder on roadway fills and begin 5 feet up on the back slope from the bottom on roadway cut sections. Plants within planting areas shall be located such that mature branching pattern will not block sight distance, signs, or other traffic-related devices. No trees shall be placed where the mature canopy will grow to within 10 feet of existing power lines. Where roadside ditches are present, planting areas shall begin 5 feet from the centerline of the ditch unless shown otherwise in the Plans.

8-02.3(8) Planting

8-02.3(8)A Dates and Conditions for Planting
No plant material shall be planted until it has been inspected and accepted for planting by the Engineer. Rejected material shall be removed from the project site immediately. All plants for the project or a sufficient quantity to plant 1-acre of the site, whichever is less, shall be received on site prior to the Engineer beginning inspection of the plants.

Under no circumstances will planting be permitted during unsuitable soil or weather conditions as determined by the Engineer. Unsuitable conditions may include frozen soil, freezing weather, saturated soil, standing water, high winds, heavy rains, and high water levels. The ground shall be moist at the time of planting. All planting shall be accomplished during the following periods:

1. Non-Irrigated Plant Material
   Western Washington (West of the Cascade Mountain Crest) – October 1 to March 1.
   Eastern Washington (East of the Cascade Mountain Crest) – October 1 to November 15.

2. Irrigated Plant Material

   In irrigated areas, plant material shall not be installed until the irrigation system is fully operational and accepted by the Engineer. Trees and shrubs may be planted in irrigated areas during the non-irrigated planting window before the irrigation system is functional with the written concurrence of the Engineer only if the irrigation system is guaranteed to be operational prior to the end of the non-irrigated planting window.

8-02.3(8)B Plant Installation
The Contractor shall handle plant material in the following manner:

1. Root systems shall be kept covered and damp at all times. Plant material shall be kept in containers until the time of planting.

2. Roots shall not be bunched, curled, twisted, or unreasonably bent when placed in the planting hole. Bare root plant material shall be dormant at the time of harvesting and planting. The root systems of all bare root plant material shall be dipped in a slurry immediately prior to planting.
3. Plant material supplied in wrapped balls shall not be removed from the wrapping until the time of planting at the planting location. The root system of balled plant material shall be moist at the time of planting. Root balls shall be loosened prior to planting. All burlap, baskets, string, wire and other such materials shall be removed from the hole when planting balled plants.

4. Plant cutting material shall be dormant at the time of cutting and planting. All cuttings shall be installed immediately if buds begin to swell.

5. Plants shall be placed with the crown at the finished grade. In their final position, plants shall have their top true root (not adventitious root) no more than 1 inch below the soil surface, no matter where that root was located in the original root ball or container. The backfill material, including container and root ball soil, shall be thoroughly watered on the same day that planting occurs regardless of season.

When installing plants, the Contractor shall dig planting holes three times the diameter of the container or root ball size. Any glazed surface of the planting hole shall be roughened prior to planting.

8-02.3(8)C Pruning, Staking, Guying, and Wrapping
Plants shall be pruned at the time of planting, only to remove minor broken or damaged twigs, branches or roots. Pruning shall be performed with a sharp tool and shall be done in such a manner as to retain or to encourage natural growth characteristics of the plants. All other pruning shall be performed only after the plants have been in the ground at least 1 year and when plants are dormant.

Trees shall only be staked when so noted in the Plans. Each tree shall be staked or guyed before completion of the backfilling in accordance with the details shown in the Plans.

Trees shall be wrapped when so noted in the Plans.

8-02.3(9) Seeding, Fertilizing, and Mulching
For all seed, the Contractor shall furnish the following documentation to the Engineer:

1. The state or provincial seed dealer license and endorsements.

2. Copies of Washington State Department of Agriculture (WSDA) test results on each lot of seed. Test results shall be within six months prior to the date of application.

8-02.3(9)A Dates for Application of Seed
Unless otherwise allowed by the Engineer, the Contractor shall apply seed for permanent erosion control during the following periods:

<table>
<thead>
<tr>
<th>Western Washington ¹ (West of the Cascade Mountain Crest)</th>
<th>Eastern Washington (East of the Cascade Mountain Crest)</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 1 through May 15 September 1 through October 1</td>
<td>October 1 through November 15</td>
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</table>

¹ Western Washington includes all cities and towns west of the Cascade Mountain Crest, excluding those in the eastern portion of the state.
Seeding may be allowed outside these dates when allowed by the Engineer.

All roadway excavation and embankment ground surfaces that are completed to final grades shall be prepared and seeded during the first available seeding window. When environmental conditions are not conducive to satisfactory results, the Engineer may suspend the seeding Work until such time that the desired results are likely to be obtained. If seeding is suspended, temporary erosion control methods according to Section 8-01 shall be used to protect the bare soil until seeding conditions improve.

8-02.3(9)B Seeding and Fertilizing
The Contractor shall prepare the seeding area in accordance with Section 8-02.3(5)A and apply seed at the rate and mix specified in the Special Provisions. The Contractor shall notify the Engineer within 5 days in advance of any seeding operation and shall not begin the Work until areas prepared or designated for seeding have been accepted. Following the Engineer’s acceptance, seeding of the accepted ground surfaces shall begin immediately.

Seeding shall not be done during windy weather or when the ground is frozen, or excessively wet.

When seeding by hand, the seed shall be incorporated into the top ¼ inch of soil by hand raking or other method that is allowed by the Engineer.

Seed applied as a separate operation using a hydroteeder shall have a tracer added to visibly aid uniform application. The tracer shall be HECP Short-Term Mulch applied at a rate of 200 to 250 pounds per acre and the tracer shall carry the measured specified seeding rate.

8-02.3(9)C Seeding with Fertilizers and Mulches
When the Proposal includes any variation of seeding, fertilizing, and without mulching, the seed and fertilizer shall be applied in one application followed by mulching. West of the Cascade Mountains, seed, fertilizer, and mulch may be completely applied in one application. East of the Cascades, seeding, fertilizing, and mulching shall not be applied as a single application unless allowed by the Engineer in writing prior to application. The fertilizing and mulching shall meet the requirements of Sections 8-02.3(6) and 8-02.3(11).

8-02.3(9)D Inspection
Seeded areas will be inspected upon completion of seeding, fertilizing, and mulching. The Work in any area will not be measured for payment until a uniform distribution of the materials is accomplished at the specified rate. Areas that have not received a uniform application of seed, fertilizer, and mulch at the specified rate, as determined by the Engineer, shall be re-seeded, re-fertilized, or re-mulched prior to payment for seeding within a designated area.

8-02.3(9)E Protection and Care of Seeded Areas
The Contractor shall install and establish a stable and weed free stand of grass as specified within all designated permanent seeding areas. A stable stand of grass shall meet the following requirements:
1. A dense and uniform canopy cover, 70% for Western Washington and 50% for Eastern Washington, of specified species covers all seeded areas after 3 months of active growth following germination during the growing season. Canopy cover is defined as the cover of living and vigorous grass blades, leaves, and shoots of specified species. Volunteer species, weeds, woody plants, or other undesirable vegetation shall not factor into the canopy cover. Growth and establishment may require supplemental irrigation to meet cover requirements.

2. Stand health is evident by vigorously growing planted species having a uniform rich-green appearance and with no dead patches or major gaps of growth. A stand of grass that displays rusting, wilting, stunted growth, disease, yellowing or browning of leaves, or bare patches does not meet the stand health requirement.

3. The Contractor shall establish a stable stand of grass free of all weeds, non-specified grasses, and other undesirable vegetation. Weed control shall be in accordance with the Weed and Pest Control Plan and occur on a monthly basis during the establishment period and through the life of the Contract.

4. Remove all trash, rocks, construction debris, and other obstructions that may be detrimental to the continued establishment of future seeding.

In addition to the requirements of Section 1-07.13(1), restoration of eroded areas including clean up, removal, and proper disposal of eroded material, filling and raking of eroded areas with Topsoil Type A or fine compost, and re-application of the specified seed, fertilizer, and mulch shall occur at no additional cost to the Contracting Agency.

8-02.3(10) Lawn Installation
8-02.3(10)A Dates and Conditions for Lawn Installation
In irrigated areas, lawn installation shall not begin until the irrigation system is fully operational.

Unless otherwise allowed by the Engineer, seeded lawn installation shall be performed during the following time periods at the location shown:

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<thead>
<tr>
<th>Western Washington (West of the Cascade Mountain Crest)</th>
<th>Eastern Washington (East of the Cascade Mountain Crest)</th>
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<tbody>
<tr>
<td>March 1 through May 15, September 1 through October 1</td>
<td>October 1 through November 15</td>
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8-02.3(10)B Lawn Seeding and Sodding
The Contractor shall prepare the lawn area in accordance with Section 8-02.3(5) and apply seed at the mix and rate of application as specified in the Special Provisions.
The Contractor shall have the option of sodding in lieu of seeding for lawn installation at no additional expense to the Contracting Agency. Seeding in lieu of sodding will not be allowed.

Seed placed by hand shall be raked into the soil. Following raking, the seeded soil shall be rolled with a smooth 50-pound roller. Sod strips shall be placed within 48 hours of being cut. Placement shall be without voids and have the end joints staggered. Following placement, the sod shall be rolled with a smooth roller to establish contact with the soil.

Barriers shall be erected, with warning signs where necessary, to preclude pedestrian traffic access to the newly placed lawn during the establishment period.

8-02.3(10)C  Lawn Establishment
Lawn establishment shall consist of caring for all new lawn areas within the limits of the project.

The lawn establishment period shall begin immediately after the lawn seeding or sodding has been accepted by the Engineer and shall extend to the end of four mowings or 20 working days whichever is longer. The mowings shall be done in accordance with Section 8-02.3(10)D.

During the lawn establishment period, the Contractor shall ensure the continuing healthy growth of the turf. This care shall include keeping the project in a presentable condition including, but not limited to, removal of litter, mowing, trimming, removal of grass clippings, edging, fertilization, insecticide and fungicide applications, weed control, watering, repairing the irrigation system, and repair and reseeding all damaged areas.

Temporary barriers shall be removed only when directed by the Engineer.

All Work performed under lawn establishment shall comply with established turf management practices.

Acceptance of lawn planting as specified will be based on a uniform stand of grass and a uniform grade at the time of final inspection. The Contractor shall recultivate, re-grade, reseed, and refertilize areas that are bare or have a poor stand of grass or not having a uniform grade through any cause before final inspection at no additional cost to the Contracting Agency.

8-02.3(10)D  Lawn Mowing
Lawn mowing shall begin immediately after the lawn establishment period has been accepted by the Engineer and shall extend to the end of the Contract or the first-year plant establishment, whichever is last.

The Contractor shall accomplish the following minimum requirements:

1. Mow, trim, and edge as often as conditions dictate, at a minimum, once per week between April and September. Maximum height of lawn shall not exceed 3 inches. The cutting height shall be 2 inches. Cuttings, trimmings, and edgings shall be disposed of off the project site. When the Engineer allows the use of a mulching mower, trimmings may be left in place.
2. Water as often as conditions dictate depending on weather and soil conditions.

3. Provide fertilizer, weed control, water, and other measures as necessary to establish and maintain a healthy stand of grass.

8-02.3(11) Mulch
Mulches associated with seeding and planting shall be of the type specified in the Special Provisions or as indicated in the Plans. The Contractor shall evenly apply mulch at the rates indicated in the Plans. Mulches shall not be placed below the anticipated water level of ditch slopes, pond bank slopes, and stream banks, or in areas of standing or flowing water.

8-02.3(11)A Mulch for Seeding Areas
The Contractor shall furnish and evenly apply Hydraulically Applied Erosion Control Product (HECP) Long Term Mulch at the rates indicated and in accordance with the Manufacturer’s specifications unless otherwise specified.

HECP Long Term Mulch shall be hydraulically applied at the rate of 3500 pounds per acre with no more than 2000 pounds applied in any single lift. HECP mulch shall not be used within the Ordinary High Water Mark.

Mulch sprayed on signs or sign Structures shall be removed the same day.

Areas not accessible by mulching equipment shall be mulched by accepted hand methods.

HECP Long Term Mulch may be applied with seed and fertilizer west of the summit of the Cascade Range. East of the summit of the Cascade Range, seed and fertilizer shall be applied in a single application followed by the application of mulch.

8-02.3(11)B Bark or Woodchip Mulch
The Contractor shall apply bark or wood chip mulch of the type and depth specified where shown in the Plans or as specified in the Special Provisions.

The Contractor shall complete final grading and placement/incorporation of soil amendments within the planting area prior to placement of mulch. Areas receiving bark mulch shall be bare soil or vegetation free before application, except where trees and other plants are specifically identified in the Plans or designated by the Engineer to be saved and protected.

Bark or wood chip mulch shall be placed to a uniform non-compacted depth of 3 inches over all planting areas unless otherwise specified. Mulch shall be feathered to the base of the plant and 1 inch below the top of junction and valve boxes, curbs, and pavement edges.

Any contamination of the mulch due to the Contractor’s operations shall be corrected to its former condition at no additional cost to the Contracting Agency. Mulch placed to a thickness greater than specified shall be at no additional cost to the Contracting Agency.
The Contractor shall keep plant material crowns, runners, and branches free of mulch at all times.

8-02.3(11)C Bark or Woodchip Mulch Rings
The Contractor shall apply mulch rings around plants installed within existing vegetation areas or within seeded areas as shown in the Plans. Bark or wood chip mulch rings shall be applied to the surface of vegetation free amended soil in the isolated plant locations where shown in the Plans or as specified in the Special Provisions. Bark or wood chip mulch shall be placed to a uniform non-compacted depth of 3 inches to a radius of 2 feet around all plants within interplanted plant locations.

8-02.3(12) Completion of Initial Planting
Upon completion of the initial planting within a designated area, the Engineer will make an inspection of all planting areas. The Engineer will notify the Contractor, in writing, of any replacements or corrective action necessary to meet the plant installation requirements. The Contractor shall replace all plants and associated materials rejected or missing and correct unsatisfactory conditions.

Completion of the initial planting within a designated area includes the following conditions:

1. 100 percent of each of the plant material categories are installed as shown in the Plans.
2. Planting Area is cleaned up.
3. Repairs are completed, including but not limited to, full operation of the irrigation system.
4. Mulch coverage is complete.
5. All weeds are controlled.

8-02.3(13) Plant Establishment
Plant establishment consists of caring for all plants and planting areas within the project limits. The provisions of Sections 1-07.13(2) and 1-07.13(3) do not apply to this Section.

When the Proposal includes the bid item PSIPE____ (Plant Selection Including Plant Establishment), that bid item includes one year of plant establishment Work. The first year of plant establishment shall begin immediately upon written notification from the Engineer of the completion of initial planting for the project. The first-year plant establishment period shall be a minimum of one calendar year. The one calendar year shall be extended an amount equal to any periods where the Contractor does not comply with the plant establishment requirements and plan.

During the first-year plant establishment period, the Contractor shall perform all Work necessary to ensure the resumption and continued growth of the transplanted material. This Work shall include, but is not limited to, applying water, removing foreign, dead, or rejected plant material, maintaining all planting areas in a weed-free condition, and replacing all unsatisfactory plant material planted under the Contract. If plants are stolen or damaged by the acts of others, the Contracting Agency will pay invoice cost only for
the replacement plants with no mark-up and the Contractor will be responsible for the labor to install the replacement plants. Other weed control within the project limits but outside of planting, lawn, or seeding areas shall be as specified in Section 8-02.3(3)C.

During the first year of plant establishment, the Contractor shall meet monthly or at an agreed upon schedule with the Engineer for the purpose of joint inspection of the planting material. The Contractor shall correct all unsatisfactory conditions identified by the Engineer within a 10-day period immediately following the inspection. If plant replacement is required, the Contractor shall, within the 10-day period, submit a plan and schedule for the plant procurement and replacement to occur during the planting period as designated in Section 8-02.3(8). At the end of the plant establishment period, plants that do not show normal growth shall be replaced and all staking and guying that remain on the project shall be removed unless otherwise allowed by the Engineer.

All automatic irrigation systems shall be operated fully automatic during the plant establishment period and until final acceptance of the Contract. Payment for water used to water in plants, or hand watering of plant material or lawn areas unless otherwise specified, is the responsibility of the Contractor during the first-year plant establishment period.

Subsequent year plant establishment periods shall begin immediately at the completion of the preceding year’s plant establishment period. Each subsequent plant establishment period shall be one full calendar year in duration.

During the plant establishment period(s) after the first year plant establishment, the Work necessary for the continued healthy and vigorous growth of all plants material shall be performed as directed by the Engineer.

Payment for water used to water plants during the subsequent year(s) of plant establishment will be paid under the plant establishment item.

8-02.3(14) Plant Replacement
The Contractor shall be responsible for growing or arrange to provide sufficient plants for replacement of all plant material rejected through first-year plant establishment. All replacement plant material shall be inspected and accepted by the Engineer prior to installation. All rejected plant material shall be replaced with acceptable plants meeting the specifications and installed according to the requirements of this Section at dates allowed by the Engineer.

All replacement plants shall be of the same species as the plants they replace and meet the requirements of Section 9-14.8 unless otherwise allowed by the Engineer. Plants may vary in size reflecting one season of growth should the Contractor elect to hold plant material under nursery conditions for an additional year to serve as replacement plants. Replacement plant material larger than specified in the Plans shall meet the applicable section requirements of the ASNS for container class, ball size, spread, and branching characteristics.

8-02.3(15) Bioengineering
Bioengineering consists of using plant materials for the purpose of streambank or earthen slope construction and surface stabilization. This Work may include installing woody plant cuttings in various forms as well as part of streambank or earthen slope construction.
8-02.3(15)A  Fascines
Live fascines shall be constructed of live and dead cuttings bundled together with a diameter of 8 to 18 inches. Live cuttings shall be the species shown in the Plans. Dead branches may be cuttings from any woody, non-invasive plant native to the project area. Dead branches may be placed within the live fascine and on the side exposed to the air. Live branches shall be placed in contact with the soil along their entire length. Each live fascine must contain a minimum of eight live branches. Dead branches shall constitute no more than 40 percent of the total fascine content.

The total length of each live fascine shall be a minimum of 5 feet. Branches shall be bundled into log-like forms and bound with biodegradable twine spaced at 1-foot intervals along the entire length of the live fascine. Live fascines shall be installed horizontally in a trench whose depth shall be ½ the diameter of the live fascine. Secure the live fascine with live stakes 3 feet in length and ¾ inch in diameter placed at 18-inch intervals. A minimum of three live stakes shall be used per fascine. The live stakes shall be driven through the live fascine vertically into the slope. The ends of live fascines shall be woven together so that no gap remains between the two sections of the live fascine.

Prior to being covered with soil, the fascine shall be thoroughly watered. Once the fascine is covered with 6 inches of soil, the soil covering the fascine shall be thoroughly watered.

When used to remedy erosion areas, live fascines shall extend a minimum of two feet beyond the visible area of erosion and soil disturbance. The locations for live fascines and live stake rows shall be identified in the field for review and acceptance by the Engineer. The Engineer may require adjustment of fascine locations prior to installation in order to best accomplish the intended functions.

Plant replacement during plant establishment for “PSIPE Live Fascine” will be required for any section void of live shoots for a length of 3 feet or more. Replacement shall consist of installing live stakes, spaced 1 foot apart above the fascine within the area void of live shoots. Live stakes shall be of the same species as the live fascine and shall have a minimum length of 3 feet and a minimum diameter of ¾ inch. The requirements of Section 8-02.3(8) apply to PSIPE Live Fascine.

8-02.3(15)B  Brush Mattress
Live brush mattress shall be constructed of live branch cuttings, live poles, jute rope and topsoil. The live cuttings and live poles shall be from the plant species designated in the Plans. Live branch cuttings shall be placed with the cut ends oriented down slope as shown in the Plans. Cuttings shall overlap from side to side and from top to bottom as each layer is constructed. The live branches in each succeeding upper layer shall overlap the adjacent lower layer by a minimum of 6 inches. A maximum of 20 percent of the branches may be dead branches, but the live branches shall be distributed evenly to provide even rooting and growth over the entire area of the brush mattress.

The Contractor shall anchor the live brush mattress to the slope using stakes and jute rope as shown in the Plans. Initially, the stakes shall be installed to protrude above the live brush mattress. The Contractor shall attach the jute rope to the stakes.
and tighten the rope by tamping the stakes further into the bank, pulling the live brush mattress tight against the soil surface. The Contractor shall cover the live brush mattress with sufficient stockpiled topsoil to ensure good soil contact with the live plant material.

Plant replacement during plant establishment for “PSIPE Live Brush Mattress” will be required for any section void of live shoots for an area of 25 square feet or more. Replacement shall consist of installing live stakes, spaced 3 feet apart in a triangular pattern within the area void of live shoots. Live stakes shall be of the same species as the live brush mattress and shall have a minimum length of 3 feet and a minimum diameter of ¾ inch. The requirements of Section 8-02.3(8) apply to PSIPE Brush Mattress.

**8-02.3(15)C Brush Layer**

Brush layers shall be constructed of live branch cuttings, randomly mixed, from the plant species listed under the brush layer heading in the Plans. The number of branches required will vary depending on the average branch diameter and layer thickness.

Brush layers shall be placed in a trench dug at a 45 degree incline into the slope or stream bank. Two-thirds to three-fourths of the length of the live branches shall be buried. Soil shall be firmly tamped in place. Succeeding layers shall be spaced as detailed in the Plans. Brush layer placed in stream banks shall be angled downstream.

Brush layers may include plant establishment when designated as PSIPE Brush Layer. Plant replacement for PSIPE Brush Layer will be required for each section void of live shoots for a continuous distance of 3 feet or more. The requirements of Section 8-02.3(8) apply to PSIPE Brush Layer.

**8-02.3(16) Roadside Maintenance Under Construction**

When the Contract includes the item, Roadside Maintenance Under Construction, this Work includes roadside mowing and ditch maintenance, and noxious weed control outside of planting areas according to Section 8-02.3(3)C.

**8-02.3(16)A Roadside Mowing**

The Contractor shall mow designated roadside grass areas to the limits designated by the Engineer. Roadside mowing is limited to slopes not steeper than 3(H) to 1(V).

The Contractor shall mow according to the following requirements:

1. Trim around traffic equipment, structures, planting areas, or other features extending above ground preceding or simultaneously with each mowing.

2. Maintain grass between 4 and 12 inches in height.

3. Operate mowing equipment with suitable guards to prevent throwing rocks or debris onto the traveled way or off of the Contracting Agency property. Power driven equipment shall not cause ruts, deformation, and compaction of the vegetated soil.
4. Removing clippings is required on the traveled way, shoulders, walkways, or Structures.

5. Restore soil rutting to a smooth and even grade at the direction of the Engineer.

8-02.3(16)B Ditch Maintenance
The Contractor shall maintain drainage for the duration of the Contract according to the following requirements:

1. Maintain flow lines in drainage channels and roadside ditches.

2. Cutting or trimming vegetation within drainage channels to maintain positive flow.

3. Remove dirt and debris from inside of culverts or any drainage area where runoff has allowed accumulations and re-seed for erosion control.

4. Restore channels to previous operational condition.

8-02.4 Measurement
Topsoil, bark or woodchip mulch and soil amendments will be measured by the acre or the square yard along the grade and slope of the area covered immediately after placement. Weed control pre-treatment of topsoil areas, excavation, and stockpiling are included in the bid item “Topsoil Type ___.

Bark or woodchip mulch rings will be measured per each.

Compost will be measured by the acre or the square yard along the grade and slope of the area covered immediately after application.

Seeding, fertilizing, and mulching will be measured by the acre or the square yard by ground slope measurement or through the use of design data.

Seeding and fertilizing by hand will be measured by the square yard. No adjustment in area size will be made for the vegetation free zone around each plant.

Seeded lawn, sod installation, and lawn mowing will be measured along the ground slope and computed in square yards of actual lawn completed, established, and accepted.

Plant selection will be measured per each.

PSIPE ___ (Plant Selection Including Plant Establishment) will be measured per each.

Live Pole will be measured per each.

Live Stake Row will be measured by the linear foot along the ground slope line.

The pay quantities for plant materials will be determined by count of the number of satisfactory plants in each category accepted by the Engineer.
Fascine and PSIPE live fascine will be measured by the linear foot along the ground slope line.

Brush mattress and PSIPE live brush mattress will be measured by the surface square yard along the ground slope line.

Brush layer and PSIPE brush layer will be measured by the linear foot along the ground slope line.

Water will be measured in accordance with Section 2-07.4. Measurement will be made of only that water hauled in tank trucks or similar equipment.

8-02.5 Payment
Payment will be made for each of the following listed Bid items that are included in the Proposal:

“Project Area Weed and Pest Control” will be paid in accordance with Section 1-09.6. For the purpose of providing a common Proposal for all Bidders, the Contracting Agency entered an amount for “Project Area Weed and Pest Control” in the Proposal to become a part of the total Bid by the Contractor. Payment under this item will be made only when the Work is not already covered by other items.

“Topsoil Type ____”, per acre.
The unit Contract price per acre for “Topsoil Type ____” shall be full payment for all costs for the specified Work.

“Fine Compost “, per acre or per square yard.
“Medium Compost”, per acre or per square yard.
“Coarse Compost”, per acre or per square yard.
The unit Contract price per acre for “Fine Compost”, “Medium Compost” or “Coarse Compost” shall be full pay for furnishing and spreading the compost onto the existing soil.

“Soil Amendment”, per acre.
The unit Contract price per acre for “Soil Amendment” shall be full pay for furnishing and incorporating the soil amendment into the existing soil.

“Plant Selection ___”, per each.
The unit Contract price for “Plant Selection ___”, per each shall be full pay for all Work to perform the work as specified within the planting area prior to planting for weed control, planting area preparation and installation of plants with initial watering.

As the plants that do not include plant establishment are obtained, propagated, and grown, partial payments will be made as follows:

Payment of 15 percent of the unit Contract price per each when the plant materials have been contracted, propagated, and are growing under nursery conditions. The Contractor shall provide the Engineer with certification that the plant material has been procured or contracted for delivery to the project for planting within the time limits of the project. The certification shall state the location, quantity, and size of all material.
Payment will be increased to 100 percent of the unit Contract price per each for contracted plant material at the completion of the initial planting.

All partial payments shall be limited to the actual number of healthy vigorous plants that meet the stage requirements, limited to plan quantity. Previous partial payments made for materials rejected or missing will be deducted from future payments due the Contractor.

“PSIPE ___”, per each.
The unit Contract price for “PSIPE ___”, per each, shall be full pay for all Work necessary to perform as specified within the planting area for weed control and planting area preparation, planting, cleanup, and water necessary to complete planting operations as specified to the end of first year plant establishment.

As the plants that include plant establishment are obtained, propagated, and grown, partial payments will be made as follows after inspection by the Engineer:

Payment of 5 percent of the unit Contract price, per each, when the plant materials have been contracted, propagated, and are growing under nursery conditions. The Contractor shall provide the Engineer with certification that the plant material has been procured or contracted for delivery to the project for planting within the time limits of the project. The certification shall state the location, quantity, and size of all material.

Payment will be increased to 15 percent of the unit Contract price, per each, upon completion of the initial weed control and planting area preparation Work.

Payment will be increased to 60 percent of the unit Contract price per each for the contracted plant material in a designated unit area when planted.

Payment will be increased to 70 percent of the unit Contract price per each for contracted plant material at the completion of the initial planting.

Payment will be increased to the appropriate percentage upon reaching the following plant establishment milestones:

- June 30th: 80 percent
- September 30th: 90 percent
- Completion of first-year plant establishment or after all replacement plants have been installed, whichever is later: 100 percent

Plant establishment milestones are achieved when planting areas meet conditions described in Section 8-02.3(13).

“Seeding, Fertilizing and Mulching”, per acre.

“Seeding and Fertilizing”, per acre or per square yard.

“Seeding and Fertilizing by Hand”, per square yard.
“Second Application of Fertilizer”, per acre.

“Seeding and Mulching”, per acre.

“Seeded Lawn Installation”, per square yard.
“Sod Installation”, per square yard.
“Lawn Mowing”, per square yard.
The unit Contract price per square yard for “Seeded Lawn Installation” or “Sod Installation” shall be full pay for all costs necessary to prepare the area, plant or sod the lawn, erect barriers, control weeds, and establish lawn areas and for furnishing all labor, tools, equipment, and materials necessary to complete the Work as specified and shall be paid in the following sequence for healthy, vigorous lawn:

<table>
<thead>
<tr>
<th>Completion of Lawn Planting</th>
<th>60 percent of individual areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid Lawn Establishment (after two mowings)</td>
<td>85 percent of individual areas</td>
</tr>
<tr>
<td>Completion of Lawn Establishment (after four mowings)</td>
<td>100 percent of individual areas</td>
</tr>
</tbody>
</table>

“Plant Establishment Year ____” will be paid in accordance with Section 1-09.6.

For the purpose of providing a common Proposal for all Bidders, the Contracting Agency entered an amount for “Plant Establishment - ___ Year” in the Proposal to become a part of the total Bid by the Contractor.

“Live Pole”, per each.

“Live Stake Row”, per linear foot.

“Bark or Wood Chip Mulch”, per acre.

“Bark or Wood Chip Mulch Rings”, per each.
The unit Contract price per acre for “Bark or Wood Chip Mulch” shall be full pay for furnishing and spreading the mulch onto the existing soil.

“Fascine” and “PSIPE Live Fascine”, per linear foot.
“Brush Mattress” and “PSIPE Live Brush Mattress”, per square yard.
“Brush Layer” and “PSIPE Brush Layer”, per linear foot.
When PSIPE is included with Fascine, Brush Mattress, or Brush Layer, the payment schedule for PSIPE ____ will apply.

“Roadside Maintenance under Construction” will be paid 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 “Roadside Maintenance Under Construction” in the Proposal to become a part of the total Bid by the Contractor.

“Water”, per M Gal.
8-04.AP8
Section 8-04, Curbs, Gutters, and Spillways
April 2, 2018

8-04.2 Materials
In the first paragraph, the reference to “Portland Cement” is revised to read:

Cement 9-01

8-04.3(1) Cement Concrete Curbs, Gutters, and Spillways
The first paragraph is supplemented with the following:

Roundabout truck apron cement concrete curb and gutter shall be constructed with air entrained concrete Class 4000 conforming to the requirements of Section 6-02.

8-06.AP8
Section 8-06, Cement Concrete Driveway Entrances
April 2, 2018

8-06.2 Materials
In the first paragraph, the reference to “Portland Cement” is revised to read:

Cement 9-01

8-06.3 Construction Requirements
The first paragraph is revised to read:

Cement concrete driveway approaches shall be constructed with air entrained concrete Class 4000 conforming to the requirements of Section 6-02 or Portland Cement or Blended Hydraulic Cement Concrete Pavement conforming to the requirements of Section 5-05.

8-07.AP8
Section 8-07, Precast Traffic Curb
April 2, 2018

8-07.3(1) Installing Curbs
The first sentence of the first paragraph is revised to read:

The curb shall be firmly bedded for its entire length and breadth on a mortar bed conforming to Section 9-20.4(3) composed of one part Portland cement or blended hydraulic cement and two parts sand.

The fourth paragraph is revised to read:

All joints between adjacent pieces of curb except joints for expansion and/or drainage as designated by the Engineer shall be filled with mortar composed of one part Portland cement or blended hydraulic cement and two parts sand.
8-09.AP8
Section 8-09, Raised Pavement Markers
April 1, 2019

8-09.5 Payment
The last paragraph is revised to read:

The unit Contract price per hundred for “Raised Pavement Marker Type 1”, “Raised Pavement Marker Type 2”, “Raised Pavement Marker Type 3______ In.”, and “Recessed Pavement Marker” shall be full pay for furnishing and installing the markers in accordance with these Specifications.

8-11.AP8
Section 8-11, Guardrail
April 1, 2019

8-11.3(1)A Erection of Posts
The first sentence of the first paragraph is revised to read:

Posts shall be set to the true line and grade of the Highway after the grade is in place and compaction is completed.

8-11.3(1)C Terminal and Anchor Installation
The first paragraph is revised to read:

All excavation and backfilling required for installation of anchors shall be performed in accordance with Section 2-09, except that the costs thereof shall be included in the unit Contract price for the anchor installed.

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

Assembly and installation of Beam Guardrail Non-flared Terminals for Type 31 guardrail shall be supervised at all times by a manufacturer’s representative, or an installer who has been trained and certified by the manufacturer.

The last paragraph is revised to read:

Beam Guardrail Non-flared Terminals for Type 31 guardrail shall meet the crash test and evaluation criteria in the Manual for Assessing Safety Hardware (MASH).

8-11.4 Measurement
The third paragraph is revised to read:

Measurement of beam guardrail _____ terminal will be per each for the completed terminal.

The fourth paragraph is revised to read:

Measurement of beam guardrail Type 31 buried terminal Type 2 will be per linear foot for the completed terminal.

The sixth paragraph is revised to read:
Measurement of beam guardrail anchor Type 10 will be per each for the completed anchor, including the attachment of the anchor to the guardrail.

8-11.5 Payment
The Bid item “Beam Guardrail Anchor Type ___”, per each is revised to read “Beam Guardrail Anchor Type 10”, per each.

The Bid item “Beam Guardrail Buried Terminal Type 1”, per each is deleted from this section.

The Bid item “Beam Guardrail Buried Terminal Type 2”, per linear foot and the following paragraph are revised to read:

“Beam Guardrail Type 31 Buried Terminal Type 2”, per linear foot.

The unit Contract price per linear foot for “Beam Guardrail Type 31 Buried Terminal Type 2” shall be full payment for all costs to obtain and provide materials and perform the Work as described in Section 8-11.3(1)C.

8-14.AP8
Section 8-14, Cement Concrete Sidewalks
April 2, 2018

8-14.2 Materials
In the first paragraph, the reference to “Portland Cement” is revised to read:

Cement 9-01

In the second paragraph, each reference to “Federal Standard 595” is revised to read “SAE AMS Standard 595”.

8-16.AP8
Section 8-16, Concrete Slope Protection
April 2, 2018

8-16.2 Materials
In the first paragraph, the last two material references are revised to read:

Poured Portland Cement or Blended Hydraulic Cement 9-13.5(2)
Pneumatically Placed Portland Cement or Blended Hydraulic Cement Concrete Slope Protection 9-13.5(3)

8-17.AP8
Section 8-17, Impact Attenuator Systems
January 7, 2019

8-17.3 Construction Requirements
This section is supplemented with the following:
Permanent impact attenuators shall meet the crash test and evaluation criteria of the Manual for Assessing Safety Hardware (MASH), except as otherwise noted in the Plans or Special Provisions.

8-20.AP8
Section 8-20, Illumination, Traffic Signal Systems, Intelligent Transportation Systems, and Electrical
August 6, 2018

8-20.1(1) Regulations and Code
The last paragraph is revised to read:

Persons performing electrical work shall be certified in accordance with and supervised as required by RCW 19.28.161. Proof of certification shall be worn at all times in accordance with WAC 296-46B-942. Persons failing to meet these certification requirements may not perform any electrical work, and shall stop any active electrical work, until their certification is provided and worn in accordance with this Section.

8-20.2(2) Equipment List and Drawings
This section is renumbered:

8-20.2(1) Equipment List and Drawings

8-20.3(4) Foundations
The second sentence of the first paragraph is revised to read:

Concrete for Type II, III, IV, V, and CCTV signal standards and light standard foundations shall be Class 4000P and does not require air entrainment.

8-20.3(5)A General
The last two sentences of the last paragraph is deleted.

This section is supplemented with the following:

All conduits shall include a pull tape with the equipment grounding conductor. The pull tape shall be attached to the conduit near the end bell or grounded end bushing, or to duct plugs or caps if present, at both ends of the conduit.

8-20.3(8) Wiring
The seventeenth paragraph is supplemented with the following:

Pulling tape shall meet the requirements of Section 9-29.1(10). Pull string may not be used.

8-20.3(14)C Induction Loop Vehicle Detectors
Item number 2 is deleted.

Item numbers 3 through 12 are renumbered to 2 through 11, respectively.
8-21.AP8
Section 8-21, Permanent Signing
January 7 2019

8-21.3(5) Sign Relocation
The second sentence of the first paragraph is revised to read:

Where the existing sign Structure is mounted on concrete pedestals, the Contractor shall remove the pedestal to a minimum of 2 feet below finished grade and backfill the remaining hole with material similar to that surrounding the hole.

8-21.3(9)F Foundations
Item number 3 of the twelfth paragraph is supplemented with the following new sentence:

Class 4000P concrete for roadside sign structures does not require air entrainment.

8-22.AP8
Section 8-22, Pavement Marking
January 7, 2019

8-22.3(2) Preparation of Roadway Surfaces
The second paragraph is revised to read:

Remove all other contaminants from pavement surfaces that may adversely affect the installation of new pavement marking.

8-22.3(3)F Application Thickness
The second to last sentence of the last paragraph is revised to read:

After grinding, clean the groove.

9-00.AP9
Section 9-00, Definitions and Tests
January 7, 2019

9-00.4 Sieves for Testing Purposes
This section is revised to read:

Test sieves shall be made of either: (1) woven wire cloth conforming to ASTM E11, or (2) square-hole, perforated plates conforming to ASTM E323.

9-00.7 Galvanized Hardware, AASHTO M 232
The first sentence is revised to read:

An acceptable alternate to hot-dip galvanizing in accordance with AASHTO M 232 will be zinc coatings mechanically deposited in accordance with ASTM B695, providing the minimum thickness of zinc coating is not less than that specified in AASHTO M 232, and the process will not produce hydrogen embrittlement in the base metal.
9-02.AP9
Section 9-02, Bituminous Materials
January 7, 2019

9-02.1 Asphalt Material, General
The second paragraph is revised to read:

The Asphalt Supplier of Performance Graded (PG) asphalt binder and emulsified asphalt shall have a Quality Control Plan (QCP) in accordance with WSDOT QC 2 “Standard Practice for Asphalt Suppliers That Certify Performance Graded and Emulsified Asphalts”. The Asphalt Supplier’s QCP shall be submitted and receive the acceptance of the WSDOT State Materials Laboratory. Once accepted, any change to the QCP will require a new QCP to be submitted for acceptance. The Asphalt Supplier of PG asphalt binder and emulsified asphalt shall certify through the Bill of Lading that the PG asphalt binder or emulsified asphalt meets the Specification requirements of the Contract.

9-02.1(4) Performance Graded Asphalt Binder (PGAB)
This section’s title is revised to read:

Performance Graded (PG) Asphalt Binder

The first paragraph is revised to read:

PG asphalt binder meeting the requirements of AASHTO M 332 Table 1 of the grades specified in the Contract shall be used in the production of HMA. For HMA with greater than 20 percent RAP by total weight of HMA, or any amount of RAS, the new asphalt binder, recycling agent and recovered asphalt (RAP and/or RAS) when blended in the proportions of the mix design shall meet the PG asphalt binder requirements of AASHTO M 332 Table 1 for the grade of asphalt binder specified by the Contract.

The second paragraph, including the table, is revised to read:

In addition to AASHTO M 332 Table 1 specification requirements, PG asphalt binders shall meet the following requirements:

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Method</th>
<th>PG58S-22</th>
<th>PG58H-22</th>
<th>PG58V-22</th>
<th>PG64S-28</th>
<th>PG64H-28</th>
<th>PG64V-28</th>
</tr>
</thead>
<tbody>
<tr>
<td>RTFO Residue: Average Percent Recovery @ 3.2 kPa</td>
<td>AASHTO T 350¹</td>
<td>30% Min.</td>
<td>20% Min.</td>
<td>25% Min.</td>
<td>30% Min.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹Specimen conditioned in accordance with AASHTO T 240 – RTFO.

The third paragraph is revised to read:

The RTFO J_\text{ndiff} and the PAV direct tension specifications of AASHTO M 332 are not required.
9-02.1(6) Cationic Emulsified Asphalt
This section is revised to read:

Cationic Emulsified Asphalt meeting the requirements of AASHTO M 208 Table 1 of the grades specified in the Contract shall be used.

9-02.5 Warm Mix Asphalt (WMA) Additive
This section, including title, is revised to read:

9-02.5 HMA Additive
Additives for HMA shall be accepted by the Engineer.

9-03.AP9
Section 9-03, Aggregates
January 7, 2019

9-03.1 Aggregates for Portland Cement Concrete
This section’s title is revised to read:

Aggregates for Concrete

9-03.1(1) General Requirements
The first two sentences of the first paragraph are revised to read:

Concrete aggregates shall be manufactured from ledge rock, talus, or sand and gravel in accordance with the provisions of Section 3-01. Reclaimed aggregate may be used if it complies with the specifications for concrete.

The second paragraph (up until the colon) is revised to read:

Aggregates for concrete shall meet the following test requirements:

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

The Contractor shall submit test results according to ASTM C1567 through the Engineer to the State Materials Laboratory that demonstrate that the proposed fly ash when used with the proposed aggregates and cement will control the potential expansion to 0.20 percent or less before the fly ash and aggregate sources may be used in concrete.

9-03.1(2) Fine Aggregate for Portland Cement Concrete
This section’s title is revised to read:

Fine Aggregate for Concrete

9-03.1(4) Coarse Aggregate for Portland Cement Concrete
This section’s title is revised to read:

Coarse Aggregate for Concrete
9-03.1(4)C  Grading
The first paragraph (up until the colon) is revised to read:

Coarse aggregate for concrete when separated by means of laboratory sieves shall conform to one or more of the following gradings as called for elsewhere in these Specifications, Special Provisions, or in the Plans:

9-03.1(5) Combined Aggregate Gradation for Portland Cement Concrete
This section’s title is revised to read:

Combined Aggregate Gradation for Concrete

9-03.1(5)B  Grading
In the last paragraph, “WSDOT FOP for WAQTC/AASHTO T 27/T 11” is revised to read “FOP for WAQTC/AASHTO T 27/T 11”.

9-03.2 Aggregate for Job-Mixed Portland Cement Mortar
This section’s title is revised to read:

Aggregate for Job-Mixed Portland Cement or Blended Hydraulic Cement Mortar

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

Fine aggregate for portland cement or blended hydraulic cement mortar shall consist of sand or other inert materials, or combinations thereof, accepted by the Engineer, having hard, strong, durable particles free from adherent coating.

9-03.4(1) General Requirements
The first paragraph (up until the colon) is revised to read:

Aggregate for bituminous surface treatment shall be manufactured from ledge rock, talus, or gravel, in accordance with Section 3-01. Aggregates for Bituminous Surface Treatment shall meet the following test requirements:

9-03.8(1) General Requirements
The first paragraph (up until the colon) is revised to read:

Aggregates for Hot Mix Asphalt shall meet the following test requirements:

9-03.8(2) HMA Test Requirements
The two tables in the second paragraph are replaced with the following three tables:

<table>
<thead>
<tr>
<th>Mix Criteria</th>
<th>HMA Class</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>½ inch</td>
</tr>
<tr>
<td>Voids in Mineral Aggregate (VMA), %</td>
<td>15.0</td>
</tr>
<tr>
<td>Voids Filled With Asphalt (VFA), %</td>
<td>VFA</td>
</tr>
<tr>
<td>ESAL’s (millions)</td>
<td>70</td>
</tr>
</tbody>
</table>
### AMENDMENTS TO THE STANDARD SPECIFICATIONS – JUNE 2019

#### Test Method

<table>
<thead>
<tr>
<th>Dust/Asphalt Ratio</th>
<th>0.3 to &lt; 3</th>
<th>≥ 3</th>
<th>0.6</th>
<th>1.6</th>
<th>0.6</th>
<th>1.6</th>
<th>0.6</th>
<th>1.6</th>
<th>0.6</th>
<th>1.6</th>
</tr>
</thead>
</table>

#### Indirect Tensile (IDT) Strength (psi) of Bituminous Materials FOP for ASTM D6931

<table>
<thead>
<tr>
<th>ESAL’s (millions)</th>
<th>N initial</th>
<th>N design</th>
<th>N maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 0.3</td>
<td>≤ 91.5</td>
<td>96.0</td>
<td>≤ 98.0</td>
</tr>
<tr>
<td>0.3 to &lt; 3</td>
<td>≤ 90.5</td>
<td>96.0</td>
<td>≤ 98.0</td>
</tr>
<tr>
<td>≥ 3</td>
<td>≤ 89.0</td>
<td>96.0</td>
<td>≤ 98.0</td>
</tr>
</tbody>
</table>

#### Gyratory Compaction (number of gyrations)

<table>
<thead>
<tr>
<th>% Gmm</th>
<th>&lt; 0.3</th>
<th>0.3 to &lt; 3</th>
<th>≥ 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>N initial</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>N design</td>
<td>50</td>
<td>75</td>
<td>100</td>
</tr>
<tr>
<td>N maximum</td>
<td>75</td>
<td>115</td>
<td>160</td>
</tr>
</tbody>
</table>

### 9-03.8(7) HMA Tolerances and Adjustments

In the table in item number 1, the fifth row is revised to read:

Asphalt binder | -0.4% to 0.5% | ±0.7%

In the table in item number 1, the following new row is inserted before the last row:

| Voids in Mineral Aggregate, VMA | -1.0% |   |

### 9-03.9(1) Ballast

The second paragraph (up until the colon) is revised to read:

> Aggregates for ballast shall meet the following test requirements:

### 9-03.14(4) Gravel Borrow for Structural Earth Wall

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

> The material shall be substantially free of shale or other soft, poor durability particles, and shall not contain recycled materials, such as glass, shredded tires, concrete rubble, or asphaltic concrete rubble.

### 9-03.21(1)B Recycled Concrete Aggregate Approval and Acceptance

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

> Recycled concrete aggregate may be used as coarse aggregate or blended with coarse aggregate for Commercial Concrete, Class 3000 concrete, or Cement Concrete Pavement.
4. For Cement Concrete Pavement mix designs using recycled concrete aggregates, the Contractor shall submit evidence that ASR mitigating measures control expansion in accordance with Section 9-03.1(1).

This section is supplemented with the following new subsection:

**9-03.21(1)B1 Recycled Concrete Aggregate Approval and Acceptance**

Recycled concrete aggregate may be approved through a three tiered system that consists of the following:

<table>
<thead>
<tr>
<th>Tier 1</th>
<th>Approval Requirements</th>
<th>Acceptance Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Approval of the Reclamation Facility is not required.</td>
<td>Certification of toxicity characteristics in accordance with Section 9-03.21(1). Field acceptance testing in accordance with Section 3-04.</td>
</tr>
</tbody>
</table>

**Approved to provide the following Aggregate Materials:**

- 9-03.10 Aggregate for Gravel Base
- 9-03.12(1)B Gravel Backfill for Foundations Class B
- 9-03.12(2) Gravel Backfill for Walls
- 9-03.12(3) Gravel Backfill for Pipe Zone Bedding
- 9-03.14(1) Gravel Borrow
- 9-03.14(2) Select Borrow
- 9-03.14(2) Select Borrow (greater than 3 feet below subgrade and side slope)
- 9-03.14(3) Common Borrow
- 9-03.14(3) Common Borrow (greater than 3 feet below subgrade and side slope)
- 9-03.17 Foundation Material Class A and Class B
- 9-03.18 Foundation Material Class C
- 9-03.19 Bank Run Gravel for Trench Backfill

<table>
<thead>
<tr>
<th>Tier 2</th>
<th>Approval Requirements</th>
<th>Acceptance Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The Reclamation Facility shall have a Quality Control Plan (QCP) in accordance with WSDOT QC 9 “Standard Practice for Approval of Reclamation Facilities of WSDOT Recycled Concrete and Returned Concrete”. The Reclamation Facility's QCP shall be submitted and approved by the WSDOT State Materials Laboratory. Once accepted, any changes to the QCP will require a new QCP to be submitted for acceptance. Evaluation of aggregate source properties (LA Wear and Degradation) for the recycled concrete aggregate is not required.</td>
<td>Certification of toxicity characteristics in accordance with Section 9-03.21(1), required if requested. Field acceptance testing in accordance with Section 3-04 is required. Provide certification in accordance with WSDOT QC 9 for every lot. A lot shall be no larger than 10,000 tons.</td>
</tr>
</tbody>
</table>

**Approved to provide the following Aggregate Materials:**

- Tier 1 aggregate materials
- 9-03.1 Coarse Aggregate for Commercial Concrete or Concrete class 3000
- 9-03.9(1) Ballast
9-03.9(2) Permeable Ballast
9-03.9(3) Crushed Surfacing
9-03.12(1)A Gravel Backfill for Foundations Class A

<table>
<thead>
<tr>
<th>Tier 3</th>
<th>Approval Requirements</th>
<th>Acceptance Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The Reclamation Facility shall have a Quality Control Plan (QCP) in accordance with WSDOT QC 10 “Standard Practice for Approval of Reclamation Facilities of Recycled Concrete Aggregates from Stockpiles of Unknown Sources”. The Reclamation Facility’s QCP shall be submitted and approved by the WSDOT State Materials Laboratory. Once accepted, any changes to the QCP will require a new QCP to be submitted for acceptance. Evaluation of aggregate source properties (LA Wear and Degradation) for the recycled concrete aggregate is required.</td>
<td>Certification of toxicity characteristics in accordance with Section 9-03.21(1) is required. Field acceptance testing in accordance with Section 3-04 is required. Provide certification in accordance with WSDOT QC 10 for every lot. A lot shall be no larger than 10,000 tons</td>
</tr>
</tbody>
</table>

Approved to provide the following Aggregate Materials:
- Tier 1 aggregate materials
- 9-03.1 Coarse Aggregate for Commercial Concrete or Concrete class 3000
- 9-03.9(1) Ballast
- 9-03.9(2) Permeable Ballast
- 9-03.9(3) Crushed Surfacing
- 9-03.12(1)A Gravel Backfill for Foundations Class A

For Reclamation Facilities that do not participate in Tier 2 and Tier 3, approval of recycled concrete aggregate will be in accordance with Section 9-03.21(1), and acceptance will be in accordance with Section 3-04.

9-03.21(1)E Table on Maximum Allowable percent (By Weight) of Recycled Material
“Portland Cement” is deleted from the first two rows in the table.

The following new row is inserted after the second row:

| Coarse Aggregate for Concrete Pavement | 9-03.1(4) | 0 | 100 | 0 | 0 |

The first column of the fourth row (after the preceding Amendment is applied) is revised to read:

Coarse Aggregate for Commercial Concrete and Class 3000 Concrete

9-04.AP9
Section 9-04, Joint and Crack Sealing Materials
January 7, 2019

This section’s title is revised to read:
Joint Sealing Materials

9-04.1(2) Premolded Joint Filler for Expansion Joints
In this section, each reference to “AASHTO T 42” is revised to read “ASTM D 545”.

9-04.2(1)A1 Hot Poured Sealant for Cement Concrete Pavement
This section is supplemented with the following:

Hot poured sealant for cement concrete pavement is acceptable for installations in joints where cement concrete pavement abuts a bituminous pavement.

9-04.2(1)A2 Hot Poured Sealant for Bituminous Pavement
This section is supplemented with the following:

Hot poured sealant for bituminous pavement is acceptable for installations in joints where cement concrete pavement abuts a bituminous pavement.

9-04.2(1)B Sand Slurry for Bituminous Pavement
Item number 2 of the first paragraph is revised to read:

2. Two percent portland cement or blended hydraulic cement, and

9-04.3 Joint Mortar
The first paragraph is revised to read:

Mortar for hand mortared joints shall conform to Section 9-20.4(3) and consist of one part portland cement or blended hydraulic cement, three parts fine sand, and sufficient water to allow proper workability.

9-04.5 Flexible Plastic Gaskets
In the table, the Test Method value for Specific Gravity at 77°F is revised to read “ASTM D71”.

In the table, the Test Method value for Flash Point COC, F is revised to read “ASTM D93 REV A”.

In the table, the Test Method value for Volatile Matter is revised to read “ASTM D6”.

9-05.AP9
Section 9-05, Drainage Structures and Culverts
January 7, 2019

9-05.3(1)A End Design and Joints
The second sentence of the first paragraph is revised to read:

The joints and gasket material shall meet the requirements of ASTM C990.

9-05.3(1)C Age at Shipment
The last sentence of the first paragraph is revised to read:
Unless it is tested and accepted at an earlier age, it shall not be considered ready for shipment sooner than 28 days after manufacture when made with Type II portland cement or blended hydraulic cement, nor sooner than 7 days when made with Type III portland cement.

9-05.7(3) Concrete Storm Sewer Pipe Joints
The second sentence is revised to read:

The joints and gasket material shall meet the requirements of ASTM C990.

9-05.7(4)A Hydrostatic Pressure on Pipes in Straight Alignment
The first sentence is revised to read:

Hydrostatic pressure tests on pipes in straight alignment shall be made in accordance with the procedure outlined in Section 10 of ASTM C990, except that they shall be performed on an assembly consisting of not less than three nor more than five pipe sections selected from stock by the Engineer and assembled in accordance with standard installation instructions issued by the manufacturer.

9-05.24(1) Polypropylene Culvert Pipe and Storm Sewer Pipe
This section is revised to read:

Polypropylene culvert and storm sewer pipe shall conform to the following requirements:

1. For dual wall pipe sizes up to 60 inches: ASTM F2881 or AASHTO M 330, Type S or Type D.
2. For double or triple wall pipe sizes up to 60 inches: ASTM F2764.
3. Fittings shall be factory welded, injection molded, or PVC.

9-05.24(2) Polypropylene Sanitary Sewer Pipe
This section is revised to read:

Polypropylene sanitary sewer pipe shall conform to the following requirements:

1. For pipe sizes up to 60 inches: ASTM F2764.
2. Fittings shall be factory welded, injection molded, or PVC.

9-06.AP9
Section 9-06, Structural Steel and Related Materials
January 7, 2019

9-06.5 Bolts
This section’s title is revised to read:

Bolts and Rods

9-06.5(4) Anchor Bolts
This section, including title, is revised to read:
9-06.5(4) Anchor Bolts and Anchor Rods
Anchor bolts and anchor rods shall meet the requirements of ASTM F1554 and, unless otherwise specified, shall be Grade 105 and shall conform to Supplemental Requirements S2, S3, and S4.

Nuts for ASTM F1554 Grade 105 black anchor bolts and anchor rods shall conform to ASTM A563, Grade D or DH. Nuts for ASTM F1554 Grade 105 galvanized anchor bolts and anchor rods shall conform to either ASTM A563, Grade DH, or AASHTO M292, Grade 2H, and shall conform to the overtapping, lubrication, and rotational testing requirements in Section 9-06.5(3). Nuts for ASTM F1554 Grade 36 or 55 black or galvanized anchor bolts and anchor rods shall conform to ASTM A563, Grade A or DH. Washers shall conform to ASTM F436.

The bolts and rods shall be tested by the manufacturer in accordance with the requirements of the pertinent Specification and as specified in these Specifications. Anchor bolts, anchor rods, nuts, and washers shall be inspected prior to shipping to the project site. The Contractor shall submit to the Engineer for acceptance a Manufacturer’s Certificate of Compliance for the anchor bolts, anchor rods, nuts, and washers, as defined in Section 1-06.3. If the Engineer deems it appropriate, the Contractor shall provide a sample of the anchor bolt, anchor rod, nut, and washer for testing.

All bolts, rods, nuts, and washers shall be marked and identified as required in the pertinent Specification.

9-06.15 Welded Shear Connectors
The third paragraph is revised to read:

Mechanical properties shall be determined in accordance with AASHTO T 244.

9-06.17 Vacant
This section, including title, is revised to read:

9-06.17 Noise Barrier Wall Access Door
Access door frames shall be formed of 14-gauge steel to the size and dimensions shown in the Plans. The access door frame head and jamb members shall be mitered, securely welded, and ground smooth. Each head shall have two anchors and each jamb shall have three anchors. The hinges shall be reinforced with ¼-inch by 12-inch plate, width equal to the full inside width of the frame.

Access doors shall be full flush 1-1/4-inch thick seamless doors with a polystyrene core. Door faces shall be constructed with smooth seamless 14-gauge roller-levered, cold-rolled steel sheet conforming to ASTM A 792 Type SS, Grade 33 minimum, Coating Designation AZ55 minimum. The vertical edges shall be neat interlocked hemmed edge seam. The top and bottom of the door shall be enclosed with 14-gauge channels. Mortise and reinforcement for locks and hinges shall be 10-gauge steel. Welded top cap shall be ground and filled for exterior applications. The bottom channel shall have weep holes.

Each access door shall have three hinges. Access door hinges shall be ASTM A 276 Type 316 stainless steel, 4-1/2-inches square, with stainless steel ball bearing and non-removable pins.

Each access door shall have two pull plates. The pull plates shall be ASTM A 240 Type 316 stainless steel, with a grip handle of one-inch diameter and 8 to 10-inches in length.
The door assembly shall be fabricated and assembled as a complete unit including all hardware specified prior to shipment.

9-06.18 Metal Bridge Railing  
The second sentence of the first paragraph is revised to read:

Steel used for metal railings, when galvanized after fabrication in accordance with AASHTO M111, shall have a controlled silicon content of either 0.00 to 0.06 percent or 0.15 to 0.25 percent.

9-07.AP9  
Section 9-07, Reinforcing Steel  
January 7, 2019

9-07.5(1) Epoxy-Coated Dowel Bars (for Cement Concrete Rehabilitation)  
This section (including title) is revised to read:

**9-07.5(1) Dowel Bars for Cement Concrete Pavement Rehabilitation**  
Dowel bars for Cement Concrete Pavement Rehabilitation shall be 1½ inch outside diameter plain round steel bars or tubular bars 18 inches in length and meet the requirements of one of the following dowel bar types:

1. **Epoxy-coated dowel bars** shall be round plain steel bars of the dimensions shown in the Standard Plans. They shall conform to AASHTO M31, Grade 60 or ASTM A615, Grade 60 and shall be coated in accordance with ASTM A1078 Type 2 coating, except that the bars may be cut to length after being coated. Cut ends shall be coated in accordance with ASTM A1078 with a patching material that is compatible with the coating, inert in concrete and recommended by the coating manufacturer. The thickness of the epoxy coating shall be 10 mils plus or minus 2 mils. The Contractor shall furnish a written certification that properly identifies the coating material, the number of each batch of coating material used, quantity represented, date of manufacture, name and address of manufacturer, and a statement that the supplied coating material meets the requirements of ASTM A1078 Type 2 coating. Patching material, compatible with the coating material and inert in concrete and recommended by the manufacturer shall be supplied with each shipment for field repairs by the Contractor.

2. **ASTM A513 steel tubes** made from Grade 60 Carbon Steel Tube with a 1.625 inch outside diameter and a 0.120 inch wall thickness. Both the inside and outside of the tube shall be zinc coated with G40 galvanizing in accordance with ASTM A653. Following zinc coating the tubes shall be coated in accordance with Section 9-07.5(1) item 1. The ends of the tube shall be capped to prevent intrusion of concrete or other materials.

**9-07.5(2) Corrosion Resistant Dowel Bars (for Cement Concrete Pavement and Cement Concrete Pavement Rehabilitation)**  
The first paragraph (up until the colon) is revised to read:

Corrosion resistant dowel bars shall be 1½ inch outside diameter plain round steel bars or tubular bars 18 inches in length and meet the requirements of one of the following:
Item number 4 and 5 of the first paragraph are revised to read:

4. Corrosion-resistant, low-carbon, chromium plain steel bars for concrete reinforcement meeting all the requirements of ASTM A 1035 Alloy Type CS Grade 100 or Alloy Type CS Grade 120.

5. Zinc Clad dowel bars shall be 1½ inch solid bars or 1.625 inch outside diameter by 0.120 inch wall tubular bars meeting the chemical and physical properties of AASHTO M 31, Grade 60, or AASHTO M 255, Grade 60. The bars shall have a minimum of 0.035 inches A710 Zinc alloy clad to the plain steel inner bar or tube. A710 Zinc shall be composed of: zinc: 99.5 percent, by weight, minimum; copper: 0.1-0.25 percent, by weight; and iron: 0.0020 percent, by weight, maximum. Each end of tubular bars shall be plugged using a snug-fitting insert to prohibit any intrusion of concrete or other materials.

The numbered list in the first paragraph is supplemented with the following:

6. Multicoated fusion bonded epoxy bars shall consist of an ASTM A615 bar with alternating layers of ASTM A934 coating and an abrasion resistant overcoat (ARO). The ASTM A934 coating shall form the base and there shall be two layers of each coating material. The minimum thickness of the combined layers of the ASTM A934 coating and ARO coating shall be 20 mils. The ARO shall meet the following requirements:

<table>
<thead>
<tr>
<th>Test</th>
<th>Method</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gouge Resistance</td>
<td>NACE TM0215, 30 kg wt., LS-1 bit @ 25°C</td>
<td>&lt; 0.22 mm</td>
</tr>
<tr>
<td>Gouge Resistance</td>
<td>NACE TM0215, 50 kg wt., LS-1 bit @ 25°C</td>
<td>&lt; 0.44 mm</td>
</tr>
</tbody>
</table>

7. ASTM A513 steel tubes made from Grade 60 Carbon Steel Tube with a 1.625 inch outside diameter and a 0.120 inch wall thickness. Both the inside and outside of the tube shall be zinc coated with G90 galvanizing in accordance with ASTM A653. Following zinc coating the tubes shall be coated in accordance with Section 9-07.5(1) item 1. The ends of the tube shall be capped to prevent intrusion of concrete or other materials.

The last paragraph is revised to read:

Stainless Steel Clad and Stainless Steel Tube Dowel bar ends shall be sealed with a patching material (primer and finish coat) used for patching epoxy-coated reinforcing steel as required in Section 9-07.3, item 6.

9-07.7 Wire Mesh
This section is supplemented with the following:

Welded wire manufacturers shall participate in the NTPEP Audit Program for Reinforcing Steel (rebar) Manufacturers and shall be listed on the NTPEP audit program website displaying that they are NTPEP compliant.
9-08.AP9
Section 9-08, Paints and Related Materials
January 7, 2019

9-08.1(1) Description
The first sentence is revised to read:

Paint used for highway and bridge structure applications shall be made from materials meeting the requirements of the applicable Federal and State Paint Specifications, Department of Defense (DOD), American Society of Testing of Materials (ASTM), and The Society for Protective Coatings (SSPC) specifications in effect at time of manufacture.

9-08.1(2) Paint Types
This section is supplemented with the following new subsections:

9-08.1(2)M  NEPCOAT Qualified Products List A
Qualified products used shall be part of a NEPCOAT system supplied by the same manufacturer.

9-08.1(2)N  NEPCOAT Qualified Products List B
Qualified products used shall be part of a NEPCOAT system supplied by the same manufacturer.

9-08.1(2)D  Organic Zinc-Rich Primer
This section, including title, is revised to read:

Vacant

9-08.1(2)E  Epoxy Polyamide
This section is revised to read:

Epoxy polyamide shall be a two-component system conforming to MIL-DTL-24441 or SSPC Coating Standard No. 42.

9-08.1(2)H  Top Coat, Single-Component, Moisture-Cured Polyurethane
This section is revised to read:

Vehicle Type: Moisture-cured aliphatic polyurethane.

Color and Gloss: Meet the SAE AMS Standard 595 Color as specified in the table below.

The Top Coat shall meet the following requirements:

The resin shall be an aliphatic urethane.

Minimum-volume solids 50 percent.

The top coat shall be semi-gloss.

| Color | Semi-Gloss |
9-08.1(2)I Rust-Penetrating Sealer
This section is revised to read:

Rust-penetrating sealer shall be a two-component, chemically-cured, 100 percent solids epoxy.

9-08.1(2)J Black Enamel
This section is revised to read:

The enamel shall conform to Federal Specification MIL PRF 24635E Type II Class 2.

9-08.1(2)K Orange Equipment Enamel
The first paragraph is revised to read:

The enamel shall be an alkyd gloss enamel conforming to Federal Specification MIL-PRF-24635E Type II Class 1. The color, when dry, shall match that of SAE AMS Standard 595, color number 12246.

9-08.1(2)L Exterior Acrylic Latex Paint-White
The first paragraph is revised to read:

This paint shall conform to Federal Specification MIL-PRF-24635E Type II Class 1, 2 or 3.

9-08.1(7) Acceptance
This section is revised to read:

For projects with moisture-cured polyurethane quantities less than 20 gallons, acceptance will be by the Manufacturer’s Certificate of Compliance.

For projects with moisture-cured polyurethane quantities greater than 20 gallons, the product shall be listed in the current WSDOT Qualified Products List (QPL). If the lot number is listed on the QPL, it may be accepted without additional testing. If the lot number is not listed on the QPL, a 1 quart sample shall be submitted to the State Materials Laboratory for testing and acceptance.

For all other paint types, acceptance will be based on visual inspection.

9-08.1(8) Standard Colors
In the first paragraph, the reference to “Federal Standard 595” is revised to read “SAE AMS Standard 595”.

The second paragraph is revised to read:

Unless otherwise specified, all top or finish coats shall be semi-gloss, with the paint falling within the range of 35 to 70 on the 60-degree gloss meter.
9-08.2 Powder Coating Materials for Coating Galvanized Surfaces
The last paragraph is revised to read:

Repair materials shall be as recommended by the powder coating manufacturer and as specified in the Contractor’s powder coating plan as accepted by the Engineer.

9-08.3 Pigmented Sealer Materials for Coating of Concrete Surfaces
This section, including title, is revised to read:

9-08.3 Concrete Surface Treatments
9-08.3(1) Pigmented Sealer Materials
The pigmented sealer shall be a semi-opaque, colored toner containing only methyl methacrylate-ethyl acrylate copolymer resins, toning pigments suspended in solution at all times by a chemical suspension agent, and solvent. Toning pigments shall be laminar silicates, titanium dioxide, and inorganic oxides only. There shall be no settling or color variation. Tinting shall occur at the factory at the time of manufacture and placement in containers, prior to initial shipment. Use of vegetable or marine oils, paraffin materials, stearates, or organic pigments in any part of coating formulation will not be permitted. The color of pigmented sealer shall be as specified by the Contracting Agency. The Contractor shall submit a 1-quart wet sample, a drawdown color sample, and spectrophotometer or colorimeter readings taken in accordance with ASTM D2244, for each batch and corresponding standard color card. The calculated Delta E shall not exceed 1.5 from the Commission Internationale de l’Eclairage (CIELAB) when measured at 10 degrees Standard Observer and Illuminant D 65.

The 1-quart wet sample shall be submitted in the manufacturer’s labeled container with product number, batch number, and size of batch. The companion drawdown color sample shall be labeled with the product number, batch number, and size of batch. The Contractor shall submit the specified samples and readings to the Engineer at least 14 calendar days prior to the scheduled application of the sealer. The Contractor shall not begin applying pigmented sealer until receiving the Engineer’s written approval of the pigmented sealer color samples.

9-08.3(2) Exposed Aggregate Concrete Coatings and Sealers
9-08.3(2)A Retardant Coating
Retardant coating shall exhibit the following properties:

1. Retards the set of the surface mortar of the concrete without preventing the concrete to reach the specified 28 day compressive strength.

2. Leaves the aggregate with its original color and luster, and firmly embedded in the concrete matrix.

3. Allows the removal of the surface mortar in accordance with the methods specified in Section 6-02.3(14)E without the use of acidic washing compounds.

4. Allows for uniform removal of the surface mortar.

If the Contractor proposes use of a retardant coating that is not listed in the current WSDOT QPL, the Contractor shall submit a Type 2 Working Drawing consisting of a one quart product sample from a current lot along with supporting product
information, Safety Data Sheet, and a Manufacturer’s Certificate of Compliance stating that the product conforms to the above performance requirements.

9-08.3(2)B Clear Sealer
The sealer for concrete surfaces with exposed aggregate finish shall be a clear, non-gloss, penetrating sealer of either a silane, siloxane, or silicone based formulation.

9-08.3(3) Permeon Treatment
Permeon treatment shall be a product of known consistent performance in producing the SAE AMS Standard 595 Color No. 30219 target color hue established by WSDOT, either selected from the WSDOT Qualified Products List (QPL), or an equivalent product accepted by the Engineer. For acceptance of products not listed in the current WSDOT QPL, the Contractor shall submit Type 3 Working Drawings consisting of a one quart product sample from a current lot, supporting product information and a Safety Data Sheet.

9-13.AP9
Section 9-13, Riprap, Quarry Spalls, Slope Protection, and Rock for Erosion and Scour Protection and Rock Walls
April 2, 2018

9-13.1(1) General
The last paragraph is revised to read:

Riprap and quarry spalls shall be free from segregation, seams, cracks, and other defects tending to destroy its resistance to weather and shall meet the following test requirements:

9-13.5 Concrete Slope Protection
This section is revised to read:

Concrete slope protection shall consist of reinforced portland cement or blended hydraulic cement concrete poured or pneumatically placed upon the slope with a rustication joint pattern or semi-open concrete masonry units placed upon the slope closely adjoining each other.

9-13.5(2) Poured Portland Cement Concrete Slope Protection
This section’s title is revised to read:

Poured Portland Cement or Blended Hydraulic Cement Concrete Slope Protection

9-13.5(3) Pneumatically Placed Portland Cement Concrete Slope Protection
This section’s title is revised to read:

Pneumatically Placed Portland Cement or Blended Hydraulic Cement Concrete Slope Protection

The first paragraph is revised to read:
Cement – This material shall be portland cement or blended hydraulic cement as specified in Section 9-01.

9-13.7(1) Rock for Rock Walls and Chinking Material
The first paragraph (up until the colon) is revised to read:

Rock for rock walls and chinking material shall be hard, sound and durable material, free from seams, cracks, and other defects tending to destroy its resistance to weather, and shall meet the following test requirements:

9-14.AP9
Section 9-14, Erosion Control and Roadside Planting
August 6, 2018

9-14.4(2) Hydraulically Applied Erosion Control Products (HECPs)
In Table 1, the last four rows are deleted.

9-14.4(2)A Long-Term Mulch
The first paragraph is supplemented with the following:

Products containing cellulose fiber produced from paper or paper components will not be accepted.

Table 2 is supplemented with the following new rows:

<table>
<thead>
<tr>
<th>Water Holding Capacity</th>
<th>ASTM D 7367</th>
<th>800 percent minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic Matter Content</td>
<td>AASHTO T 267</td>
<td>90 percent minimum</td>
</tr>
<tr>
<td>Seed Germination</td>
<td>ASTM D 7322</td>
<td>Long Term</td>
</tr>
<tr>
<td>Enhancement</td>
<td></td>
<td>420 percent minimum</td>
</tr>
</tbody>
</table>

9-14.4(2)B Moderate-Term Mulch
This section is revised to read:

Within 48 hours of application, the Moderate-Term Mulch shall bond with the soil surface to create a continuous, absorbent, flexible, erosion-resistant blanket. Moderate-Term Mulch shall effectively perform the intended erosion control function in accordance with Section 8-01.3(1) for a minimum of 3 months, or until temporary vegetation has been established, whichever comes first.

Moderate-Term Mulch shall not be used in conjunction with permanent seeding.

9-14.4(2)C Short-Term Mulch
This section is revised to read:

Short-Term Mulch shall effectively perform the intended erosion control function in accordance with Section 8-01.3(1) for a minimum of 2 months, or until temporary vegetation has been established, whichever comes first. Short-Term Mulch shall not be used in conjunction with permanent seeding.
9-16.AP9
Section 9-16, Fence and Guardrail
August 6, 2018

9-16.3(1) Rail Element
The last sentence of the first paragraph is revised to read:

All rail elements shall be formed from 12-gage steel except for thrie beam reducer sections, reduced length thrie beam rail elements, thrie beams used for bridge rail retrofits, and Design F end sections, which shall be formed from 10-gage steel.

9-16.3(5) Anchors
The last paragraph is revised to read:

Cement grout shall conform to Section 9-20.3(4) and consist of one part portland cement or blended hydraulic cement and two parts sand.

9-18.AP9
Section 9-18, Precast Traffic Curb
April 2, 2018

9-18.1(1) Aggregates and Proportioning
Item number 1 of the first paragraph is revised to read:

1. Portland cement or blended hydraulic cement shall conform to the requirements of Section 9-01 except that it may be Type I portland cement conforming to AASHTO M 85.

9-20.AP9
Section 9-20, Concrete Patching Material, Grout, and Mortar
April 1, 2019

9-20.1 Patching Material
This section, including title, is revised to read:

9-20.1 Patching Material for Cement Concrete Pavement
Concrete patching material shall be prepackaged mortar extended with aggregate. The amount of aggregate for extension shall conform to the manufacturer’s recommendation.

Patching mortar and patching mortar extended with aggregate shall contain cementitious material and conform to Sections 9-20.1(1) and 9-20.1(2). The Manufacturer shall use the services of a laboratory that has an equipment calibration verification system and a technician training and evaluation process in accordance with AASHTO R 18 to perform all tests specified in Section 9-20.1.

9-20.1(1) Patching Mortar
Patching mortar shall conform to the following requirements:

<table>
<thead>
<tr>
<th>Compressive Strength</th>
<th>ASTM Test Method</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>at 3 hours</td>
<td>C 39</td>
<td>Minimum 3,000 psi</td>
</tr>
<tr>
<td>at 24 hours</td>
<td>C 39</td>
<td>Minimum 5,000 psi</td>
</tr>
<tr>
<td>Length Change</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**AMENDMENTS TO THE STANDARD SPECIFICATIONS – JUNE 2019**

### 9-20.1(2) Patching Mortar Extended with Aggregate

Patching mortar extended with aggregate shall meet the following requirements:

<table>
<thead>
<tr>
<th>Compressive Strength</th>
<th>ASTM Test Method</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>at 3 hours</td>
<td>C 39</td>
<td>Minimum 3,000 psi</td>
</tr>
<tr>
<td>at 24 hours</td>
<td>C 39</td>
<td>Minimum 5,000 psi</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Length Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>at 28 days</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bond Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>at 24 hours</td>
</tr>
<tr>
<td>Scaling Resistance (at 25 cycles of freezing and thawing)</td>
</tr>
</tbody>
</table>

### 9-20.1(3) Aggregate

Aggregate used to extend the patching mortar shall conform to Section 9-03.1(4) and be AASHTO Grading No. 8. A Manufacturer’s Certificate of Compliance shall be submitted showing the aggregate source and the gradation. Mitigation for Alkali Silica Reaction (ASR) will not be required for the extender aggregate used for concrete patching material.

### 9-20.1(4) Water

Water shall meet the requirements of Section 9-25.1. The quantity of water shall be within the limits recommended by the repair material manufacturer.

### 9-20.2 Specifications

This section, including title, is revised to read:

**9-20.2 Patching Material for Concrete Structure Repair**

Concrete patching material shall be a prepackaged mixture of portland or blended hydraulic cement, aggregate, and admixtures. Fly ash, ground granulated blast furnace slag and microsilica fume may be used. The concrete patching material may be shrinkage compensated. The concrete patching material shall also meet the following requirements:

- Compressive strength of 6000 psi or higher at 28 days in accordance with AASHTO T 22 (ASTM C 39), unless noted otherwise
- Bond strength of 250 psi or higher at 28 days or less in accordance with ASTM C 1583 or ICRI 210.3R
• Shrinkage shall be 0.05 percent (500 microstrain) or lower at 28 days in accordance with AASHTO T 160 (ASTM C 157) as modified by ICRI 320.3R

• Permeability shall be 2,000 coulombs or lower at 28 days in accordance with AASHTO T 277 (ASTM C 1202)

• Freeze-thaw resistance shall have a durability factor of 90 percent or higher after a minimum of 300 cycles in accordance with AASHTO T 161 Procedure A (ASTM C 666)

• Soluble chloride ion limits in Section 6-02.3(2) shall be satisfied

9-20.2(1) Patching Mortar
This section, including title, is deleted in its entirety.

9-20.2(2) Patching Mortar Extended with Aggregate
This section, including title, is deleted in its entirety.

9-20.3(3) Grout Type 3 for Unconfined Bearing Pad Applications
This section’s title is revised to read:

Grout Type 3 for Unconfined Applications

This section is revised to read:

Grout Type 3 shall be a prepackaged material that does not include expansive admixtures meeting the following requirements:

• Compressive strength shall be 4000 psi or higher at 28 days in accordance with AASHTO T 22 (ASTM C 39) for grout extended with coarse aggregate or AASHTO T 106 (ASTM C109) otherwise.

• Bond strength shall meet one of the following:
  ◦ 250 psi or higher at 28 days or less in accordance with ASTM C1583.
  ◦ 2000 psi or higher at 28 days or less in accordance with ASTM C882. The following modification to ASTM C882 is acceptable: use Type 3 Grout in lieu of epoxy resin base bonding system and freshly mixed portland-cement mortar in the procedure for testing Type II and V systems.

• Drying shrinkage shall be 0.08 percent (800 microstrain) or lower at 28 days in accordance with AASHTO T 160 (ASTM C157). The following modification to AASHTO T 160 is acceptable: use a standard specimen size of 3 x 3 x 11-¼ inches.

9-20.5 Bridge Deck Repair Material
Item number 3 of the first paragraph is revised to read:

3. Permeability of less than 2,000 coulombs at 28-days or more in accordance with AASHTO T 277.
9-21.AP9
Section 9-21, Raised Pavement Markers (RPM)
January 2, 2018

9-21.2 Raised Pavement Markers Type 2
This section’s content is deleted.

9-21.2(1) Physical Properties
This section, including title, is revised to read:

9-21.2(1) Standard Raised Pavement Markers Type 2
The marker housing shall contain reflective faces as shown in the Plans to reflect incident light from either a single or opposite directions and meet the requirements of ASTM D 4280 including Flexural strength requirements.

9-21.2(2) Optical Requirements
This section, including title, is revised to read:

9-21.2(2) Abrasion Resistant Raised Markers Type 2
Abrasion Resistant Raised Markers Type 2 shall comply with Section 9-21.2(1) and meet the requirements of ASTM D 4280 with the following additional requirement: The coefficient of luminous intensity of the markers shall be measured after subjecting the entire lens surface to the test described in ASTM D 4280 Section 9.5 using a sand drop apparatus. After the exposure described above, retroreflected values shall not be less than 0.5 times a nominal unblemished sample.

9-21.2(3) Strength Requirements
This section is deleted in its entirety.

9-23.AP9
Section 9-23, Concrete Curing Materials and Admixtures
April 1, 2019

9-23.12 Natural Pozzolan
This section is revised to read:

Natural Pozzolans shall be ground Pumice and shall conform to the requirements of AASHTO M295 Class N, including supplementary optional chemical requirements as set forth in Table 2.

9-23.13 Blended Supplementary Cementitious Material
The second sentence is revised to read:

Blended SCMs shall be limited to binary or ternary blends of fly ash, ground granulated blast furnace slag and microsilica fume.

The second to last sentence is deleted.
9-26.AP9
Section 9-26, Epoxy Resins
January 7, 2019

9-26.1(1) General
The following new sentence is inserted after the first sentence of the first paragraph:

For pre-packaged cartridge kits, the epoxy bonding agent shall meet the requirements of ASTM C881 when mixed according to manufacturer instructions, utilizing the manufacturer’s mixing nozzle.

9-26.1(2) Packaging and Marking
The first sentence of the first paragraph is revised to read:

The components of the epoxy system furnished under these Specifications shall be supplied in separate containers or pre-packaged cartridge kits that are non-reactive with the materials contained.

The second paragraph is revised to read:

Separate containers shall be marked by permanent marking that identify the formulator, “Component A” (contains the Epoxy Resin) and “Component B” (Contains the Curing Agent), type, grade, class, lot or batch number, mixing instructions and the quantity contained in pounds or gallons as defined by these Specifications.

The following new paragraph is inserted after the second paragraph:

Pre-packaged cartridge kits shall be marked by permanent marking that identify the formulator, type, grade, class, lot or batch number, mixing instructions and the quantity contained in ounces or milliliters as defined by these Specifications.

9-28.AP9
Section 9-28, Signing Materials and Fabrication
April 1, 2019

9-28.2 Manufacturer’s Identification and Date
The second sentence is revised to read:

In addition, the width and height dimension, in inches, the Contract number, and the number of the sign as it appears in the Plans shall be placed using 3-inch series C black letters on the back of destination, distance, and large special signs.

9-28.10 Vacant
This section, including title, is revised to read:

9-28.10 Digital Printing
Transparent and opaque durable inks used in digital printed sign messages shall be as recommended by the manufacturer. When properly applied, digital printed colors shall have a warranty life of the base retroreflective sign sheeting. Digital applied colors shall present a smooth surface, free from foreign material, and all messages and borders shall be clear and sharp. Digital printed signs shall conform to 70% of the retroreflective minimum values
established for its type and color. Digitally printed signs shall meet the daytime color and luminance, and nighttime color requirements of ASTM D 4956. No variations in color or overlapping of colors will be permitted. Digital printed permanent traffic signs shall have an integrated engineered match component clear protective overlay recommended by the sheeting manufacturer applied to the entire face of the sign. On Temporary construction/maintenance signs printed with black ink only, the protective overlay film is optional, as long as the finished sign has a warranty of a minimum of three years from sign sheeting manufacturer.

All digital printed traffic control signs shall be an integrated engineered match component system. The integrated engineered match component system shall consist of retroreflective sheeting, durable ink(s), and clear overlay film all from the same manufacturer applied to aluminum substrate conforming to Section 9-28.8.

The sign fabricator shall use an approved integrated engineered match component system as listed on the Qualified Products List (QPL). Each approved digital printer shall only use the compatible retroreflective sign sheeting manufacturer’s engineered match component system products.

Each retroreflective sign sheeting manufacturer/integrated engineered match component system listed on the QPL shall certify a department approved sign fabricator is approved to operate their compatible digital printer. The sign fabricator shall re-certify annually with the retroreflective sign manufacturer to ensure their digital printer is still meeting manufacturer’s specifications for traffic control signs. Documentation of each re-certification shall be submitted to the QPL Engineer annually.

9-28.11 Hardware
The last paragraph is revised to read:

All steel parts shall be galvanized in accordance with AASHTO M111. Steel bolts and related connecting hardware shall be galvanized in accordance with ASTM F 2329.

9-28.14(2) Steel Structures and Posts
The first sentence of the third paragraph is revised to read:

Anchor rods for sign bridge and cantilever sign structure foundations shall conform to Section 9-06.5(4), including Supplemental Requirement S4 tested at -20°F.

In the second sentence of the fourth paragraph, “AASHTO M232” is revised to read “ASTM F 2329”.

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

Except as otherwise noted, steel used for sign structures and posts shall have a controlled silicon content of either 0.00 to 0.06 percent or 0.15 to 0.25 percent.

The last sentence of the last paragraph is revised to read:

If such modifications are contemplated, the Contractor shall submit a Type 2 Working Drawing of the proposed modifications.
9-29.AP9
Section 9-29, Illumination, Signal, Electrical
April 1, 2019

9-29.1 Conduit, Innerduct, and Outerduct
This section is supplemented with the following new subsections:

9-29.1(10) Pull Tape
Pull tape shall be pre-lubricated polyester pulling tape. The pull tape shall have a minimum width of \( \frac{1}{2} \)-inch and a minimum tensile strength of 500 pounds. Pull tape may have measurement marks.

9-29.1(11) Foam Conduit Sealant
Foam conduit sealant shall be self-expanding waterproof foam designed to prevent both water and pest intrusion. The foam shall be designed for use in and around electrical equipment, including both insulated and bare conductors.

9-29.2(1) Junction Boxes
The first paragraph is revised to read:

For the purposes of this Specification concrete is defined as portland cement or blended hydraulic cement concrete and non-concrete is all others.

9-29.2(1)A2 Non-Concrete Junction Boxes
The first paragraph is revised to read:

Material for the non-concrete junction boxes shall be of a quality that will provide for a similar life expectancy as portland cement or blended hydraulic cement concrete in a direct burial application.

9-29.2(2)A Standard Duty Cable Vaults and Pull Boxes
In the table in the last paragraph, the fourth, fifth and sixth rows are revised to read:

<table>
<thead>
<tr>
<th>Slip Resistant Lid</th>
<th>ASTM A36 steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame</td>
<td>ASTM A36 steel</td>
</tr>
<tr>
<td>Slip Resistant Frame</td>
<td>ASTM A36 steel</td>
</tr>
</tbody>
</table>

9-29.3(2)A1 Single Conductor Current Carrying
This second sentence is revised to read:

Insulation shall be XLP (cross-linked polyethylene) or EPR (Ethylene Propylene Rubber), Type USE (Underground Service Entrance) or USE-2, and rated for 600-volts or higher.

9-29.6 Light and Signal Standards
In the first sentence of the third paragraph, “AASHTO M232” is revised to read “ASTM F 2329”.

Item number 2 of the last paragraph is revised to read:

2. The steel light and signal standard fabricator’s shop drawing submittal, including supporting design calculations, submitted as a Type 2E Working Drawing in accordance with Section 8-20.2(1) and the Special Provisions.
9-29.6(1) Steel Light and Signal Standards
In the second paragraph, “AASHTO M232” is revised to read “ASTM F 2329”.

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

Steel used for light and signal standards shall have a controlled silicon content of either 0.00 to 0.06 percent or 0.15 to 0.25 percent.

9-29.6(5) Foundation Hardware
In the last paragraph, “AASHTO M232” is revised to read “ASTM F 2329”.

9-29.10(1) Conventional Roadway Luminaires
This section is revised to read:

All conventional roadway luminaires shall meet 3G vibration requirements as described in ANSI C136.31.

All luminaires shall have housings fabricated from aluminum. The housing shall be painted flat gray, SAE AMS Standard 595 color chip No. 26280, unless otherwise specified in the Contract. Painted housings shall withstand a 1,000 hour salt spray test as specified in ASTM B117.

Each housing shall include a four bolt slip-fitter mount capable of accepting a nominal 2” tenon and adjustable within +/- 5 degrees of the axis of the tenon. The clamping bracket(s) and the cap screws shall not bottom out on the housing bosses when adjusted within the +/- 5 degree range. No part of the slipfitter mounting brackets on the luminaires shall develop a permanent set in excess of 0.2 inch when the cap screws used for mounting are tightened to a torque of 32 foot-pounds. Each luminaire shall include leveling reference points for both transverse and longitudinal adjustment.

All luminaires shall include shorting caps when shipped. The caps shall be removed and provided to the Contracting Agency when an alternate control device is required to be installed in the photocell socket. House side shields shall be included when required by the Contract. Order codes shall be modified to the minimum extent necessary to include the option for house side shields.

This section is supplemented with the following new subsections:

9-29.10(1)A High Pressure Sodium (HPS) Conventional Roadway Luminaires
HPS conventional roadway luminaires shall meet the following requirements:

1. General shape shall be “cobrahead” style, with flat glass lens and full cutoff optics.
2. Light pattern distribution shall be IES Type III.
3. The reflector of all luminaires shall be of a snap-in design or secured with screws. The reflector shall be polished aluminum or prismatic borosilicate glass.
4. Flat lenses shall be formed from heat resistant, high-impact, molded borosilicate or tempered glass.
5. The lens shall be mounted in a doorframe assembly, which shall be hinged to the luminaire and secured in the closed position to the luminaire by means of an automatic latch. The lens and doorframe assembly, when closed, shall exert pressure against a gasket seat. The lens shall not allow any light output above 90 degrees nadir. Gaskets shall be composed of material capable of withstanding the temperatures involved and shall be securely held in place.

6. The ballast shall be mounted on a separate exterior door, which shall be hinged to the luminaire and secured in the closed position to the luminaire housing by means of an automatic type of latch (a combination hex/slot stainless steel screw fastener may supplement the automatic-type latch).

7. Each luminaire shall be capable of accepting a 150, 200, 250, 310, or 400 watt lamp complete and associated ballast. Lamps shall mount horizontally.

9-29.10(1)B Light Emitting Diode (LED) Conventional Roadway Luminaires

LED Conventional Roadway Luminaires are divided into classes based on their equivalent High Pressure Sodium (HPS) luminaires. Current classes are 200W, 250W, 310W, and 400W. LED luminaires are required to be pre-approved in order to verify their photometric output. To be considered for pre-approval, LED luminaires must meet the requirements of this section.

LED luminaires shall include a removable access door, with tool-less entry, for access to electronic components and the terminal block. The access door shall be removable, but include positive retention such that it can hang freely without disconnecting from the luminaire housing. LED drivers may be mounted either to the interior of the luminaire housing or to the removable door itself.

LED drivers shall be removable for user replacement. All internal modular components shall be connected by means of mechanical plug and socket type quick disconnects. Wire nuts may not be used for any purpose. All external electrical connections to the luminaire shall be made through the terminal block.

LED luminaires shall include a 7-pin NEMA photocell receptacle. The LED driver(s) shall be dimmable from ten volts to zero volts. LED output shall have a Correlated Color Temperature (CCT) of 4000K nominal (4000-4300K) and a Color Rendering Index (CRI) of 70 or greater. LED output shall be a minimum of 85% at 75,000 hours at 25 degrees Celsius.

LED luminaires shall be available for 120V, 240V, and 480V supply voltages. Voltages refer to the supply voltages to the luminaires present in the field. LED power usage shall not exceed the following maximum values for the applicable wattage class:

<table>
<thead>
<tr>
<th>Class</th>
<th>Max. Wattage</th>
</tr>
</thead>
<tbody>
<tr>
<td>200W</td>
<td>110W</td>
</tr>
<tr>
<td>250W</td>
<td>165W</td>
</tr>
<tr>
<td>310W</td>
<td>210W</td>
</tr>
<tr>
<td>400W</td>
<td>275W</td>
</tr>
</tbody>
</table>

Only one brand of LED conventional roadway luminaire may be used on a Contract. They do not necessarily have to be the same brand as any high-mast, underdeck, or wall-mount luminaires when those types of luminaires are specified in the Contract. LED luminaires shall include a standard 10 year manufacturer warranty.

9-29.10(2) Decorative Luminaires
This section, including title, is revised to read:

9-29.10(2) Vacant

9-29.12 Electrical Splice Materials
This section is supplemented with the following new subsections:

9-29.12(3) Splice Enclosures
  9-29.12(3)A Heat Shrink Splice Enclosure
  Heat shrink splice enclosures shall be medium or heavy wall cross-linked polyolefin, meeting the requirements of AMS-DTL-23053/15, with thermoplastic adhesive sealant. Heat shrink splices used for “wye” connections require rubber electrical mastic tape.

  9-29.12(3)B Molded Splice Enclosure
  Molded splice enclosures shall use epoxy resin in a clear rigid plastic mold. The material used shall be compatible with the insulation material of the insulated conductor or cable. The component materials of the resin insulation shall be packaged ready for convenient mixing without removing from the package.

9-29.12(4) Re-Enterable Splice Enclosure
Re-enterable splice enclosures shall use either dielectric grease or a flexible resin contained in a two-piece plastic mold. The mold shall either snap together or use stainless steel hose clamps.

9-29.12(5) Vinyl Electrical Tape for Splices
Vinyl electrical tape in splicing applications shall meet the requirements of MIL-I-24391C.

9-29.12(1) Illumination Circuit Splices
This section is revised to read:

Underground illumination circuit splices shall be solderless crimped connections capable of securely joining the wires, both mechanically and electrically, as defined in Section 8-20.3(8). Aerial illumination splices shall be solderless crimp connectors or split bolt vice-type connectors.

9-29.12(1)A Heat Shrink Splice Enclosure
This section is deleted in its entirety.

9-29.12(1)B Molded Splice Enclosure
This section is deleted in its entirety.

9-29.12(2) Traffic Signal Splice Material
This section is revised to read:

  Induction loop splices and magnetometer splices shall use an uninsulated barrel-type crimped connector capable of being soldered.
9-29.13(10)D  Cabinets for Type 170E and 2070 Controllers
The first sentence of item number 4 is revised to read:

A disposable paper filter element with dimensions of 12” × 16” × 1” shall be provided in lieu of a metal filter.

Item number 6 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 three light strips for each rack within the cabinet. Lighting shall be ceiling mounted – rack mounted lighting is not permitted. Light strips shall be installed in the locations shown in the Standard Plans. 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”.

Item number 7 is revised to read:

7. Rack mounted equipment shall be as shown in the Standard Plans. The cabinet shall use PDA #2LX and Output File #1LX. Where an Auxiliary Output File is required, Output File #2LX shall also be included.

This section is supplemented with the following new item:

9. The PCB connectors for Field Terminal Blocks FT1 through FT6 on Output Files #1LX and #2LX shall be capable of accepting minimum 14 AWG field wiring, have a pitch of 5.08 mm, and use screw flange type locking to secure the plug and socket connection. The sockets on the Field Terminal Panel shall be secured to the panel such that unplugging a connector will not result in the socket moving or separating from the panel.

9-29.13(11) Traffic Data Accumulator and Ramp Meters
Item number 2 is revised to read:

2. Rack mounted equipment shall be as shown in the Standard Plans.

Item number 3 is revised to read:

3. PDA #3LX shall be furnished with three Model 200 Load Switches installed. PDA #3LX shall be modified to include a second Model 430 transfer relay, mounted on the rear of the PDA and wired as shown in the Standard Plans.

9-29.13(12) ITS Cabinet
This section’s title is revised to read:

Type 331L ITS Cabinet

The first paragraph (excluding the numbered list) is revised to read:
Basic ITS cabinets shall be Model 331L Cabinets, unless otherwise specified in the Contract. Type 331L Cabinets shall be constructed in accordance with the TEES, with the following modifications:

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 three light strips for each rack within the cabinet. Lighting shall be ceiling mounted – rack mounted lighting is not permitted. Light strips shall be installed in the locations shown in the Standard Plans. 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”.

9-29.16(2)E Painting Signal Heads
In the first sentence, “Federal Standard 595” is revised to read “SAE AMS Standard 595”.

9-29.17 Signal Head Mounting Brackets and Fittings
In the first paragraph, item number 2 under Stainless Steel is revised to read:

2. Bands or cables for Type N mount.

9-29.20 Pedestrian Signals
In item 2C of the second paragraph, “Federal Standard 595” is revised to read “SAE AMS Standard 595”.

9-29.24 Service Cabinets
The third sentence of item number 6 is revised to read:

The dead front cover shall have cutouts for the entire breaker array, with blank covers where no circuit breakers are installed.

Item number 8 is revised to read:

8. Lighting contactors shall meet the requirements of Section 9-29.24(2).

The last sentence of item number 10 is revised to read:

Dead front panels shall prevent access to any exposed, live components, and shall cover all equipment except for circuit breakers (including blank covers), the photocell test/bypass switch, and the GFCI receptacle.

9-29.24(2) Electrical Circuit Breakers and Contactors
This section is revised to read:

All circuit breakers shall be bolt-on type, with the RMS-symmetrical interrupting capacity described in this Section. Circuit breakers for 120/240/277 volt circuits shall be rated at 240 or 277 volts, as applicable, with an interrupting capacity of not less than 10,000 amperes.
Circuit breakers for 480 volt circuits shall be rated at 480 volts, and shall have an interrupting capacity of not less than 14,000 amperes.

Lighting contactors shall be rated for tungsten or ballasted (such as sodium vapor, mercury vapor, metal halide, and fluorescent) lamp loads. Contactors for 120/240/277 volt circuits shall be rated at 240 volts maximum line to line voltage, or 277 volts maximum line to neutral voltage, as applicable. Contactors for 480 volt circuits shall be rated at 480 volt maximum line to line voltage.

9-33.AP9
Section 9-33, Construction Geosynthetic
August 6, 2018

9-33.4(1) Geosynthetic Material Approval
The second sentence of the first paragraph is revised to read:

If the geosynthetics material is not listed in the current WSDOT QPL, a Manufacturer’s Certificate of Compliance including Certified Test Reports of each proposed geosynthetic shall be submitted to the State Materials Laboratory in Tumwater for evaluation.

The last paragraph is revised to read:

Geosynthetics used as reinforcement in permanent geosynthetic retaining walls, reinforced slopes, reinforced embankments, and other geosynthetic reinforcement applications require proof of compliance with the National Transportation Product Evaluation Program (NTPEP) in accordance with AASHTO Standard Practice R 69, Standard Practice for Determination of Long-Term Strength for Geosynthetic Reinforcement.

9-34.AP9
Section 9-34, Pavement Marking Material
January 7, 2019

9-34.2(2) Color
The first sentence is revised to read:

Paint draw-downs shall be prepared according to ASTM D823.

Each reference to “Federal Standard 595” is revised to read “SAE AMS Standard 595”.

9-34.2(3) Prohibited Materials
This section is revised to read:

Traffic paint shall not contain mercury, lead, chromium, diarylide pigments, toluene, chlorinated solvents, hydrolysable chlorine derivatives, ethylene-based glycol ethers and their acetates, nor any other EPA hazardous waste material over the regulatory levels in accordance with CFR 40 Part 261.24.

9-34.2(5) Low VOC Waterborne Paint
The heading “Standard Waterborne Paint” is supplemented with “Type 1 and 2”.

The heading “High-Build Waterborne Paint” is supplemented with “Type 4”.

AMENDMENTS TO THE STANDARD SPECIFICATIONS – JUNE 2019
The heading “Cold Weather Waterborne Paint” is supplemented with “Type 5”.

In the row beginning with “° @90°F”, each minimum value is revised to read “60”.

In the row beginning with “Fineness of Grind, (Hegman Scale)”, each minimum value is revised to read “3”.

The last four rows are replaced with the following:

<table>
<thead>
<tr>
<th>Vehicle Composition</th>
<th>ASTM D 2621</th>
<th>100% acrylic emulsion</th>
<th>100% cross-linking acrylic</th>
<th>100% acrylic emulsion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freeze-Thaw Stability, KU</td>
<td>ASTM D 2243 and D 562</td>
<td>@ 5 cycles show no coagulation or change in viscosity greater than ± 10 KU</td>
<td>@ 5 cycles show no coagulation or change in viscosity greater than ± 10 KU</td>
<td>@ 3 cycles show no coagulation or change in viscosity greater than ± 10 KU</td>
</tr>
<tr>
<td>Heat Stability</td>
<td>ASTM D 562^2</td>
<td>± 10 KU from the initial viscosity</td>
<td>± 10 KU from the initial viscosity</td>
<td>± 10 KU from the initial viscosity</td>
</tr>
<tr>
<td>Low Temperature Film Formation</td>
<td>ASTM D 2805^3</td>
<td>No Cracks*</td>
<td></td>
<td>No Cracks</td>
</tr>
<tr>
<td>Cold Flexibility^5</td>
<td>ASTM D 522</td>
<td>Pass at 0.5 in mandrel*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test Deck Durability^6</td>
<td>ASTM D 913</td>
<td>≥70% paint retention in wheel track*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mud Cracking</td>
<td>(See note 7)</td>
<td>No Cracks</td>
<td>No Cracks</td>
<td></td>
</tr>
</tbody>
</table>

After the preceding Amendments are applied, the following new column is inserted after the “Standard Waterborne Paint Type 1 and 2” column:

<table>
<thead>
<tr>
<th>Semi-Durable Waterborne Paint Type 3</th>
<th>White</th>
<th>Yellow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min.</td>
<td>Max.</td>
<td>Min.</td>
</tr>
<tr>
<td>Within ± 0.3 of qualification sample</td>
<td></td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>95</td>
<td>80</td>
</tr>
<tr>
<td>60</td>
<td>60</td>
<td>77</td>
</tr>
<tr>
<td>65</td>
<td>65</td>
<td>43</td>
</tr>
<tr>
<td>1.25</td>
<td>1.25</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>0.98</td>
</tr>
<tr>
<td>88</td>
<td>50</td>
<td>100°</td>
</tr>
<tr>
<td>9.5</td>
<td>9.5</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

100% acrylic emulsion

@ 5 cycles show no coagulation or change in viscosity greater than ± 10 KU

± 10 KU from the initial viscosity

No Cracks

Pass at 0.25 in mandrel

≥70% paint retention in wheel track

No Cracks
The footnotes are supplemented with the following:

4Cross-linking acrylic shall meet the requirements of federal specification TT-P-1952F Section 3.1.1.

5Cold Flexibility: The paint shall be applied to an aluminum panel at a wet film thickness of 15 mils and allowed to dry under ambient conditions (50±10% RH and 72±5 °F) for 24 hours. A cylindrical mandrel apparatus (in accordance with ASTM D522 method B) shall be put in a 40°F refrigerator when the paint is drawn down. After 24 hours, the aluminum panel with dry paint shall be put in the 40°F refrigerator with the mandrel apparatus for 2 hours. After 2 hours, the panel and test apparatus shall be removed and immediately tested to according to ASTM D522 to evaluate cold flexibility. Paint must show no evidence of cracking, chipping or flaking when bent 180 degrees over a mandrel bar of specified diameter.

6NTPEP test deck, or a test deck conforming to ASTM D713, shall be conducted for a minimum of six months with the following additional requirements: it shall be applied at 15 wet mils to a test deck that is located at 40N latitude or higher with at least 10,000 ADT and which was applied during the months of September through November.

7Paint is applied to an approximately 4"x12" aluminum panel using a drawdown bar with a 50 mil gap. The coated panel is allowed to dry under ambient conditions (50±10% RH and 72±5 °F) for 24 hours. Visual evaluation of the dry film shall reveal no cracks.

9-34.3 Plastic
In the first sentence of the last paragraph, “Federal Standard 595” is revised to read “SAE AMS Standard 595”.

9-34.3(2) Type B – Pre-Formed Fused Thermoplastic
In the last two paragraphs, each reference to “Federal Standard 595” is revised to read “SAE AMS Standard 595”.

9-34.3(4) Type D – Liquid Cold Applied Methyl Methacrylate
The Test Method value for Adhesion to PCC or HMA, psi is revised to read “ASTM D45411”.

9-34.4 Glass Beads for Pavement Marking Materials
In the Test Method column of the table titled Metal Concentration Limits, “EPA 3052 SW-846 6010C” is revised to read “EPA 3052 SW-846 6010D”.

9-34.5(1) Temporary Pavement Marking Tape – Short Duration
This section, including title, is revised to read:

9-34.5(1) Temporary Pavement Marking Tape – Short Duration (Removable)
Temporary pavement marking tape for short duration (usage is for up to two months) shall conform to ASTM D4592 Type I except that black tape, black mask tape and the black portion of the contrast removable tape, shall be non-reflective.

9-34.5(2) Temporary Pavement Marking Tape – Long Duration
This section’s title is revised to read:
Temporary Pavement Marking Tape – Long Duration (Non-Removable)

The first sentence is revised to read:

Temporary pavement marking tape for long duration (usage is for greater than two months and less than one year) shall conform to ASTM D4592 Type II.

ASTM E2176 is deleted from the second sentence.

9-34.7(1) Requirements
The first paragraph is revised to read:

Field performance evaluation is required for low VOC solvent-based paint per Section 9-34.2(4), Type A – liquid hot applied thermoplastic per Section 9-34.3(1), Type B – preformed fused thermoplastic per Section 9-34.3(2), Type C – cold applied preformed tape per Section 9-34.3(3), and Type D – liquid applied methyl methacrylate per Section 9-34.3(4).

The last paragraph is deleted.

9-34.7(1)C Auto No-Track Time
The first paragraph is revised to read:

Auto No-Track Time will only be required for low VOC solvent-based paint in accordance with Section 9-34.2(4).

The second and third sentences of the second paragraph are deleted.
SPECIAL PROVISIONS
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-08.1 Subcontracting</td>
<td>65</td>
</tr>
<tr>
<td>1-08.2 Subcontracting</td>
<td>65</td>
</tr>
<tr>
<td>1-08.3 Subcontracting</td>
<td>65</td>
</tr>
<tr>
<td>1-08.4 Progress Schedule</td>
<td>66</td>
</tr>
<tr>
<td>1-08.5 Prosecution of Work</td>
<td>66</td>
</tr>
<tr>
<td>(November 30, 2018 APWA GSP, Option A)</td>
<td>67</td>
</tr>
<tr>
<td>1-08.5 Time for Completion</td>
<td>67</td>
</tr>
<tr>
<td>(November 30, 2018 APWA GSP, Option B)</td>
<td>68</td>
</tr>
<tr>
<td>1-09 MEASUREMENT AND PAYMENT</td>
<td>69</td>
</tr>
<tr>
<td>1-09.6 Force Account</td>
<td>70</td>
</tr>
<tr>
<td>1-09.9 Payments</td>
<td>70</td>
</tr>
<tr>
<td>1-10 TEMPORARY TRAFFIC CONTROL</td>
<td>72</td>
</tr>
<tr>
<td>1-10.2 Traffic Control Management</td>
<td>73</td>
</tr>
<tr>
<td><strong>DIVISION 2 EARTHWORK</strong></td>
<td>75</td>
</tr>
<tr>
<td>2-01 CLEARING, GRUBBING, AND ROADSIDE CLEANUP</td>
<td>75</td>
</tr>
<tr>
<td>2-01.1 Description</td>
<td>75</td>
</tr>
<tr>
<td>2-01.3 Construction Requirements</td>
<td>75</td>
</tr>
<tr>
<td>2-01.4 Measurement</td>
<td>77</td>
</tr>
<tr>
<td>2-01.5 Payment</td>
<td>77</td>
</tr>
<tr>
<td>2-02 REMOVAL OF STRUCTURES AND OBSTRUCTIONS</td>
<td>78</td>
</tr>
<tr>
<td>2-02.1 Description</td>
<td>78</td>
</tr>
<tr>
<td>2-02.2 Construction Requirements</td>
<td>78</td>
</tr>
<tr>
<td>2-02.5 Payment</td>
<td>78</td>
</tr>
<tr>
<td>2-03 ROADWAY EXCAVATION AND EMBANKMENT</td>
<td>80</td>
</tr>
<tr>
<td>2-03.1 Description</td>
<td>80</td>
</tr>
<tr>
<td>2-03.4 Measurement</td>
<td>80</td>
</tr>
<tr>
<td>2-03.5 Payment</td>
<td>80</td>
</tr>
<tr>
<td>2-06 SUBGRADE PREPARATION</td>
<td>81</td>
</tr>
<tr>
<td>2-06.3(3) Subgrade for Permeable Pavements</td>
<td>81</td>
</tr>
<tr>
<td>2-06.5 Measurement and Payment</td>
<td>81</td>
</tr>
<tr>
<td><strong>DIVISION 4 BASES</strong></td>
<td>83</td>
</tr>
<tr>
<td>4-04 BALLAST AND CRUSHED SURFACING</td>
<td>83</td>
</tr>
<tr>
<td>4-04.2 Materials</td>
<td>83</td>
</tr>
<tr>
<td>4-04.3 Construction Requirements</td>
<td>84</td>
</tr>
<tr>
<td>4-04.4 Measurement</td>
<td>85</td>
</tr>
<tr>
<td>4-04.5 Payment</td>
<td>85</td>
</tr>
<tr>
<td><strong>DIVISION 5 SURFACE TREATMENTS AND PAVEMENTS</strong></td>
<td>86</td>
</tr>
<tr>
<td>5-04 HOT MIX ASPHALT</td>
<td>86</td>
</tr>
<tr>
<td>5-04.1 Description</td>
<td>86</td>
</tr>
<tr>
<td>5-04.2 Materials</td>
<td>86</td>
</tr>
<tr>
<td><strong>DIVISION 6 STRUCTURES</strong></td>
<td>116</td>
</tr>
<tr>
<td>6-02 CONCRETE STRUCTURES</td>
<td>116</td>
</tr>
<tr>
<td>6-02.2 Materials</td>
<td>116</td>
</tr>
<tr>
<td>6-02.3 Construction Requirements</td>
<td>116</td>
</tr>
<tr>
<td>6-02.4 Measurement</td>
<td>129</td>
</tr>
<tr>
<td>6-02.5 Payment</td>
<td>130</td>
</tr>
</tbody>
</table>
This project involves rehabilitating and recoating the existing Northshore Utility District (NUD) sanitary sewer manhole adjacent to Abutment A12, as shown in the plans.
NOTES:
1. MANHOLE SHALL CONFORM TO THE GENERAL NOTES AND ALL APPLICABLE REQUIREMENTS OF STANDARD DETAIL 1.
2. WHERE DEPTH OF MANHOLE NECK EXCEEDS 24", ADJUST MANHOLE TO GRADE BY INSTALLING NEW MANHOLE BARREL SECTION AND CONE ON EXISTING MANHOLE BARREL.
3. WHERE KEY SECTIONS OF NEW AND EXISTING MANHOLES ARE NOT COMPATIBLE, CUT KEY OFF BOTTOM OF NEW SECTION AND PROVIDE A CAST-IN-PLACE CONCRETE COLLAR AROUND MANHOLE PERIMETER. CAST COLLAR WITH 3000 P.S.I. CONCRETE.
4. UPWARD ADJUSTMENT OF EXISTING MANHOLES MUST BE DONE WITH ALL NEW PARTS, AS NECESSARY, TO ENSURE ONLY ONE INCOMPATIBLE SEAM.
5. GROUT ALL JOINTS INSIDE, OUTSIDE AND IN BETWEEN TO ACHIEVE WATERTIGHT CONSTRUCTION. FINISH SMOOTH THE INSIDE OF STRUCTURE. USE NON-SHRINK GROUT ONLY.

7-05.4................................. Measurement

NO SCALE
### 8-01 Erosion Control and Water Pollution Control

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<th>Description</th>
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<tbody>
<tr>
<td>8-01.1</td>
<td>Description</td>
</tr>
<tr>
<td>8-01.2</td>
<td>Materials</td>
</tr>
<tr>
<td>8-01.3</td>
<td>Construction Requirements</td>
</tr>
<tr>
<td>8-01.3(10)</td>
<td>Wattles</td>
</tr>
<tr>
<td>8-01.4</td>
<td>Measurement</td>
</tr>
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<td>8-01.5</td>
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</tr>
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</table>

### 8-02 Roadside Restoration

<table>
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<tr>
<th>Section</th>
<th>Description</th>
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<tbody>
<tr>
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<tr>
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<td>8-02.4</td>
<td>Measurement</td>
</tr>
<tr>
<td>8-02.5</td>
<td>Payment</td>
</tr>
</tbody>
</table>

### 8-03 Irrigation Systems

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<tr>
<th>Section</th>
<th>Description</th>
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<tbody>
<tr>
<td>8-03.1</td>
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<tr>
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</tr>
<tr>
<td>8-05</td>
<td>Pigmented Concrete Deck</td>
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### 8-12 Chain Link Fence and Wire Fence

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<thead>
<tr>
<th>Section</th>
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<tbody>
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</tr>
<tr>
<td>8-12.5</td>
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</tbody>
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### 8-14 Cement Concrete Sidewalks

<table>
<thead>
<tr>
<th>Section</th>
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<tr>
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### 8-15 Riprap

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</tr>
<tr>
<td>8-15.5</td>
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</tbody>
</table>

### 8-19 (Vacant)

### 8-24 Rock and Gravity Block Wall and Cribbing

<table>
<thead>
<tr>
<th>Section</th>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>8-24.2</td>
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</tbody>
</table>

### 8-26 Snags and Large Woody Debris

<table>
<thead>
<tr>
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<th>Description</th>
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<tbody>
<tr>
<td>8-26.1</td>
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</tr>
<tr>
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<td>Construction Requirements</td>
</tr>
<tr>
<td>8-26.4</td>
<td>Measurement</td>
</tr>
<tr>
<td>8-26.5</td>
<td>Payment</td>
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</tbody>
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### 8-27 Seating

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<th>Description</th>
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<tbody>
<tr>
<td>8-27.1</td>
<td></td>
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<tr>
<td>8-27.2</td>
<td>Material</td>
</tr>
<tr>
<td>8-27.3</td>
<td>Construction Requirements</td>
</tr>
<tr>
<td>8-27.4</td>
<td>Measurement</td>
</tr>
<tr>
<td>8-27.5</td>
<td>Payment</td>
</tr>
</tbody>
</table>
8-28 PEDESTRIAN HANDRAIL ................................................................................. 195
  8-28.1 Description ............................................................................................ 195
  8-28.2 Material .................................................................................................. 195
  8-28.3 Construction Requirements .................................................................. 195
  8-28.4 Measurement .......................................................................................... 195
  8-28.5 Payment .................................................................................................. 195
8-30 LED ILLUMINATION SYSTEM ................................................................... 197
  8-30.1 Description ............................................................................................ 197
  8-30.2 Materials ................................................................................................ 197
  8-30.3 Construction Requirements .................................................................. 203
  8-30.4 Measurement And Payment .................................................................. 209
8-31 THERMOPLASTIC PAVEMENT MARKING ..................................................... 210
  8-31.1 Description ............................................................................................ 210
  8-31.2 Material .................................................................................................. 210
  8-31.3 Construction Requirements .................................................................. 210
  8-31.4 Measurement .......................................................................................... 212
  8-31.5 Payment .................................................................................................. 212
8-32 GLASS PANEL .............................................................................................. 213
  8-32.1 Description ............................................................................................ 213
  8-32.3 Construction Requirements .................................................................. 214
  8-32.3 (1) Sampling and Testing ...................................................................... 214
  8-32.3(2) Submittals .......................................................................................... 215
  8-32.3(3) Quality Assurance .......................................................................... 215
  8-32.3(4) Protection .......................................................................................... 215
  8-32.3(5) Fabrication and Placement .............................................................. 215
  8-32.4 Measurement .......................................................................................... 216
  8-32.5 Payment .................................................................................................. 216
8-33 SITE FURNISHINGS ...................................................................................... 217
  8-33.1 Description ............................................................................................ 217
  8-33.2 Material .................................................................................................. 217
  8-33.3 Construction Requirements .................................................................. 217
  8-33.4 Measurement .......................................................................................... 217
  8-33.5 Payment .................................................................................................. 217
City of Kirkland Special Provisions

INTRODUCTION
The work on this project shall be accomplished in accordance with the Standard Specifications for Road, Bridge and Municipal Construction, 2020 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.


The accompanying Plans and these Specifications and any Addenda thereto, show and describe the location and type of work to be performed under the TOTEM LAKE CONNECTOR BRIDGE PROJECT

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 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 titles of headings of the Sections and subsections herein are intended for convenience or reference and shall not be considered as having any bearing on their interpretation.

Several types of Special Provisions are included in this contract and are differentiated as follows:

General Special Provisions (GSPs) are similar to Standard Specifications in that they typically apply to many projects and are used by agencies throughout the state. Denoted as: (date)

Local Agency Approved GSPs are modifications to the standard specifications prepared by the APWA Division 1 subcommittee, which is comprised of representatives of local agencies throughout the state. APWA GSPs replace what was formerly referred to as "Division 1-99 APWA Supplement" in previous editions of the Standard Specifications for Road, Bridge and Municipal Construction. Denoted as: (date APWA GSP)

City of Kirkland GSPs are commonly applicable to City of Kirkland projects. Denoted as: (date COK GSP)

Project Specific Special Provisions normally appear only in the contract for which they were developed. Denoted as: (******)

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 Kirkland Public Works Department Pre-Approved Plans and Policies.

Contractor shall obtain copies of these publications, at Contractor's own expense.

Division 1 General Requirements

DESCRIPTION OF WORK

This contract provides for the improvement referred to as the TOTEM LAKE CONNECTOR BRIDGE PROJECT and other work, all in accordance with the attached Contract Plans, these

The work includes, but is not limited to

1-01 DEFINITIONS AND TERMS

(January 4, 2016 APWA GSP)

1-01.3 Definitions

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

(January 24, 2011 APWA GSP)
1-02.1 Prequalification of Bidders

Delete this Section and replace it with the following:

1-02.1 Qualifications of Bidder

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.

(July 31, 2017 APWA GSP; requires pre-approval on FHWA funded projects, through WSDOT/Local Programs)
1-02.1(1) Supplemental Qualifications Criteria

Add the following new section:

In addition, the Contracting Agency has established Contracting Agency-specific and/or project-specific supplemental criteria, in accordance with RCW 39.04.350(3), for determining Bidder responsibility, including the basis for evaluation and the deadline for appealing a determination that a Bidder is not responsible. These criteria are contained in Section 1-02.14 Option C of these Special Provisions.

(1/1/2016 COK GSP)
Bidders shall complete and sign the Statement of Bidder’s Qualification contained in the Proposal. Said form must be submitted with the bid proposal.
After bids are opened, Contracting Agency may request that a bidder or all bidders provide supplemental information concerning responsibility in accordance with RCW 39.04.350(2). Such supplemental information shall be provided to Contracting Agency in writing within two (2) business days of the request. Whether bidder supplies this supplemental information within the time and manner specified or not, in addition to consideration of this additional information, Contracting Agency may also base its determination of responsibility on any available information related to the supplemental criteria.
If Contracting Agency determines that a bidder is not responsible, Contracting Agency will provide, in writing, the reasons for such determination at which point the contractor will be deemed disqualified in accordance with WSDOT Standard Specification 1-02.14(10) and the proposal rejected. The bidder may appeal the determination within two (2) business days after receipt of the determination by presenting additional information to Contracting Agency. Contracting Agency will consider the additional information before issuing its final decision. If Contracting Agency’s final decision affirms that the bidder is not responsible, Contracting Agency will not execute a contract with any other bidder until two (2) business days after the bidder determined to be not responsible has received Contracting Agency’s final determination. The failure or omission of a bidder to receive or examine any form, instrument, addendum or other document shall in no way relieve any bidder from obligations with respect to the bid or to
the contract. Any bidder may, within five (5) business days before the bid submittal deadline, request that Contracting Agency modify the supplemental criteria. Contracting Agency will evaluate the information submitted by the bidder and respond before the submittal deadline. If the evaluation results in a change of the criteria, the Contracting Agency will issue an Addendum to the bidding documents identifying the new criteria.

Supplemental Criteria. Contracting Agency acknowledges that Change Orders (changes, extra work, requests for equitable adjustment and claims (defined as including demands for money or time in excess of the contract amount or contract time)) are ubiquitous on public works construction projects. The expeditious resolution of Change Orders is critical to the on budget and on time successful completion of a public works project. Thus, the City has established the following relevant supplemental bidder responsibility criteria applicable for the project:

Criterion. The bidder must demonstrate a record of successful and timely resolution of Change Orders including compliance with public contract Change Order resolution procedures (e.g. timely notice of event giving rise to the Change Order, timely submission of a statement of the cost and/or impact of the Change Order unless the bidder is able to show extenuating circumstances that explain bidder’s failure to timely provide such information to the satisfaction of Contracting Agency.

Documentation. As evidence that the bidder meets the supplemental responsibility criteria, after bids are opened and within two (2) business days of the public notice of Contracting Agency’s tabulation of bids, the lowest responsive bidder must submit the following documentation of public works projects completed within the previous three (3) years and include for each project the following:

The Owner and contact information for the Owner;
A listing of Change Orders and a signed statement from the bidder that the project timelines concerning resolution of Change Orders was complied with, and if not, provide a written explanation of what the bidder believes to be the extenuating circumstances excusing compliance with the Contract Change Order notice and claim provisions.
Contracting Agency may contact owners listed by the bidders to validate the information provided by a bidder.

(June 27, 2011 APWA GSP)

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 Invitation 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:

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<thead>
<tr>
<th>To Prime Contractor</th>
<th>No. of Sets</th>
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<tr>
<td>Reduced plans (11&quot; x 17&quot;)</td>
<td>$1$</td>
<td>Furnished automatically upon award.</td>
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<tr>
<td>Contract Provisions</td>
<td>$2$</td>
<td>Furnished automatically upon award.</td>
</tr>
<tr>
<td>Large plans (e.g., 22&quot; x 34&quot;)</td>
<td>$3$</td>
<td>Furnished only upon request.</td>
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</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.
(August 15, 2016 APWA GSP Option B)  
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 five (5) business days preceding the bid opening to allow a written reply to reach all prospective Bidders before the submission of their Bids.

(March 8, 2013 APWA GSP)  
1-02.4(2) Subsurface Information

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.

(July 31, 2017 APWA GSP)  
1-02.5 Proposal Forms

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.

(July 11, 2018 APWA GSP)  
1-02.6 Preparation of Proposal

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 last two paragraphs, and replace them with the following:

If no Subcontractor is listed, the Bidder acknowledges that it does not intend to use any Subcontractor to perform those items of work.

The Bidder shall submit with their Bid a completed Contractor Certification Wage Law Compliance form, provided by the Contracting Agency. Failure to return this certification as part of the Bid Proposal
package will make this Bid Nonresponsive and ineligible for Award. A Contractor Certification of Wage Law Compliance form is included in the Proposal Forms.

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.

(March 8, 2013 APWA GSP)
1-02.7 Bid Deposit

Supplement this section with the following:

Bid bonds shall contain the following:
Contracting Agency-assigned number for the project;
Name of the project;
The Contracting Agency named as obligee;
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;
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;
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.

(1/1/2016 COK GSP)
1-02.8 Noncollusion Declaration and Lobbying Certification

The following new paragraph is inserted at the end of Section 1-02.8:

Conflict of Interest
The bidder affirms that it presently has no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of its services hereunder. The Contractor further covenants that in the performance of this contract, no person having any conflicting interest shall be employed. Any interest on the part of the Contractor or its employees must be disclosed forthwith to the City of Kirkland. If this contract is within the scope of a Federal Housing and Community Development Block Grant program, the Contractor further covenants that no person who presently exercises any functions or responsibilities in connection with the block grant program has any personal financial interest, direct or indirect, in this contract.
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 Invitation for Bids clearly marked on the outside of the envelope, or as otherwise required in the Bid Documents, to ensure proper handling and delivery.

To be considered responsive on a FHWA-funded project, the Bidder may be required to submit the following items, as required by Section 1-02.6:

UDBE Written Confirmation Document from each UDBE firm listed on the Bidder’s completed UDBE Utilization Certification (WSDOT 272-056U)
Good Faith Effort (GFE) Documentation

These documents, if applicable, shall be received either with the Bid Proposal or as a supplement to the Bid. These documents shall be received 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 Invitation for Bids for receipt of Bid Proposals, or received in a location other than that specified in the Call Invitation for Bids. The Contracting Agency will not open or consider any “Supplemental Information” (UDBE confirmations, or GFE documentation) that is received after the time specified above, or received in a location other than that specified in the Call Invitation for Bids.

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.

(June 20, 2017 APWA GSP)

1-02.13 Irregular Proposals

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.

(May 17, 2018 APWA GSP, Option A)

1-02.14 Disqualification of Bidders

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.

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.

(May 17, 2018 APWA GSP, Option B)  
1-02.14 Disqualification of Bidders

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; or does not meet Supplemental Criteria 1-7 listed in this Section.

The Contracting Agency will verify that the Bidder meets the mandatory bidder responsibility criteria in RCW 39.04.350(1), and Supplemental Criteria 1-2. Evidence that the Bidder meets Supplemental Criteria 3-7 shall be provided by the Bidder as stated later in this Section.

1. **Delinquent State Taxes**

   A. **Criterion:** The Bidder shall not owe delinquent taxes to the Washington State Department of Revenue without a payment plan approved by the Department of Revenue.

   B. **Documentation:** The Bidder, if and when required as detailed below, shall sign a statement (on a form to be provided by the Contracting Agency) that the Bidder does not owe delinquent taxes to the Washington State Department of Revenue, or if delinquent taxes are owed to the Washington State Department of Revenue, the Bidder must submit a written payment plan approved by the Department of Revenue, to the Contracting Agency by the deadline listed below.

2. **Federal Debarment**

   A. **Criterion:** The Bidder shall not currently be debarred or suspended by the Federal government.

   B. **Documentation:** The Bidder shall not be listed as having an “active exclusion” on the U.S. government’s “System for Award Management” database (www.sam.gov).

3. **Subcontractor Responsibility**
A. **Criterion:** The Bidder’s standard subcontract form shall include the subcontractor responsibility language required by RCW 39.06.020, and the Bidder shall have an established procedure which it utilizes to validate the responsibility of each of its subcontractors. The Bidder’s subcontract form shall also include a requirement that each of its subcontractors shall have and document a similar procedure to determine whether the sub-tier subcontractors with whom it contracts are also “responsible” subcontractors as defined by RCW 39.06.020.

B. **Documentation:** The Bidder, if and when required as detailed below, shall submit a copy of its standard subcontract form for review by the Contracting Agency, and a written description of its procedure for validating the responsibility of subcontractors with which it contracts.

4. **Claims Against Retainage and Bonds**

A. **Criterion:** The Bidder shall not have a record of excessive claims filed against the retainage or payment bonds for public works projects in the three years prior to the bid submittal date, that demonstrate a lack of effective management by the Bidder of making timely and appropriate payments to its subcontractors, suppliers, and workers, unless there are extenuating circumstances and such circumstances are deemed acceptable to the Contracting Agency.

B. **Documentation:** The Bidder, if and when required as detailed below, shall submit a list of the public works projects completed in the three years prior to the bid submittal date that have had claims against retainage and bonds and include for each project the following information:

- Name of project
- The owner and contact information for the owner;
- A list of claims filed against the retainage and/or payment bond for any of the projects listed;
- A written explanation of the circumstances surrounding each claim and the ultimate resolution of the claim.

5. **Public Bidding Crime**

A. **Criterion:** The Bidder and/or its owners shall not have been convicted of a crime involving bidding on a public works contract in the five years prior to the bid submittal date.

B. **Documentation:** The Bidder, if and when required as detailed below, shall sign a statement (on a form to be provided by the Contracting Agency) that the Bidder and/or its owners have not been convicted of a crime involving bidding on a public works contract.

6. **Termination for Cause / Termination for Default**

A. **Criterion:** The Bidder shall not have had any public works contract terminated for cause or terminated for default by a government agency in the five years prior to the bid submittal date, unless there are extenuating circumstances and such circumstances are deemed acceptable to the Contracting Agency.

B. **Documentation:** The Bidder, if and when required as detailed below, shall sign a statement (on a form to be provided by the Contracting Agency) that the Bidder has not had any public works contract terminated for cause or terminated for default by a government agency in the five years prior to the bid submittal date; or if Bidder was terminated, describe
the circumstances.

7. **Lawsuits**

   A. **Criterion:** The Bidder shall not have lawsuits with judgments entered against the Bidder in the five years prior to the bid submittal date that demonstrate a pattern of failing to meet the terms of contracts, unless there are extenuating circumstances and such circumstances are deemed acceptable to the Contracting Agency.

   B. **Documentation:** The Bidder, if and when required as detailed below, shall sign a statement (on a form to be provided by the Contracting Agency) that the Bidder has not had any lawsuits with judgments entered against the Bidder in the five years prior to the bid submittal date that demonstrate a pattern of failing to meet the terms of contracts, or shall submit a list of all lawsuits with judgments entered against the Bidder in the five years prior to the bid submittal date, along with a written explanation of the circumstances surrounding each such lawsuit. The Contracting Agency shall evaluate these explanations to determine whether the lawsuits demonstrate a pattern of failing to meet of terms of construction related contracts.

As evidence that the Bidder meets the Supplemental Criteria stated above, the apparent low Bidder must submit to the Contracting Agency by 12:00 P.M. (noon) of the second business day following the bid submittal deadline, a written statement verifying that the Bidder meets the supplemental criteria together with supporting documentation (sufficient in the sole judgment of the Contracting Agency) demonstrating compliance with the Supplemental Criteria. The Contracting Agency reserves the right to request further documentation as needed from the low Bidder and documentation from other Bidders as well to assess Bidder responsibility and compliance with all bidder responsibility criteria. The Contracting Agency also reserves the right to obtain information from third-parties and independent sources of information concerning a Bidder's compliance with the mandatory and supplemental criteria, and to use that information in their evaluation. The Contracting Agency may consider mitigating factors in determining whether the Bidder complies with the requirements of the supplemental criteria.

The basis for evaluation of Bidder compliance with these mandatory and supplemental criteria shall include any documents or facts obtained by Contracting Agency (whether from the Bidder or third parties) including but not limited to: (i) financial, historical, or operational data from the Bidder; (ii) information obtained directly by the Contracting Agency from others for whom the Bidder has worked, or other public agencies or private enterprises; and (iii) any additional information obtained by the Contracting Agency which is believed to be relevant to the matter.

If the Contracting Agency determines the Bidder does not meet the bidder responsibility criteria above 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.

Request to Change Supplemental Bidder Responsibility Criteria Prior To Bid: Bidders with concerns about the relevancy or restrictiveness of the Supplemental Bidder Responsibility
Criteria may make or submit requests to the Contracting Agency to modify the criteria. Such requests shall be in writing, describe the nature of the concerns, and propose specific modifications to the criteria. Bidders shall submit such requests to the Contracting Agency no later than five (5) business days prior to the bid submittal deadline and address the request to the Project Engineer or such other person designated by the Contracting Agency in the Bid Documents.

(May 17, 2018 APWA GSP, Option C; requires pre-approval FHWA-funded projects, through WSDOT/Local Programs)

Disqualification of Bidders

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; or does not meet Supplemental Criteria 1-$$1$$ in this Section:

The Contracting Agency will verify that the Bidder meets the mandatory bidder responsibility criteria in RCW 39.04.350(1), and Supplemental Criteria 1-2. Evidence that the Bidder meets Supplemental Criteria 3-$$1$$ shall be provided by the Bidder as stated later in this Section.

1. **Delinquent State Taxes**

A. **Criterion:** The Bidder shall not owe delinquent taxes to the Washington State Department of Revenue without a payment plan approved by the Department of Revenue.

   B. **Documentation:** The Bidder, if and when required as detailed below, shall sign a statement (on a form to be provided by the Contracting Agency) that the Bidder does not owe delinquent taxes to the Washington State Department of Revenue, or if delinquent taxes are owed to the Washington State Department of Revenue, the Bidder must submit a written payment plan approved by the Department of Revenue, to the Contracting Agency by the deadline listed below.

2. **Federal Debarment**

A. **Criterion:** The Bidder shall not currently be debarred or suspended by the Federal government.

   B. **Documentation:** The Bidder shall not be listed as having an “active exclusion” on the U.S. government’s “System for Award Management” database (www.sam.gov).

3. **Subcontractor Responsibility**

A. **Criterion:** The Bidder’s standard subcontract form shall include the subcontractor responsibility language required by RCW 39.06.020, and the Bidder shall have an established procedure which it utilizes to validate the responsibility of each of its subcontractors. The Bidder’s subcontract form shall also include a requirement that each of its subcontractors shall have and document a similar procedure to determine whether the sub-tier subcontractors with whom it contracts are also “responsible” subcontractors as defined by RCW 39.06.020.
B. **Documentation:** The Bidder, if and when required as detailed below, shall submit a copy of its standard subcontract form for review by the Contracting Agency, and a written description of its procedure for validating the responsibility of subcontractors with which it contracts.

4. **Claims Against Retainage and Bonds**
   
   A. **Criterion:** The Bidder shall not have a record of excessive claims filed against the retainage or payment bonds for public works projects in the three years prior to the bid submittal date, that demonstrate a lack of effective management by the Bidder of making timely and appropriate payments to its subcontractors, suppliers, and workers, unless there are extenuating circumstances and such circumstances are deemed acceptable to the Contracting Agency.

   B. **Documentation:** The Bidder, if and when required as detailed below, shall submit a list of the public works projects completed in the three years prior to the bid submittal date that have had claims against retainage and bonds and include for each project the following information:

   - Name of project
   - The owner and contact information for the owner;
   - A list of claims filed against the retainage and/or payment bond for any of the projects listed;
   - A written explanation of the circumstances surrounding each claim and the ultimate resolution of the claim.

5. **Public Bidding Crime**

   A. **Criterion:** The Bidder and/or its owners shall not have been convicted of a crime involving bidding on a public works contract in the five years prior to the bid submittal date.

   B. **Documentation:** The Bidder, if and when required as detailed below, shall sign a statement (on a form to be provided by the Contracting Agency) that the Bidder and/or its owners have not been convicted of a crime involving bidding on a public works contract.

6. **Termination for Cause / Termination for Default**

   A. **Criterion:** The Bidder shall not have had any public works contract terminated for cause or terminated for default by a government agency in the five years prior to the bid submittal date, unless there are extenuating circumstances and such circumstances are deemed acceptable to the Contracting Agency.

   B. **Documentation:** The Bidder, if and when required as detailed below, shall sign a statement (on a form to be provided by the Contracting Agency) that the Bidder has not had any public works contract terminated for cause or terminated for default by a government agency in the five years prior to the bid submittal date; or if Bidder was terminated, describe the circumstances.

7. **Lawsuits**

   A. **Criterion:** The Bidder shall not have lawsuits with judgments entered against the Bidder in the five years prior to the bid submittal date that demonstrate a pattern of failing to meet the terms of contracts, unless there are extenuating circumstances and such circumstances are
deemed acceptable to the Contracting Agency.

B. Documentation: The Bidder, if and when required as detailed below, shall sign a statement (on a form to be provided by the Contracting Agency) that the Bidder has not had any lawsuits with judgments entered against the Bidder in the five years prior to the bid submittal date that demonstrate a pattern of failing to meet the terms of contracts, or shall submit a list of all lawsuits with judgments entered against the Bidder in the five years prior to the bid submittal date, along with a written explanation of the circumstances surrounding each such lawsuit. The Contracting Agency shall evaluate these explanations to determine whether the lawsuits demonstrate a pattern of failing to meet of terms of construction related contracts.

8. $2$

A. Criterion: $3$

B. Documentation: $4$

As evidence that the Bidder meets the Supplemental Responsibility Criteria stated above, the apparent low Bidder must submit to the Contracting Agency by 12:00 P.M. (noon) of the second business day following the bid submittal deadline, a written statement verifying that the Bidder meets the Supplemental Criteria together with supporting documentation (sufficient in the sole judgment of the Contracting Agency) demonstrating compliance with the Supplemental Responsibility Criteria. The Contracting Agency reserves the right to request further documentation as needed from the low bidder and documentation from other Bidders as well to assess Bidder responsibility and compliance with all bidder responsibility criteria. The Contracting Agency also reserves the right to obtain information from third-parties and independent sources of information concerning a Bidder’s compliance with the mandatory and supplemental criteria, and to use that information in their evaluation. The Contracting Agency may consider mitigating factors in determining whether the Bidder complies with the requirements of the Supplemental Criteria.

The basis for evaluation of Bidder compliance with these mandatory and Supplemental Criteria shall include any documents or facts obtained by Contracting Agency (whether from the Bidder or third parties) including but not limited to: (i) financial, historical, or operational data from the Bidder; (ii) information obtained directly by the Contracting Agency from others for whom the Bidder has worked, or other public agencies or private enterprises; and (iii) any additional information obtained by the Contracting Agency which is believed to be relevant to the matter.

If the Contracting Agency determines the Bidder does not meet the bidder responsibility criteria above 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.

Request to Change Supplemental Bidder Responsibility Criteria Prior To Bid: Bidders with concerns about the relevancy or restrictiveness of the Supplemental Bidder Responsibility
Criteria may make or submit requests to the Contracting Agency to modify the criteria. Such requests shall be in writing, describe the nature of the concerns, and propose specific modifications to the criteria. Bidders shall submit such requests to the Contracting Agency no later than five (5) business days prior to the bid submittal deadline and address the request to the Project Engineer or such other person designated by the Contracting Agency in the Bid Documents.

(August 14, 2013 APWA GSP)

1-02.15 Pre Award Information

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:
A complete statement of the origin, composition, and manufacture of any or all materials to be used,
Samples of these materials for quality and fitness tests,
A progress schedule (in a form the Contracting Agency requires) showing the order of and time required for the various phases of the work,
A breakdown of costs assigned to any bid item,
Attendance at a conference with the Engineer or representatives of the Engineer,
Obtain, and furnish a copy of, a business license to do business in the city or county where the work is located.
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

(January 23, 2006 APWA GSP)

1-03.1 Consideration of Bids

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.

(October 1, 2005 APWA GSP)

1-03.3 Execution of Contract

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 ten (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 10 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.

Section 1-03.3 is supplemented with the following:
(******)

Escrow Bid Documentation

Scope and Purpose

The purpose of this specification is to preserve the Contractor's Bid documents for use by the Contracting Agency in any litigation between the Contracting Agency and Contractor arising out of this Contract.

The Contractor shall submit a legible copy of all documentation used to prepare the Bid for this Contract to a banking institution designated by the Contracting Agency. Such documentation shall be placed in escrow with the banking institution and preserved by that institution as specified in the following sections of this specification.

Bid Documentation

The term "Bid documentation" as used in this specification means any writings, working papers, computer printouts, charts, and any other data compilations which contain or reflect all information, data, and calculations used by the Contractor to determine the Bid in bidding for this project. The term "Bid documentation" includes but is not limited to Contractor equipment rates, Contractor overhead rates, labor rates, efficiency or productivity factors, arithmetic extensions, and quotations from Subcontractors and materialmen to the extent that such rates and quotations were used by the Contractor in formulating and determining the amount of the Bid. The term "Bid documentation" also includes any manuals which are standard to the industry used by the Contractor in determining the Bid for this project. Such manuals may be included in the Bid documentation by reference. The term does not include Bid documents provided by the Contracting Agency for use by the Contractor in bidding on this project.

Submittal of Bid Documentation

The Contractor shall submit the Bid documentation to the banking institution. The Bid documentation shall be submitted to the banking institution within seven calendar days after the Contract for this project has been executed by the Contracting Agency. The Bid
documentation shall be submitted in a sealed container. The container shall be clearly marked "Bid Documentation" and shall also show on the face of the container the Contractor's name, the date of submittal, the project title, and the Contract number.

Affidavit

The sealed container shall contain, in addition to the Bid documentation, an affidavit signed under oath by an individual authorized by the Contractor to execute bidding Proposals. The affidavit shall list each Bid document with sufficient specificity so a comparison can be made between the list and the Bid documentation to ensure that all of the Bid documentation listed in the affidavit has been enclosed in the sealed container. The affidavit shall show that the affiant has personally examined the Bid documentation and that the affidavit lists all of the documents used by the Contractor to determine the Bid for this project and that all such Bid documentation has been enclosed in the sealed container.

Verification

The banking institution upon receipt of the sealed container shall place the container in a safety deposit box, vault, or other secure place, and immediately notify the Contracting Agency in writing that the container has been received. Upon receipt of such notice, the Contracting Agency will promptly notify the Contractor in writing that the Contracting Agency will open the sealed container to verify that the affidavit has been enclosed and to compare the Bid documents listed in the affidavit with the Bid documents enclosed in the container to ensure that all of the Bid documentation has been submitted and that the copies are legible. The notification will advise the Contractor of the date and time the container will be opened and the name of the Contracting Agency employee who will verify the contents of the container. The employee verifying the contents of the escrow container will not be involved or connected with the review, evaluation, or resolution of any claim by the Contractor made to the Contracting Agency in connection with the Contract for which the verification was made. The Contractor may have representatives present at the opening.

Supplementation

Documents listed in the affidavit but not enclosed in the sealed container through error or oversight shall be submitted in a sealed container within five calendar days after the opening of the original container. Also, any Bid documentation that is illegible shall be replaced with legible copies and furnished within five calendar days after the opening of the original container. The face of the container shall show the same information as the original container except the container shall be marked "Supplemental Bid Documentation". The same procedure used in verifying the contents of the original container shall be used in verifying the contents of the supplemental submittal.

Duration and Use

The Bid documentation and affidavit shall remain in escrow during the life of the Contract and will be returned to the Contractor by the banking institution, provided that the Contractor has signed the final Contract voucher certification and has not reserved any claims on the final Contract voucher certification against the Contracting Agency arising out of the Contract. In the event that claims against the Contracting Agency are reserved on the final Contract voucher certification, the Bid documentation and affidavit shall remain in escrow. If the claims are not resolved and litigation ensues, the Contracting Agency may serve a request upon the
Contractor to authorize the banking institution, in writing, to release the Bid documentation and affidavit in escrow to the Contracting Agency. The Contractor shall respond to the request within 20 days after service of the request. If the Contractor objects or does not respond to the request within 20 days after service of the request, the Contracting Agency may file a motion under the Civil Rules requesting the court to enter an order directing the banking institution to deliver the Bid documentation and affidavit in escrow to the Contracting Agency. The Contractor shall respond to the request within the time required by the then applicable Civil Court Rules for the Superior Court of the Contracting Agency of Washington. If the Contractor objects or does not respond to the request within the time required by the then applicable Civil Rules, the Contracting Agency may file a motion pursuant to such rules requesting the court to enter an order directing the banking institution to deliver the Bid documentation and affidavit in escrow to the Contracting Agency. The banking institution shall release the Bid documentation and affidavit as follows:

1. To the Contracting Agency upon receipt of a letter from the Contractor authorizing the release;
2. To the Contracting Agency upon receipt of a certified copy of a court order directing the release of the documents;
3. To the court for an in camera examination pursuant to a certified copy of a court order;
4. The Bid documentation and affidavit shall be returned to the Contractor if litigation is not commenced within the time period prescribed by law.

The Contractor agrees that the sealed container placed in escrow and any supplemental sealed container placed in escrow contain all of the Bid documentation used to determine the Bid and that no other Bid documentation shall be utilized by the Contractor in litigation over claims brought by the Contractor arising out of this Contract unless otherwise ordered by the court.

Remedies for Refusal or Failure to Provide Bid Documentation

Failure or refusal to provide Bid documentation shall be deemed a material breach of this Contract. The Contracting Agency may at its option refuse to make payment for progress estimates under Section 1-09.9 until the Contractor has submitted the Bid documentation required by this specification. The Contracting Agency may at its option terminate the Contract for default under Section 1-08.10. These remedies are not exclusive and the Contracting Agency may take such other action as is available to it under the law.

Confidentiality of Bid Documentation

The Bid documentation and affidavit in escrow are and will remain the property of the Contractor. The Contracting Agency has no interest in or right to the Bid documentation and affidavit other than to verify the contents and legibility of the Bid documentation unless litigation ensues between the Contracting Agency and Contractor over claims brought by the Contractor arising out of this Contract. In the event of such litigation, the Bid documentation and affidavit may become the property of the Contracting Agency for use in the litigation as may be appropriate subject to the provisions of any court order limiting or restricting the use or dissemination of the Bid documentation and affidavit as provided in the preceding section entitled Duration and Use.

Cost and Escrow Instructions

The cost of the escrow will be borne by the Contracting Agency. The Contracting Agency will provide escrow instructions to the banking institution consistent with this specification.
1-03.4 Contract Bond

Revise the first paragraph to read:

The successful bidder shall provide executed payment and performance bond(s) for the full contract amount. Separate payment and performance bonds are required and 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, and
   c. Have an A.M. best rating of A:VII or better.
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).

1-03.7 Judicial Review

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 36.01.050 shall control venue and jurisdiction.

1-04 SCOPE OF THE WORK

This project consists of the construction of a bridge that will provide a grade separated crossing of the Cross Kirkland Corridor multi-use trail over the intersection of NE 124th St and Totem Lake Blvd NE, in the Totem Lake Neighborhood of Kirkland, WA. Major construction will include working in close proximity of existing utilities, handling and disposing of contaminated materials, working around arterial streets and traffic control, construction of drilled shafts,
construction of cast-in-place concrete structures, fabrication and placement of steel trusses and precast concrete deck panels, construction of geosynthetic retaining walls, fabrication and installation of an illumination system, and fabrication and installation of bridge railing. Additionally, the work includes construction of a culvert, grading, utility work, paving, planting, and wetland remediation.

(1/1/2016 COK GSP)

1-04.1 Intent of the Contract

Section 1-04.1 is supplemented with the following:

All materials, tools, labor, and guarantees thereof of required to complete the work shall be furnished and supplied in accordance with the Plans, these Special Provisions, the Standard Specifications, and City of Kirkland Pre-Approved (Standard) Plans and Policies. The Contractor shall include all costs of doing this work within the contract bid item prices.

(March 13, 2012 APWA GSP)

1-04.2 Coordination of Contract Documents, Plans, Special Provisions, Specifications, and Addenda

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):

(May 25, 2006 APWA GSP; may not be used on FHWA-funded projects)

1-04.6 Variation in Estimated Quantities

Supplement this Section with the following:

The quantities for $1$, $2$, and $3$ have been entered into the Proposal only to provide a common proposal for bidders. Actual quantities will be determined in the field as the work progresses, and will be paid at the original bid price, regardless of final quantity. These bid items shall not be subject to the provisions of 1-04.6 of the Standard Specifications.

(July 23, 2015 APWA GSP, Option A; may not be used on FHWA-funded projects)

1-04.6 Variation in Estimated Quantities

Revise the first paragraph to read:

Payment to the Contractor will be made only for the actual quantities of Work performed and accepted in
conformance with the Contract. When the accepted quantity of Work performed under a unit item varies from the original Proposal quantity, payment will be at the unit Contract price for all Work unless the total accepted quantity of any Contract item, adjusted to exclude added or deleted amounts included in change orders accepted by both parties, increases or decreases by more than 25 percent from the original Proposal quantity, and if the total extended bid price for that item at time of award is equal to or greater than $1,000. In that case, payment for contract work may be adjusted as described herein.

(July 23, 2015 APWA GSP, Option B; may not be used on FHWA-funded projects)

1-04.6 Variation in Estimated Quantities

Revise the first paragraph to read:

Payment to the Contractor will be made only for the actual quantities of Work performed and accepted in conformance with the Contract. When the accepted quantity of Work performed under a unit item varies from the original Proposal quantity, payment will be at the unit Contract price for all Work unless the total accepted quantity of any Contract item, adjusted to exclude added or deleted amounts included in change orders accepted by both parties, increases or decreases by more than 25 percent from the original Proposal quantity, and if the total extended bid price for that item at time of award is equal to or greater than 10 percent of the total contract price at time of award. In that case, payment for contract work may be adjusted as described herein:

(1/1/2016 COK GSP)

1-04.11 Final Cleanup

Section 1-04.11 is deleted in its entirety and replaced with the following:

From time to time or as may be ordered by the Engineer, the Contractor shall cleanup and remove debris, refuse, and discarded materials of any kind resulting from the Work. Failure to do so may result in cleanup done by the Owner and the cost thereof charged to the Contractor and deducted from the Contractor’s progress estimate.

The Contractor shall perform final cleanup as provided in this Section. The Engineer will not establish the Physical Completion Date until this is done. All public and private property the Contractor occupied to do the Work, including but not limited to the Street Right of Way, material sites, borrow and waste sites, and construction staging area shall be left neat and presentable. Immediately after completion of the Work, the Contractor shall cleanup and remove all refuse and unused materials of any kind resulting from the Work. Failure to do the final cleanup may result in the final cleanup being done by the Owner and the cost thereof charged to the Contractor and deducted from the Contractor’s final progress estimate.

The Contractor shall:

Remove all rubbish, surplus materials, discarded materials, falsework, piling, camp buildings, temporary structures, equipment, and debris;

Remove from the Project, all unneeded, oversized rock left from grading, surfacing, or paving unless the Contract specifies otherwise or the Engineer approves otherwise;

On all concrete and asphalt pavement work, flush the pavement clean and remove the wash water and debris; Sweep and flush structure decks and remove wash water and debris;

Clean out from all open culverts and drains, inlets, catch basins, manholes and water main valve chambers, within the limits of the Project Site, all dirt and debris of any kind that is the result of the Contractor’s operations;

Level and fine grade all excavated material not used for backfill where the Contract requires;

Fine grade all slopes; Upon completion of grading and cleanup operations at any privately-
owned site for which a written agreement between the Contractor and property owner is required, the Contractor shall obtain and furnish to the Engineer a written release from all damages, duly executed by the property owner, stating that the restoration of the property has been satisfactorily accomplished.

All costs associated with cleanup shall be incidental to the Work and shall be included in the various Bid items in the Bid, and shall be at no additional cost to the Owner.

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:

(*****)
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 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 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 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.
3. Establish offsets to footing centerline of bearing for structure excavation.
4. Establish offsets to footing centerline of bearing for footing forms.
5. Establish retaining wall 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 splice locations and elevations.
16. Establish bridge deck alignment, grades and provide dimensions from top of steel to top of deck slab. Set elevations for deck paving.
17. Establish curb profile.
18. Profile all tie-chords prior to the placement of any deadload or construction live load that may affect the tie-chord'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 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 and abutment.
3. Computed elevations at top of bridge deck at each pier and abutment. 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></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 variation from plan elevation</td>
<td>±0.01 feet</td>
<td>±0.02 feet</td>
</tr>
<tr>
<td>4. Substructure variation from Plan grades.</td>
<td>±0.02 feet</td>
<td>±0.02 feet</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:

Shafts
Footings
Columns

The Contractor shall calculate coordinates for the points associated with 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.

Add the following two new sub-sections:

(1/1/2016 COK GSP)
1-05.4(1) Roadway and Utility Surveys

The Contractor shall be responsible for setting, maintaining, and resetting all alignment stakes, slope stakes, and grades necessary for the construction of the improvements under this contract. Except for the survey control data furnished by the Owner, calculations, surveying, and measuring required for setting and maintaining the necessary lines and grades shall be the Contractor’s responsibility.

The Owner may spot-check the Contractor’s surveying. These spot-checks will not change the requirements for normal checking by the Contractor.

To facilitate the establishment of lines and elevations, the Owner will provide the Contractor with primary survey control information consisting of descriptions of two primary control points used for the horizontal and vertical control. Primary control points will be described and shown on the right-of-way Plans. The Contractor shall check all control points for horizontal and vertical locations prior to use and report any discrepancy to the Engineer. Errors resulting from using control points which have not been verified, shall be the Contractors responsibility.
At a minimum the Contractor shall provide following survey staking shall be required:
Construction centerline or an offset to construction centerline shall be staked at all angle points and 100-foot intervals on tangents.

Offset stakes of JUT Centerline at all angle points and at 50-foot intervals on tangents
Cut/fill shall reference the elevations of the lowest conduit.
Offset shall reference the location of the center of trench and list the width of the trench section.

Offset stakes of all structure control/location points shown on the undergrounding Plans.
Each vault, handhold, and junction box shall have a sets of off-set points provided each location point shown in the location tables Cut/Fill shall reference elevations of the finish grade of the top lid of the structure.

Each pole riser and stub up, shall have at least one set of off-set hubs provided with cut/fills to finish ground elevations.

Finish grade elevations of all structures shall be determined by the Contractor based on the typical sections and details provide on the Contract Drawings.
Offset stakes at face or walls.

Offset staking of all drainage structures and drainage pipes at 50-foot intervals.
Location of all right-of-way and easements adjacent to the work area as shown on the right-of-way Plans.

Offset of all permanent concrete sidewalks, curb ramps, and driveways.

Each stake shall have the following information: Hub elevation, offset distance to items being staked, cut/fill to proposed elevations, design elevation of items being staked.

The above information shall also be shown on a written Cut Sheet and provided to the City inspector 48-hours prior to installation of the items being staked.

The Contractor shall establish all secondary survey controls, both horizontal and vertical, as necessary to assure proper placement of all project elements based on the primary control points provided by the Engineer. Survey work shall be within the following tolerances:

<table>
<thead>
<tr>
<th>Description</th>
<th>Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stationing</td>
<td>+.01 foot</td>
</tr>
<tr>
<td>Alignment</td>
<td>+.01 foot (between successive points)</td>
</tr>
<tr>
<td>Superstructure Elevations</td>
<td>+.01 foot (from plan elevations)</td>
</tr>
<tr>
<td>Substructure Elevations</td>
<td>+.05 foot (from plan elevations)</td>
</tr>
<tr>
<td>Sidewalk and Curb Ramp Elevations</td>
<td>+.01 foot (from plan elevations)</td>
</tr>
</tbody>
</table>

During the progress of the work, the Contractor shall make available to the Engineer all field books including survey information, footing elevations, cross sections and quantities.
The Contractor shall be fully responsible for the close coordination of field locations and measurements with appropriate dimensions of structural members being fabricated.

(*****)
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 trails, drainage, surfacing, paving, and pavement markings. 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.

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, wetland and wetland buffer limits, placing stakes at all angle points and at intermediate points not more than 50 feet apart as 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 box culvert and infiltration ponds.

6. Establish trail subgrade 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 trail 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 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 trail 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 surfacing. 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. Primary control points will be described by reference to the project alignment and the coordinate system and elevation datum utilized by 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</td>
<td>±0.01 feet</td>
<td>±0.5 feet</td>
</tr>
<tr>
<td>set 0.04 feet below</td>
<td></td>
<td></td>
</tr>
<tr>
<td>grade (parallel to</td>
<td></td>
<td></td>
</tr>
<tr>
<td>alignment)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>±0.1 feet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(normal to alignment)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stationing on trail</td>
<td>N/A ±0.1 feet</td>
<td></td>
</tr>
<tr>
<td>Alignment on trail</td>
<td>N/A ±0.04 feet</td>
<td></td>
</tr>
<tr>
<td>Surfacing grade stakes</td>
<td>±0.01 feet</td>
<td>±0.5 feet</td>
</tr>
<tr>
<td>(parallel to alignment)</td>
<td></td>
<td></td>
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<tr>
<td>±0.1 feet</td>
<td></td>
<td></td>
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<tr>
<td>(normal to alignment)</td>
<td></td>
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</tr>
<tr>
<td>Trail paving pins for</td>
<td>±0.01 feet</td>
<td>±0.2 feet</td>
</tr>
<tr>
<td>surfacing or paving</td>
<td>(parallel to</td>
<td></td>
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<td></td>
<td>alignment)</td>
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<tr>
<td></td>
<td>±0.1 feet</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(normal to alignment)</td>
<td></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 trail 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 Contractor shall calculate coordinates for the alignment. 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.

(July 23, 2015 APWA GSP)
1-05.4(2) Bridge and Structure Surveys
For all structural work such as bridges and retaining walls, the Contractor shall retain as a part of Contractor’s organization an experienced team of surveyors.

The Contractor shall provide all surveys required to complete the structure, except the following primary survey control which will be provided by the Engineer:
Centerline or offsets to centerline of the structure.
Stations of abutments and pier centerlines.
A sufficient number of bench marks for levels to enable the Contractor to set grades at reasonably short distances.
Monuments and control points as shown in the Plans.

The Contractor shall establish all secondary survey controls, both horizontal and vertical, as necessary to assure proper placement of all project elements based on the primary control points provided by the Engineer. Survey work shall be within the following tolerances:
Stationing ± 0.01 foot
Alignment ± 0.01 foot (between successive points)
Superstructure Elevations ± 0.01 foot (from plan elevations)
Substructure Elevations ± 0.05 foot (from plan elevations)

During the progress of the work, the Contractor shall make available to the Engineer all field books including survey information, footing elevations, cross sections and quantities.

The Contractor shall be fully responsible for the close coordination of field locations and measurements with appropriate dimensions of structural members being fabricated.

(1/1/2016 COK GSP)
Measurement
No unit of measurement shall apply to the lump sum price for construction surveying.

Payment
Payment will be made in accordance with Section 1-04.1 of these Specifications for the following bid item:

“Construction Surveying”, per lump sum.

The lump sum Contract price for “Construction 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.

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.

(October 1, 2005 APWA GSP)

1-05.7 Removal of Defective and Unauthorized Work

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 remedying 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.

(1/1/2016 COK GSP)

1-05.9 Equipment

The following new paragraph is inserted between the second and third paragraphs:

Use of equipment with metal tracks will not be permitted on concrete or asphalt surfaces unless otherwise authorized by the Engineer.

(1/1/2016 COK GSP)

1-05.10 Guarantees

Section 1-05.10 is supplemented as follows:

Guarantees and maintenance bonds shall be in accordance with City of Kirkland, State of Washington, Public Works Performance and Payment Bond forms and requirements. The performance bond shall be in the full amount of contract. The Contractor guarantees all items of material, equipment, and workmanship against mechanical, structural, or other defects for which the Contractor is responsible that may develop or become evident within a period of one year from and after acceptance of the work by the Owner. This guarantee shall be understood to require prompt remedy of defects upon written notification to the Contractor. If the Owner determines the defect requires immediate repair, the Owner may, without further notice to the Contractor, make the necessary corrections, the cost of which shall be borne by the Contractor. To support the above guarantee, the Contractor's performance bond shall remain in full force and effect for one year following the acceptance of the project by the Owner.

(October 1, 2005 APWA GSP)

1-05.11 Final Inspection

Delete this section and replace it with the following:

1-05.11 Final Inspections and Operational Testing

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.

(March 8, 2013 APWA GSP)

1-05.12 Final Acceptance

Add the following new section:

1-05.12(1) One-Year Guarantee Period

The Contractor shall return to the project and repair or replace all defects in workmanship and material discovered within one year after Final Acceptance of the Work. The Contractor shall start work to remedy any such defects within 7 calendar days of receiving Contracting Agency’s written notice of a defect, and shall complete such work within the time stated in the Contracting Agency’s notice. In case of an emergency, where damage may result from delay or where loss of services may result, such corrections may be made by the Contracting Agency’s own forces or another contractor, in which case the cost of corrections shall be paid by the Contractor. In the event the Contractor does not accomplish corrections within the time specified, the work will be otherwise accomplished and the cost of same shall be paid by the Contractor.

When corrections of defects are made, the Contractor shall then be responsible for correcting all defects in workmanship and materials in the corrected work for one year after acceptance of the corrections by Contracting Agency.

This guarantee is supplemental to and does not limit or affect the requirements that the Contractor’s work comply with the requirements of the Contract or any other legal rights or remedies of the Contracting Agency.

(August 14, 2013 APWA GSP)

1-05.13 Superintendents, Labor and Equipment of Contractor

Delete the sixth and seventh paragraph of this section.

(March 25, 2009 APWA GSP)

1-05.15 Method of Serving Notices

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.
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:

(March 8, 2013  APWA GSP)
1-05.18 Record Drawings

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:
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:

| Record Drawings (Minimum Bid $ $$$1$$) | Lump Sum |

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*
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:

*** $$1$$ ***

(1/1/2016 COK GSP)
1-06.1 Approval of Materials Prior to Use

Section 1-06.1 is supplemented as follows:

Approval of a Material source shall not mean acceptance of the Material. The Material shall meet the requirements of the Contract.

(June 27, 2011 AWPA GSP)
1-06.1(4) Fabrication Inspection Expense

Delete this section in its entirety.

1-06.6 Recycled Materials

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 Table 9-03.21(1)E 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

(1/1/2016 COK GSP)
1-07.1 Laws to Be Observed

Section 1-07.1 is supplemented with the following:

The Contractor shall at all times eliminate noise to the maximum practicable extent. Air compressing plants shall be equipped with silencers, and the exhaust of all gasoline motors or other power equipment shall be provided with mufflers. Special care shall be used to avoid noise or other nuisances, and the Contractor shall strictly observe all federal, state, and local regulations concerning noise.

The Contractor shall make an effort to reduce carbon emissions by turning off engines on construction equipment not in active use, and on trucks that are idling while waiting to load or unload material for five minutes or more.

Compliance with Laws

The Contractor shall comply with the requirements of all other City ordinances, state statutes, laws, and regulations, whether or not stated herein, which are specifically applicable to the public improvements and work to be performed.

(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.
Contractor’s Safety Responsibilities

These construction documents and the joint and several phases of construction hereby contemplated are to be governed at all times by applicable provisions of the federal law(s), including but not limited to the latest amendments of the following:
Williams-Steiger Occupational Safety and Health Act of 1980, Public Law 91-596.
Part 1910 - Occupational Safety and Health Standards, Chapter XVII of Title 29, Code of Federal Regulations.

This project, the Contractor and its subcontractors, shall, at all times, be governed by Chapter XIII of Title 29, Code of Federal Regulations, Part 1518 - Safety and Health Regulations for Construction (35 CFR 75), as amended to date.

To implement the program, and to provide safe and healthful working conditions for all persons, the construction superintendent or his/her designated safety officer shall conduct general project safety meetings at the site at least once each month during the course of construction.

The prime contractor and all subcontractors shall immediately report all accidents, injuries, and health hazards to the Manager, in writing. This shall not obviate any mandatory reporting under the provisions of the Occupational Safety and Health Act of 1970. This program shall become a part of the contract documents and the contract between the Owner and the Contractor, and all subcontractors, as though fully written therein.

Where the location of the work is in proximity to overhead wires and power lines, the Contractor shall coordinate all work with the utility and shall provide for such measures as may be necessary for the protection of the workers.

1-07.2 State Taxes

Delete this section, including its sub-sections, in its entirety and replace it with the following:

1-07.2 State Sales Tax
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).

(******)

1-07.4(3) Hazardous Materials
Hazardous material is suspected to exist on this project. Approximate limits of contamination are identified in the "Hazardous Materials Assessment, Totem Lake Connector, NE 124th Street and Totem Lake Boulevard NE, Kirkland, Washington," dated April 20, 2018. The site history, prior studies and/or test results indicate a potential for encountering petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), semivolatile organic compounds (SVOCs), pesticides and/or metals. This Work includes identification, characterization, handling and disposal of impacted or contaminated soil or groundwater encountered during construction.
Impacted Soil is defined as soil with petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), semivolatile organic compounds (SVOCs) and/or metals detected at concentrations less than applicable Model Toxics Control Act (MTCA – 70.105D RCW and Chapter 173-340 WAC) cleanup levels, and/or shallow soil with pesticides detected as described in the “Hazardous Materials Assessment, Totem Lake Connector, NE 124th Street and Totem Lake Boulevard NE, Kirkland, Washington,” dated April 20, 2018.

Relative to re-use of petroleum-impacted soil, the Contractor shall refer to the Department of Ecology’s re-use guidelines contained in Chapter 12 of, “Guidance for Remediation of Petroleum-Contaminated Sites” https://fortress.wa.gov/ecy/publications/documents/1009057.pdf, in order to determine the appropriate end use for soil generated during construction and whether any special requirements for handling and disposal apply.

If special handling or disposal is required under applicable regulations and guidance, the Contractor shall:

Select the methods of handling and disposal that may include direct haul to an approved and permitted facility and permitted discharge of water to the sewer if contaminant concentrations meet discharge criteria.

Conduct all handling activities, including but not limited to the following: waste handling, containment, labeling, documentation and disposal, in accordance with all applicable regulations and requirements.

Take measures to prevent unauthorized contact with impacted soil and water at all times. Provide the City 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.

1-07.4(3)A Existing Conditions and Documentation

Copies of these reports are included in __________ of the Contract Documents. It is the responsibility of the Contractor to read and reference these reports.

The quantity of Impacted Soil included in the bid form is based on the estimated areas of impacted soil documented in the Hazardous Materials Assessment report dated April 20, 2018 and the anticipated construction to install proposed improvements shown in the Plans. This quantity is based on the following:

South of Totem Lake Blvd NE: all soil from the existing ground surface to a depth of 6” within the estimated areas of impacted soil shown in Figures 2A and 2B of the Hazardous Materials Assessment report.

North of Totem Lake Blvd NE: all soil from the existing ground surface to a depth of 6” within the estimated areas of impacted soil shown in Figure 2C of the Hazardous Materials
Assessment report.

Drilled shafts: all excavated soil for the construction of drilled shafts from the existing ground surface to a depth of 10-feet below existing ground within the estimated areas of impacted soil shown in Figures 2A through 2C (specifically at pier locations P-2, P-3, P-4, P-5, P-6, and A-12).

The approximate limits of impacted soils described above are identified in the “Hazardous Materials Assessment, Totem Lake Connector, NE 124th Street and Totem Lake Boulevard NE, Kirkland, Washington,” dated April 20, 2018. Following removal of impacted soil from the areas described above, the Contractor shall sample and test in-situ soil representative of the lateral and vertical limits of excavation, to determine if additional soil to be removed for construction is impacted. Testing, handling, transport and disposal of additional quantities of impacted soil not included in the bid quantity are paid by force account, as described in Section 1-07.4(3)I Payment.

1-07.4(3)B Submittals
Ten working days in advance of the beginning of earthwork, the Contractor shall submit the following documents for review and approval by the City.

- Impacted Soil and Groundwater Handling and Management Plan including:
  - Procedures for excavation, loading and transport of impacted soil whether impacted soil at the ground surface or impacted soil from drilled shafts.
  - Methods to prevent precipitation runoff and stormwater from contacting impacted soil.
  - Methods to prevent impacted soil from contacting non-contaminated soil.
  - Methods the Contractor will use to sample and test soil following excavation of impacted soil.

The purpose of this sampling will be to demonstrate that soil that remains following removal of Impacted Soil is no longer impacted and that additional soils excavated from these areas do not require special handling. Methods shall include soil sample collection procedures, a depiction of proposed soil sample locations, target sample depths, analytical testing methods and documentation.

- Methods for collection and proper disposal of equipment and truck rinse water.
- Procedures that will be used to collect and, if necessary, treat impacted or contaminated water.
- Procedures that will be used to dispose of impacted or contaminated water under applicable regulations.
- Frequency of groundwater testing in compliance with the permit.
- Disposal method for impacted or contaminated groundwater encountered during construction.
- Disposal method for impacted soil as identified in this Section.
- Demonstration of compliance with all local, state and federal requirements.
During activities where contaminated surface or subsurface soil or groundwater are encountered, the Contractor shall monitor any soil removed by excavation and any groundwater encountered. If conditions are observed by the City, Resident Engineer, or workers, where contaminated soil or groundwater is suspected, as evidenced by possible oil or chemical odors, oily sheen on soil or groundwater, or stained or discolored soil or other means, such observations shall be reported to the City immediately. If unexpected hazardous, contaminated or impacted materials are encountered, the Contractor shall:

- Stop all work in that area.
- Notify the City.
- Ensure no impacted or contaminated material is relocated on, or removed from, the Project site.
- Remove workers from the immediate vicinity of the impacted, contaminated or suspect contaminated area until appropriate worker safety programs can be established.
- Secure the area from access by the public until such time as all parties involved have verified that site work can be completed in accordance with a project-specific Health and Safety Plan and project-specific Impacted Soil and Groundwater Handling and Management Plan.

Prepare and implement a Health and Safety Plan (HASP) in accordance with the requirements of 29 CFR 1910.120 and WAC 296-843-120 for work in areas of documented contamination and for work performed once unknown contamination has been discovered. Include, as a minimum, the following Site-specific information:

- Site Description and Evaluation
- Comprehensive work plan
- Site Map, including demarcation of zones
- Names of key personnel and alternates responsible for site safety and health (responsible party, and lines of communication, and chain of command), including site safety and health supervisor (per Chapter 296-843 WAC), and identified responsibilities of each
- Emergency contact names and telephone numbers
- Map to nearest emergency medical services
- Site specific safety and health hazard assessment and risk analysis based on contaminants known or expected to be present.
- Training
- Personnel Protective Equipment
- Medical Surveillance
- Air Monitoring Program
- Site Control Measures (Work Zones, Communications and Security)
- Personnel Hygiene and Decontamination
- Equipment Decontamination
- Sanitation
- Logs, Reports, and Record Keeping
- Noise, Heat and Cold Stress, and other physical hazard Monitoring
- Emergency Response including evacuation routes and procedures
- Spill containment plans
- Procedures to follow if unexpected contamination is found, including reporting, analysis, and a requirement to stop work until the HASP can be updated with a revised hazard
assessment. The procedures shall include:
  - Signs that would indicate that soils, groundwater or other environmental media may be contaminated
  - Immediately suspend work activities associated with this Contract in the vicinity of the area of the potential or suspect Hazardous, Contaminated or Impacted Substances.
  - Notification of the Resident Engineer
  - Securement of the area as needed to restrict and protect work site personnel and the public from exposure to the emergency condition. Set up and designate Exclusion Zone and Contamination Reduction Zones using “Danger” tape to identify the Exclusion Zone and “Warning” tape to designate the Contamination Reduction Zone.
  - Drug handling protocols
  - Site Specific Hazard Communication
  - Material Safety Data Sheets (MSDS)
  - Accident Prevention Plan
  - Reference listing of environmental reports reviewed in the preparation of the HASP.
  - If identified materials contain lead, work must be performed in accordance with WAC 296-155-176. A lead workplan must be developed and submitted. This may be included as an appendix to the HASP for contamination or impacts to soils and groundwater. The lead workplan must include:
    - Air monitoring for personnel exposures
    - Training for lead workers (minimum 2-hour lead awareness training) in accordance with WAC 296-155 17625
    - Work procedures to minimize exposures, including airborne (respiratory) exposures and exposures resulting from tracking lead outside of the work area.
    - Plans for actions to take prior to receiving air monitoring results and if air monitoring results indicate that exposures exceed the action level of 30 ug/m3 (micrograms per cubic meter) as an 8-hour Time Weighted Average (TWA):
      - Use of respirators
      - Personal Protective Equipment
      - Medical Monitoring, including zinc protoporphyrin blood levels (ZPP) in accordance with WAC 296-155-17621 and medical removal if ZPP levels exceed 50 ug/dl (microgram per deciliter) in accordance with WAC 296- 155-17623 if applicable
      - Hand washing facilities
      - Change areas
      - Housekeeping
      - Signage

Distribute the HASP to Contract employees. Require employees to read the plan, sign the plan, and abide by its provisions. Display or make the plan available at the Site to employees, representatives of the City, and regulatory inspectors.

Any review, acceptance, or approval of the Contractor’s HASP by the Resident Engineer shall be construed merely to mean that City is unaware of any reasons at the time to object thereto. Review by the Resident Engineer of the plan shall not impose any liability upon City nor shall any such review relieve the Contractor of any responsibilities under the Contract.

The HASP must be regularly updated and reviewed as work progresses and more information about the Site becomes known, including discovery of previously unknown Hazardous or
Contaminated Substances

1-07.4(3)C Identification of Potentially Impacted or Contaminated Soil and/or Groundwater
In addition to the areas of impacted soil described above and shown in the “Hazardous
Materials Assessment, Totem Lake Connector, NE 124th Street and Totem Lake Boulevard
NE, Kirkland, Washington,” dated April 20, 2018, impacted soil and water may be encountered
outside these areas. The following procedures shall be followed:

Contractor shall ensure that personnel that may contact impacted soil or groundwater review
the Impacted Soil and Groundwater Handling and Management Plan and HASP to familiarize
themselves with the locations of impacted soil or groundwater contamination prior to beginning
the construction, maintenance, or landscaping activities.

Soil exhibiting physical indications of potential contamination such as staining/discoloration,
contaminant odors, and/or petroleum sheen is assumed to be impacted and shall be handled
and disposed as described below.

Suspect soil not previously characterized must be assessed before transport to an approved
disposal facility.

Groundwater recovered during construction must be tested, characterized, and disposed of in
conformance with the submitted Impacted Soil and Groundwater Handling and Management
Plan and other applicable state, federal and local laws and regulations.

1-07.4(3)D Handling of Impacted or Contaminated Soil
All material that is designated by the Engineer to be removed or identified as impacted through
testing shall be handled and stored in accordance with Department of Ecology guidance and
the approved Impacted Soil and Groundwater Handling and Management Plan in a manner
that prevents the spread of contamination to adjacent soil or water as follows:

A condition of no visible airborne dust shall be maintained at all times during construction,
maintenance, and landscaping activities in impacted/contaminated areas.
Potentially clean overburden shall be segregated from impacted and contaminated soil. Care
shall be taken to avoid mixing clean and impacted/contaminated soil.
Separate stockpiles shall be maintained for known hazardous or contaminated material and for
suspected hazardous or contaminated material.
Impacted soil that is excavated and has previously been characterized may be loaded directly
into trucks for transport to the approved disposal facility.

1-07.4(3)E Erosion Control
Personnel shall take appropriate steps to prevent the erosion of soil in and from impacted
areas. Erosion control methods may include one or more of the following:
installation of silt fence;
use of filter fabric;
scheduling of activities to avoid rainy periods;
directing runoff away from contaminated soil, and
other methods that are necessary and appropriate.
See Section 8-01 for additional Erosion Control measures.

1-07.4(3)F Disposition Options for Soil
The Contractor shall transport hazardous or contaminated material for disposal at a permitted facility as follows:

Impacted soil shall be disposed of at a RCRA Subtitle D municipal and/or non-hazardous waste landfill subject to facility approval; under certain conditions, re-use of petroleum-impacted soil on site may be allowed following Ecology guidelines.
Transport and disposal of soil shall be in accordance with local, state and federal regulations and permit requirements.

Trucks shall be loaded in a manner that prevents the spilling or tracking of impacted soil. Loose material falling onto the exterior of the truck shall be removed before the truck leaves the loading area. Truck routes shall be established to minimize or prevent movement of trucks over impacted areas. Trucks must be covered before they leave the loading area. The Contractor shall be responsible for ensuring that loaded truck weights are within acceptable limits.
Trucks shall be decontaminated prior to leaving impacted soil areas. Decontamination will consist of sweeping loose soil with brooms and removing significant quantities of adhered soil using hand tools. Trucks that have driven over unpaved areas where impacted soil may be present shall pass through a wheel wash before entering public rights-of-way.
Clean overburden soil may be reused on site if suitable for construction, or transported off site for disposal at an approved landfill 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.

1-07.4(3)G Handling, Testing, and Disposition of Contaminated Groundwater
Similar to the handling of contaminated soil, groundwater encountered during excavation dewatering activities shall be characterized before discharge. A representative water sample shall be analyzed for site contaminants in accordance with permit requirements.
Handling options for contaminated groundwater include:

Containment in storage tanks and transport off-site for treatment, recycling and/or disposal at a permitted facility; Containment in storage tanks with limited on-site treatment (carbon filtration and/or other means as appropriate); and/or

Discharge of treated water into a nearby municipal sanitary and/or storm sewer system only if authorized by the owner and regulatory agencies.

Such discharge may require pretreatment in accordance with a discharge permit. Once dewatering activities have commenced, the Contractor shall perform daily inspection of the effluent to confirm the effectiveness of treatment and document the water quality for compliance with discharge criteria. These guidelines are not intended as a substitute for controls, sampling or monitoring to comply with discharge permit requirements and conditions.

1-07.4(3)H Measurement

All impacted soil will be measured by the ton of material excavated. No separate measurement
will be made for sampling, testing, or disposal of the impacted soil; it shall be considered incidental to the excavation of the impacted material.

1-07.4(3)I Payment

Payment will be made for the following Bid items:

"Impacted Soil and Groundwater Handling and Management Plan", per lump sum and shall be the total cost to produce and submit the Plan to the City and to revise the Plan as needed for approval.

"Health and Safety Plan (HASP)", per lump sum

Health and Safety Plan shall be per lump sum and shall be the total cost to produce and submit the HASP to the City and to revise the plans as needed for approval.

"Impacted Soil", per ton.

Impacted Soil shall be per ton and shall be the total cost for excavation, temporary storage, loading, transporting, and disposing of impacted soil identified in the areas listed in Section 1-07.4(3) to an approved disposal facility. Impacted soil is measured by the ton based on tonnage reported on the shipping manifest or bill of lading from the permitted disposal facility.

"Additional Impacted Soils", by force account.

All costs associated with impacted soils located outside the areas identified in Section 1-07.4(3) as follows: testing of soil at the margins of excavations completed in the areas identified in Section 1-07.4(3) to confirm the limits of impacted soils, storing stockpiled impacted soils identified during testing, loading the stockpiled material into the hauling conveyance for transport to the disposal site, and transporting and disposing of impacted materials at an approved facility. Impacted soil is measured by the ton based on tonnage reported on the shipping manifest or bill of lading from the permitted disposal facility.

"Impacted/Contaminated Groundwater", by force account.

Impacted/Contaminated Groundwater shall be by force account and shall be the total cost for pumping, testing, storage and disposal.

(June 8, 2017 APWA GSP, Option A)

1-07.11 Requirements for Nondiscrimination

*Use WSDOT GSP 1-07.11.OPT2.GR1 and WSDOT GSP 1-07.11.OPT6.GR1 when WSDOT Local Programs has given you a determination of “No COA DBE goals”.

(June 8, 2017 APWA GSP, Option B)

1-07.11 Requirements for Nondiscrimination

*Use WSDOT GSP 1-07.11.OPT3.FR1 when WSDOT Local Programs has given you a UDBE Condition of Award (COA) goal for your project.
Supplement this section with the following:

**Voluntary Minority, Small, Veteran and Women's Business Enterprise (MSVWBE) Participation**

**General Statement**
Voluntary goals for minority, small, veteran and women business enterprises are included in this Contract. The Contractor is encouraged to utilize MSVWBEs in accordance with these Specifications, RCW 39.19 and Executive Order 13-01 (issued by the Governor of Washington on May 10, 2013).

No preference will be included in the evaluation of the Contractor’s Proposal or Bid; no minimum level of MSVWBE participation is required as a condition of award or completion of the Contract; and a Proposal or Bid will not be rejected or considered non-responsive on that basis.

The goals are voluntary and outreach efforts to provide MSVWBEs maximum practicable opportunities are encouraged.

**Non-Discrimination**
Contractors shall not create barriers to open and fair opportunities for all businesses, including MSVWBEs, to participate in the Work on this Contract. This includes the opportunity to compete for subcontracts as sources of supplies, equipment, construction or services.

The Contractor shall make Voluntary MSVWBE Participation a part of all subcontracts and agreements entered into as a result of this Contract.

**Voluntary MSVWBE Participation Goals**
Goals for voluntary MSVWBE participation have been established as a percentage of Contractor’s total Bid amount.

The Contracting Agency has established the following voluntary goals:

- Minority 10%
- Small 5%
- Veteran 5%
- Women 6%

Amounts paid to an MSVWBE will be credited to every voluntary goal in which they are eligible. In other words participation may be credited for participation in more than one category. If the Contractor is a MSVWBE their Work will be credited to the voluntary goals in which they are eligible.

**Definitions**

**Minority Business Enterprise (MBE)** – A minority owned business meeting the requirements of RCW 39.19 and WAC 326-20 and certified by the Washington State Office of Minority & Women’s Business Enterprises.


**Veteran Business** – A veteran owned business meeting the requirements of RCW 43.60A.010 and included on the WSDOT Office of Equal Opportunity list of Veteran Businesses at [http://www.wsdot.wa.gov/equalopportunity/bddirectory.htm](http://www.wsdot.wa.gov/equalopportunity/bddirectory.htm)
Women Business Enterprise (WBE) – A women owned business meeting the requirements of RCW 39.19 and WAC 326-20 and certified by the Washington State Office of Minority & Women’s Business Enterprises.

MSVWBE Inclusion Plan
A MSVWBE Inclusion Plan shall be submitted to the Engineer prior to the start of Work on the project. The plan is submitted for the Contracting Agency’s information. Approval of the plan is not required; an incomplete plan will be returned for correction and resubmittal. The plan shall include the information identified in the guidelines at http://www.wsdot.wa.gov/EqualOpportunity/MSVWBE.htm.

MSVWBE Reporting
An end of project Report of Amounts Paid to MSVWBEs shall be submitted to the Engineer after Physical Completion of the Contract. The end of project report is due 20 calendar days after the physical completion of the project has been issued.

The end of project report shall include payments to all eligible businesses regardless of their listing on the MSVWBE Inclusion Plan. If the Contractor is a MSVWBE the amounts paid by the Contracting Agency for Work performed by the Contractor shall also be reported.

MSVWBE Payment
All costs for implementation of the requirements for Voluntary MSVWBE Participation shall be included in the associated items of Contract Work.

(1/1/2016 COK GSP)

1-07.14 Responsibility for Damage

Section 1-07.14 is supplemented with the following:

The Contractor further agrees that it is waiving immunity under Industrial Insurance Law Title 51 RCW for any claims brought against the City by its employees. In the event Contractor fails, after receipt of timely notice from the City, to appear, defend, or pay as required by the first paragraph of this section, then in that event and in that event only, the City may in its sole discretion, deduct from the progress payments to the Contractor and pay any amount sufficient to pay any claim, of which the City may have knowledge and regardless of the informalities of notice of such claim, arising out of the performance of this contract, provided the City has theretofore given notice of receipt of such claim to the Contractor and the Contractor has failed to act thereon.

1-07.15 Temporary Water Pollution/Erosion Control
(1/10/2019 COK GSP)

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

Add the following as the second paragraph of this section:

In the event the Contractor uses an SPCC Plan template that either follows the WSDOT SPCC Plan Template or contains the same or similar content and/or format, the following changes shall be required:

Replace all references to “WSDOT” as either the Contracting Agency or project owner with “City of Kirkland”, except where indicated in this Section.
Add into all Spill Reporting and related section(s): “The City of Kirkland Spill Response Hotline at (425) 587-3900 shall be the first point of contact in the event of a spill. Notification to the City of Kirkland Spill Response Hotline shall precede the spill notifications to federal and state agencies.”

Delete all references to the “WSDOT Environmental Compliance Assurance Procedure” (ECAP) in the SPCC.

Supplement the following referenced SPCC Plan Element Requirements in this Section as follows:

2. Add: “The City of Kirkland Spill Response Hotline at (425) 587-3900 shall be the first point of contact in the event of a spill.”

8. Add: “As part of Contractor spill response procedure, the Contractor shall contact the City of Kirkland Spill Response Hotline at (425) 587-3900 to report the spill regardless of whether or not the Contractor has fully contained, controlled, and/or cleaned up the spill.”

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**SPCC Plan Element Requirements** is supplemented with the following:

2. City of Kirkland spill response hotline (425) 587-3900 shall be listed as the first point of contact.

---

1-07.16 Protection and Restoration of Property

1-07.16(1) Private and Public Property

Section 1-07.16(1) is supplemented with the following:

The Contractor is alerted to an existing sanitary sewer manhole in close proximity to Abutment A12, as shown in the Plans. The shallower sewer connecting from the south will be rerouted as part of a separate project, while the drop structure at the manhole will be abandoned as part of this Project. The deeper sewers connecting from the east and west shall remain in service. The manhole and sewers are owned and maintained by the Northshore Utility District (NUD), and the manhole is known as DMH-10 according to record drawings. The Contractor must videotape, using closed circuit television (CCTV), the deeper sewers to remain in service between existing manholes DMH-11 and MH-1. CCTV of pipes must be completed prior to the start of construction activities and after the completion of all Project work. CCTV of pipes must be done during low flow conditions in accordance with the requirements of NUD, and shall provide NUD with a copy of the pre-construction and post-construction CCTV.

The Contractor shall protect in place the existing manhole DMH-10. Plans for protecting the manhole throughout construction, including construction of Abutment A12 shall be submitted to NUD for review and acceptance prior to beginning work in the vicinity of the manhole. NUD will allow the cone and top six-foot manhole section to be removed, and the manhole covered with a steel plate, to facilitate construction. See Section 7.05 of these Special Provisions for additional requirements.

(1/1/2016 COK GSP)

1-07.17 Utilities and Similar Facilities

Section 1-07.17 is supplemented with the following:
Locations and dimensions shown in the Plans for existing facilities are in accordance with available information obtained without uncovering, measuring, or other verification. The Contractor is alerted to the existence of Chapter 19.122 RCW, a law relating to underground utilities. Any cost to the Contractor incurred as a result of this law shall be at the Contractor's expense.

No excavation shall begin until all known facilities in the vicinity of the excavation area have been located and marked.

The Contractor shall give advance notice to all utility companies involved where work is to take place and in all other respects comply with the provisions of Chapter 19.122 RCW. Notice shall include, but not be limited to, the following utility companies:

Water, sewer, storm, streets – minimum two working days in advance
Power (Electric and Natural Gas) – minimum 48 hours in advance
Telephone – minimum 30 days in advance
Natural Gas – minimum 48 hours in advance
Cable Television – minimum 48 hours in advance
Transit – minimum 21 days in advance

The following is a list of some utilities serving the Kirkland area. This is not intended or represented to be a complete list and is provided for the Contractor's convenience.

<table>
<thead>
<tr>
<th>Utility</th>
<th>Agency/Company</th>
<th>Address</th>
<th>Contact</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water/Sewer</td>
<td>City of Kirkland</td>
<td>123 Fifth Avenue Kirkland, WA 98033</td>
<td>Josh Pantzke</td>
<td>(425) 587-3900</td>
</tr>
<tr>
<td>Storm Drainage</td>
<td>City of Kirkland</td>
<td>123 Fifth Avenue Kirkland, WA 98033</td>
<td>Josh Pantzke</td>
<td>(425) 587-3900</td>
</tr>
<tr>
<td>Water / Sewer</td>
<td>Northshore Utility District</td>
<td>6380 NE 185th St Kenmore, WA 98028</td>
<td>George Matote</td>
<td>(425) 398-4400</td>
</tr>
<tr>
<td>Street</td>
<td>City of Kirkland</td>
<td>123 Fifth Avenue Kirkland, WA 98033</td>
<td>Greg Neumann</td>
<td>(425) 587-3900</td>
</tr>
<tr>
<td>Natural Gas / Electric</td>
<td>Puget Sound Energy</td>
<td>P.O. Box 97034 EST-11W Bellevue, Washington 98009-9734</td>
<td>Jeanne Coleman Sharon Seitz</td>
<td>(425) 449-7410 (206) 643-1908</td>
</tr>
<tr>
<td>Sanitary Sewer</td>
<td>King County Wastewater Treatment Division</td>
<td></td>
<td>Mark Lampard</td>
<td>(206) 477-5414</td>
</tr>
<tr>
<td>Electric</td>
<td>Seattle City Light</td>
<td></td>
<td>Jimmy Lin</td>
<td>(206) 733-9289</td>
</tr>
<tr>
<td></td>
<td>Seattle Public</td>
<td></td>
<td>Richard Cox</td>
<td>(206) 684-</td>
</tr>
<tr>
<td>Utilities</td>
<td>Address</td>
<td>Contact Person</td>
<td>Phone</td>
<td></td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>Telephone/ FIOS</td>
<td>Frontier Communications</td>
<td>Jay Schwab</td>
<td>(425) 263-4019</td>
<td></td>
</tr>
<tr>
<td>Cable Television</td>
<td>Comcast</td>
<td>Joe Fordon Raymond Pilkenton</td>
<td>(425) 263-5348 (425) 263-5332</td>
<td></td>
</tr>
<tr>
<td>Network</td>
<td>Verizon/MCI</td>
<td>Brad Landis Scott Christenson</td>
<td>(425) 201-0901 (425) 471-1079</td>
<td></td>
</tr>
<tr>
<td>Network</td>
<td>Zayo</td>
<td>Jason Acquari</td>
<td>(209) 456-2856</td>
<td></td>
</tr>
<tr>
<td>School District Transportation</td>
<td>Lake Washington School District</td>
<td>Jeff Miles</td>
<td>(425) 936-1120</td>
<td></td>
</tr>
<tr>
<td>Transit</td>
<td>King County METRO</td>
<td></td>
<td>(206) 477-1140 (206) 477-0438</td>
<td></td>
</tr>
<tr>
<td>Water (Northeast area of Kirkland)</td>
<td>Woodinville Water District</td>
<td>Ken McDowell</td>
<td>(425) 487-4104</td>
<td></td>
</tr>
<tr>
<td>Olympic Pipeline</td>
<td>BP</td>
<td>Kenneth Metcalf Joseph Stone</td>
<td>(425) 981-2575 (425) 981-2506</td>
<td></td>
</tr>
</tbody>
</table>

Note that most utility companies may be contacted for locations through the “One Call” system, 1-800-424-5555. In the event of a gas emergency, call 911 and then the PSE hotline at 1-888-225-5773 (1-888-CALL-PSE).

The Contractor shall coordinate the work with these utilities and shall notify the Engineer in advance of any conflicts affecting the work schedule. The utility companies shall witness or perform all shutdowns, connections or disconnections.

Wherever in the course of the construction operation it becomes necessary to cause an outage of utilities, it shall be the Contractor's responsibility to notify the affected users not less than twenty-four (24) hours in advance of the creation of such outage. The Contractor shall make reasonable effort to minimize the duration of outages.

SCL's overhead transmission lines are 230 kV regional lines and will NOT be de-energized for construction.

The Contractor shall be responsible for any breakage of utilities or services resulting from its operations and shall hold the City and its agents harmless from any claims resulting from disruption of, or damage to, same.
Other Notifications
Service Area Turn Off: All service area turn off notices must be distributed to affected parties two working days in advance of any scheduled shut off. City to provide door hangers and affected service area map. The contractor shall fill in all required information prior to hanging door hanger.

Entry onto Private Property: Each property owner shall be given two working days advance Written Notice prior to entry by the Contractor.

Loop Detection Systems: Where an excavation is to take place through a signal loop detector system, the Contractor shall provide at least five (5) Working Days advance notice to the City Signal Shop at (425) 587-3920 to coordinate temporary signal wire disconnect and installation of temporary signal detection equipment.

Survey Monuments: When proposed pavement removal is close to existing survey monumentation, or proposed pavement removal includes existing survey monumentation, the Contractor shall provide a minimum 4 Working Days advance notice to the Engineer to allow survey crews to tie the monument out and reset the monument after pavement installation.

(1/1/2016 COK GSP)
1-07.17(2) Utility Construction, Removal or Relocation by Others

Section 1-07.17(2) is supplemented with the following:

Under no circumstances will discrepancies in location or incompleteness in description of existing utilities or improvements, whether they are visible from the surface, buried, or otherwise obscured, be considered as a basis for additional compensation to the Contractor.

(January 4, 2016 APWA GSP)
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

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

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
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(5)A 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.

(January 4, 2016 APWA GSP)

1-07.18(5)D Excess or Umbrella Liability
The Contractor shall provide Excess or Umbrella Liability insurance with limits of not less than $3 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.

(January 4, 2016 APWA GSP)

1-07.18(5)H Marine Pollution
The Contractor shall procure and maintain Pollution Liability (OPA, CERCLA) insurance to satisfy U.S. Coast Guard requirements as respects the Federal Oil Pollution Act of 1990 and the Comprehensive Environmental Response, Compensation and Liability Act of 1980 as amended.

Such policy must provide the following minimum limits, or statutory limits of liability as applicable, whichever is higher:
$1,000,000  per Occurrence

(January 4, 2016 APWA GSP)

1-07.18(5)I Builder’s Risk
The Contractor shall purchase and maintain Builder’s Risk insurance covering interests of the Contracting Agency, the Contractor, and Subcontractors of every tier, as Named Insureds, in the Work. An Installation Floater instead of Builders Risk is acceptable for renovation projects. Builder’s Risk insurance shall be on a special form policy, and shall insure against the perils of
fire and extended coverage and physical loss or damage, theft, vandalism, malicious mischief and collapse; and flood and earthquake when shown below. The Builder’s Risk insurance shall include coverage for temporary buildings, debris removal, and damage to materials in transit or stored off-site. Such insurance shall cover resulting “soft costs” including but not limited to design costs, licensing fees, architect’s and engineer’s fees, and costs due to delay in completion.

Builder’s Risk insurance shall be written in the amount of the completed value of the project, with no coinsurance provisions. Such policy must provide coverage and deductibles that comply with the following:

**Coverage:**
- Total Cost of Project to be Insured: $1,000,000
- Soft Costs: $250,000
- Flood: $300,000
- Earthquake: $400,000

**Deductibles not to exceed:**
- Flood: 2% of the Value at Time of Loss, subject to a $250,000 Minimum
- Earthquake: 5% of the Value at Time of Loss, subject to a $250,000 Minimum
- Earth Movement: 5% of the Value at Time of Loss, subject to a $250,000 Minimum
- All Other Perils: $50,000
- Soft Costs: $50,000, with no more than 7-day waiting period

The Builders Risk insurance covering the work shall have maximum deductibles as listed above for each occurrence. The deductible(s) shall be the responsibility of the Contractor.

The Contractor shall provide the Contracting Agency with a full and certified copy of the insurance policy 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.

The Builders Risk insurance shall be maintained until final acceptance of the Work by the Contracting Agency.

The Contractor and the Contracting Agency waive all rights against each other and any of their Subcontractors of every tier, agents, and employees, officers, and officials, for damages caused by fire or other perils to the extent covered by Builder’s Risk insurance or other property insurance applicable to the work. The policies shall provide such waivers by endorsement.

*(January 4, 2016 APWA GSP)*

1-07.18(5)J Pollution Liability

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 Contractor’s Pollution Liability insurance policy.

Such Pollution Liability policy shall provide the following minimum limits:

$$1$$ each loss and annual aggregate

(October 4, 2016 APWA GSP)

1-07.18(5)K Professional Liability

The Contractor and/or its Subcontractor(s) and/or its design consultant providing construction management, value engineering, or any other design-related non-construction professional services shall provide evidence of Professional Liability insurance covering professional errors and omissions.

Such policy shall provide the following minimum limits:

$1,000,000 per claim and annual aggregate

If the scope of such design-related professional services includes work related to pollution conditions, the Professional Liability insurance shall include coverage for Environmental Professional Liability.

If insurance is 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.

1-07.23 Public Convenience and Safety

Section 1-07.23 is supplemented with the following:

(1/1/2016 COK GSP)

No road or street shall be closed to the public except as permitted in these plans and specifications or with the approval of the Engineer and proper governmental authority. Fire hydrants on or adjacent to the work shall be kept accessible to fire fighting equipment at all times. Provision shall be made by the Contractor to ensure the proper functioning of all gutters, sewer inlets, drainage ditches and culverts, irrigation ditches and natural water courses, and storm sewer facilities throughout the project. Temporary interruption of service will be allowed only with the permission of the Engineer.

The Kirkland Police Department and Kirkland Fire Department shall be notified at least four (4) hours in advance of any actions by the Contractor that may affect the functions of either the Police Department or Fire Department.

The Contractor shall conduct its work and take preventative measures so that dust or other particulate matter in the project area shall not become objectionable to the adjacent property owners or general public. Should the Owner determine the Contractor is not fulfilling its obligation in this regard; the Owner reserves the right to take such action as may be necessary to remedy the objectionable condition and to charge the Contractor with any cost that may be incurred in such remedial action. All work shall be carried on with due regard for the safety of the public. No driveway, whether public, commercial, or private, may be closed without prior approval of the Owner, project supervisor, or Engineer unless written authority has been given by the affected property owner. The Contractor shall be responsible for notifying the affected property owners 24 hours in advance of scheduled interruptions to access.

(1/1/2016 COK GSP)

Pedestrian Control and Protection
When the work area encroaches upon a sidewalk, walkway, path, trail or crosswalk area, special consideration must be given to pedestrian safety. Maximum effort must be made to separate pedestrians from the work area. Protective barricades, fencing, and bridges, together with warning and guidance devices and signs, shall be utilized so that the passageway for pedestrians is safe and well defined. Whenever pedestrian walkways are provided across excavations, they shall be provided with suitable handrails. Footbridges shall be safe, strong, free of bounce and sway, have a slip resistant coating, and be free of cracks, holes, and irregularities that could cause tripping. Ramps shall be provided at the entrance and exit of all raised footbridges, again to prevent tripping. Adequate illumination and reflectorization shall be provided during hours of darkness. All walkways shall be maintained with at least 4 feet clear width.

Where walks are closed by construction, an alternate walkway shall be provided, preferably within the planting strip or designated area.

Where it is necessary to divert pedestrians into the roadway, barricading or channeling devices shall be provided to separate the pedestrian walkway from the adjacent vehicular traffic lane. At no time shall pedestrians be diverted into a portion of a street used concurrently by moving vehicular traffic.

At locations where adjacent alternate walkways cannot be provided, appropriate signs shall be posted at the limits of construction and in advance of the closure at the nearest crosswalk or intersection to divert pedestrians across the street.

Physical barricades shall be installed to prevent visually impaired people from inadvertently entering a closed area. Pedestrian walkways shall be wheelchair accessible at all times. Pedestrian access shall be maintained to all properties adjacent to the construction site.

(May 2, 2017 APWA GSP)
1-07.23(1) Construction under Traffic

Section 1-07.23(1) is supplemented with the following:

(******)
The Contractor shall schedule road and sidewalk closures with the City of Kirkland XX calendar days in advance to allow for advance notice of construction activities.

The Contractor shall provide Portable Changeable Message Signs (PCMS) for advance notice of construction activities at locations required by the City of Kirkland (final locations to be determined prior to bid). Contractor shall refer to lane closure restrictions listed in the Special Provisions, Section 1-10. For bidding purposes the Contractor shall assume up to five PCMS locations are required.

(January 2, 2012)
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:

<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

**Minimum Work Zone Clear Zone Distance**

Revise the third sentence of the second paragraph to read:

Accessibility to existing or temporary pedestrian push buttons shall not be impaired; if approved by the Contracting Agency activating pedestrian recall timing or other accommodation may be allowed during construction.

(July 23, 2015   APWA GSP)

1-07.24   Rights of Way

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.

(1/1/2016 COK GSP)
The Contractor shall file with the Engineer signed property release forms (in the format as detailed below) for all properties disturbed or damaged by the Contractor's operations.

PROPERTY RELEASE

____

____

____

(Contractor's name and address)

DATE: ________________________________

I, ________________________________, owner of _____________________________, hereby release _____________________________, (Contractor's name) from any property damage or personal injury resulting from construction on or adjacent to my property located at _____________________________ during construction of the _____________________________. My signature below is my acknowledgment and acceptance that my property, as identified above, was returned to a satisfactory condition.
1-08 PROSECUTION AND PROGRESS

Add the following new section:

(May 25, 2006 APWA GSP)
1-08.0 Preliminary Matters

Add the following new section:

(October 10, 2008 APWA GSP)
1-08.0(1) Preconstruction Conference

- 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:
- To review the initial progress schedule;
- To establish a working understanding among the various parties associated or affected by the work;
- To establish and review procedures for progress payment, notifications, approvals, submittals, etc.;
- To establish normal working hours for the work;
- To review safety standards and traffic control; and
- 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:
  - A breakdown of all lump sum items;
  - A preliminary schedule of working drawing submittals; and
  - A list of material sources for approval if applicable.

Add the following new section:
(1/1/2016 COK GSP)

1-08.0(2) Hours of Work

Except in the event of an emergency, no work shall be done between the hours of 6:00 p.m. and 7:00 a.m., or weekends (except driveway construction), or holidays observed by the City of Kirkland and identified in Section 1-08.5 of the Standard Specifications. If the proper and efficient prosecution of the work requires operations during the night, hours of operation more than 8 hours per day, or work weeks greater than 40 hours in duration, the written permission of the Owner shall be obtained before starting such items of the work and shall be in full compliance with terms therewith.

Except in the case of emergency or unless otherwise approved by the Contracting Agency, the normal straight time working hours for the contract shall be any consecutive 8-hour period...
between 7:00 a.m. and 6:00 p.m. of a working day with a maximum 1-hour lunch break and a 5-day work week. The normal straight time 8-hour working period for the contract shall be established at the preconstruction conference or prior to the Contractor commencing the work. If a Contractor desires to perform work on holidays, Saturdays, Sundays, or before 7:00 a.m. or after 6:00 p.m. on any day, the Contractor shall apply in writing to the Engineer for permission to work such times. Permission to work longer than an 8-hour period between 7:00 a.m. and 6:00 p.m. is not required. Such requests shall be submitted to the Engineer no later than noon on the weekday prior to the day for which the Contractor is requesting permission to work. Permission to work between the hours of 10:00 p.m. and 7:00 a.m. during weekdays and between the hours of 10:00 p.m. and 9:00 a.m. on weekends or holidays may also be subject to noise control requirements. Approval to continue work during these hours may be revoked at any time the Contractor exceeds the Contracting Agency's noise control regulations or complaints are received from the public or adjoining property owners regarding the noise from the Contractor's operations. The Contractor shall have no claim for damages or delays should such permission be revoked for these reasons.

Permission to work Saturdays, Sundays, holidays or other than the agreed upon normal straight time working hours Monday through Friday may be given subject to certain other conditions set forth by the Contracting Agency or Engineer. These conditions may include but are not limited to: requiring the Engineer or such assistants as the Engineer may deem necessary to be present during the work; requiring the Contractor to reimburse the Contracting Agency for the costs in excess of straight-time costs for Contracting Agency employees who worked during such times, on non Federal aid projects; considering the work performed on Saturdays and holidays as working days with regards to the contract time; and 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. Assistants may include, but are not limited to, survey crews; personnel from the Contracting Agency's material testing lab; inspectors; and other Contracting Agency employees when in the opinion of the Engineer, such work necessitates their presence.

Arterial Streets
No work will be performed on arterial streets during the peak traffic hours of 7:00 a.m. – 9:00 a.m. and 3:30 p.m. – 6:00 p.m., except emergency work to restore services, unless a City-approved traffic control plan allows work during the peak hours. The following streets are classified as arterials:

<table>
<thead>
<tr>
<th>STREET</th>
<th>FROM</th>
<th>TO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Way/NE 85th St</td>
<td>Market St</td>
<td>132nd Ave NE</td>
</tr>
<tr>
<td>Juanita Dr NE /NE Juanita Dr</td>
<td>NE 143rd St (City Limits)</td>
<td>98th Ave NE</td>
</tr>
<tr>
<td>Juanita Woodinville Way</td>
<td>100th Ave NE</td>
<td>NE 145th St (City Limits)</td>
</tr>
<tr>
<td>Lake St/Lake Washington Blvd/Northup Wy</td>
<td>Central Way</td>
<td>Northup Way (City Limits)</td>
</tr>
<tr>
<td>Kirkland Ave/Kirkland Way</td>
<td>Lake St</td>
<td>NE 85th St</td>
</tr>
<tr>
<td>Lakeview Dr /NE 68th St/NE 70th St</td>
<td>Lake Washington Blvd</td>
<td>132nd Ave NE</td>
</tr>
<tr>
<td>Market St/98th Ave NE/100th Ave NE</td>
<td>Central Way</td>
<td>NE 145th St (City Limits)</td>
</tr>
<tr>
<td>NE 116th St</td>
<td>98th Ave NE</td>
<td>Slater Ave NE</td>
</tr>
</tbody>
</table>
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 \$\$1\$ 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:
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.)

Considering the work performed on Saturdays, Sundays, and holidays as working days with

<table>
<thead>
<tr>
<th>NE 120th St/132nd Ave NE</th>
<th>Slater Ave NE</th>
<th>NE 60th St (City Limits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NE 124th St</td>
<td>100th Ave NE</td>
<td>East City Limits</td>
</tr>
<tr>
<td>NE 128th St</td>
<td>116th Ave NE/116th Ave NE</td>
<td>120th Ave NE</td>
</tr>
<tr>
<td>Simonds Rd NE</td>
<td>92nd Ave NE (City Limits)</td>
<td>100th Ave NE</td>
</tr>
<tr>
<td>Slater Ave NE</td>
<td>NE 116th St</td>
<td>NE 124th St</td>
</tr>
<tr>
<td>Totem Lake Blvd</td>
<td>NE 132nd St</td>
<td>124th Ave NE</td>
</tr>
<tr>
<td>3rd Street/State Street</td>
<td>Central Way</td>
<td>NE 68th Street/Lakeview Dr.</td>
</tr>
<tr>
<td>6th St/6th St S/108th Ave NE</td>
<td>Central Way/NE 85th St</td>
<td>South City Limits</td>
</tr>
<tr>
<td>90th Ave NE/NE 131st Way/NE 132nd St</td>
<td>NE 134th St</td>
<td>132nd Ave NE</td>
</tr>
<tr>
<td>120th Ave NE/116th Ave NE/116th Ave NE</td>
<td>NE 112th St</td>
<td>NE 132nd St</td>
</tr>
<tr>
<td>124th Ave NE</td>
<td>NE 85th St</td>
<td>NE 124th St</td>
</tr>
<tr>
<td>124th Ave NE</td>
<td>NE 132nd St</td>
<td>NE 145th Pl (City Limits)</td>
</tr>
</tbody>
</table>
regard to the contract time.

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.

If a 4-10 work schedule is requested and approved the non working day for the week will be charged as a working day.

If Davis Bacon wage rates apply to this Contract, all requirements must be met and recorded properly on certified payroll

(November 30, 2018  APWA GSP, Option A)

1-08.1 Subcontracting

The eighth paragraph is revised to read:

The Contractor shall certify to the actual amount received from the Contracting Agency and 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

(November 30, 2018  APWA GSP, Option B)

1-08.1 Subcontracting

Delete the eighth paragraph.

(1/1/2016 COK GSP)

1-08.1 Subcontracting

Section 1-08.1 is supplemented with the following:

A Subcontractor or an Agent to the Subcontractor will not be permitted to perform any work under the contract until the following documents have been completed and submitted to the Engineer:

- Request to Sublet Work (form 421-012).
- Statement of Intent to Pay Prevailing Wages (Form 700-029-000).

The Contractor’s records pertaining to the requirements of this Special Provision shall be open to inspection or audit by representatives of the Department 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 Agents shall be open to similar inspection or audit for the same period.

(1/1/2016 COK GSP)
1-08.3 Progress Schedule
The order of work will be at the Contractor's option, in keeping with good construction practice and the terms of the contract. All work shall be carried out in accordance with the requirements of the City of Kirkland in compliance with the plans and specifications. However, the Contractor shall so schedule the work within the time constraints noted in the various contract documents, including any permits. The Contractor is cautioned to review said documents and permits and schedule the work appropriately as no additional compensation will be made to the Contractor due to the time constraints imposed by such documents.

(March 13, 2012 APWA GSP)

1-08.3(2)A Type A Progress Schedule
Revise this section to read:

The Contractor shall submit $1 copies of a Type A Progress Schedule no later than at the preconstruction conference, or some other mutually agreed upon submittal time. The schedule may be a critical path method (CPM) schedule, bar chart, or other standard schedule format. Regardless of which format used, the schedule shall identify the critical path. The Engineer will evaluate the Type A Progress Schedule and approve or return the schedule for corrections within 15 calendar days of receiving the submittal.

(March 13, 2012 APWA GSP)

1-08.3(2)B Type B Progress Schedule
Revise the first paragraph to read:

The Contractor shall submit a preliminary Type B Progress 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. Revise the first sentence of the second paragraph to read:

The Contractor shall submit $1 copies of a Type B Progress Schedule depicting the entire project no later than 21-calendar days after the preconstruction conference.

(* * * *)

Special Schedule Limitations

Insert any special Schedule limitations specific to your project here. Example:
Location XX – 98th Ave NE: Half Marathon scheduled for this location on May 13, 2007 (Sunday). All sidewalks, driveways and ramps must be open and accessible to pedestrians. No work or equipment staging will be allowed.

(July 23, 2015 APWA GSP)

1-08.4 Prosecution of Work

Delete this section in its entirety, 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. The Contractor shall diligently pursue the work to the physical completion date within the time specified in the contract. 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.

(November 30, 2018 APWA GSP, Option A)

1-08.5 Time for Completion

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 Contract Provisions.
   d. Final Contract Voucher Certification
   e. Copies of the approved “Affidavit of Prevailing Wages Paid” for the Contractor and all Subcontractors
   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).

g. Property owner releases per Section 1-07.24

(November 30, 2018 APWA GSP, Option B)

1-08.5 Time for Completion

Revise the third and fourth paragraphs to read:

Contract time shall begin on the first working day following the calendar day after the Notice to Proceed date. If the Contractor starts work on the project at an earlier date, then contract time shall begin on the first working day when onsite work begins.

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 Contract Provisions.
   d. Final Contract Voucher Certification
   e. Copies of the approved “Affidavit of Prevailing Wages Paid” for the Contractor and all Subcontractors
   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).
   g. Property owner releases per Section 1-07.24

(1/1/2016 COK GSP)

Section 1-08.5 is supplemented with the following:

This project shall be physically completed in its entirety within **$1** working days.
1-08.9 Liquidated Damages

The third paragraph of Section 1-08.9 is revised to read as follows:

Accordingly, the Contractor agrees:
To pay (according to the following formula) liquidated damages for each working day beyond the number of working days established for Physical Completion, and
To authorize the Engineer to deduct these liquidated damages from any money due or coming to the Contractor.

**LIQUIDATED DAMAGES FORMULA**

For $C > $50,000 \rightarrow LD = 0.15 \times \frac{C}{T}$, and

For $C \leq $50,000 \rightarrow LD = 0.30 \times \frac{C}{T}$.

Where:
- $LD =$ liquidated damages per working day (rounded to the nearest dollar)
- $C =$ original Contract amount
- $T =$ original time for Physical Completion

(August 14, 2013 APWA GSP)

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.

1-09 MEASUREMENT AND PAYMENT

1-09.2 Weighing Equipment

(July 23, 2015 APWA GSP, Option 2)

1-09.2(1) General Requirements for Weighing Equipment

Revise item 4 of the fifth paragraph to read:

4. Test results and scale weight records for each day’s hauling operations are provided to the Engineer daily. Reporting shall utilize WSDOT form 422-027, Scaleman’s Daily Report, unless the printed ticket contains the same information that is on the Scaleman’s Daily Report Form. The scale operator must provide AM and/or PM tare weights for each truck on the printed ticket.
1-09.2(1) General Requirements for Weighing Equipment

The second to last paragraph of Section 1-09.2(1) is supplemented with the following:

**Trucks and Tickets**
All tickets shall, at a minimum, contain the following information:
- Ticket serial number
- Date and hour of weighing
- Weigher’s identification
- Duplicate tally tickets shall be prepared to accompany each truckload of materials delivered to the project.

It is the responsibility of the Contractor to see that tickets are given to the Inspector on the project for each truckload of material delivered. Pay quantities will be prepared on the basis of said tally tickets, delivered to the Inspector at time of delivery of materials. Tickets not collected at the time of delivery will not be honored for payment.

(May 2, 2017 APWA GSP)

1-09.2(5) Measurement

Revise the first paragraph to read:

**Scale Verification Checks** – At the Engineer's discretion, the Engineer may perform verification checks on the accuracy of each batch, hopper, or platform scale used in weighing contract items of Work.

(October 10, 2008 APWA GSP)

1-09.6 Force Account

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.

(March 13, 2012 APWA GSP)

1-09.9 Payments

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.

(March 13, 2012 APWA GSP)

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:

- Unit Price Items in the Bid Form — the approximate quantity of acceptable units of work completed multiplied by the unit price.
- 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.
- Materials on Hand — 100 percent of invoiced cost of material delivered to Job site or other storage area approved by the Engineer.
- 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:
Retainage per Section 1-09.9(1), on non FHWA-funded projects;
The amount of progress payments previously made; and
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.

(1/1/2016 COK GSP)
Unless otherwise agreed to by both parties, the work period shall coincide with the calendar month. A check will be mailed or made available to the Contractor no later than thirty (30) days following the last day of the work period.

(November 30, 2018 APWA GSP)
1-09.11(3) Time Limitation and Jurisdiction
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 36.01.050 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.

(1/1/2016 COK GSP)

1-09.13(3) Claims $250,000 or Less

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 Alternative Dispute Resolution (ADR) processes, provided Contracting Agency agreed to engage such ADR processes, shall be resolved through litigation unless the parties mutually agree in writing to resolve the claim through binding arbitration.

(November 30, 2018 APWA GSP)

1-09.13(3)A Administration of Arbitration

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 36.01.050 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
Section 1-10.1 is supplemented with the following:

(******)

Construction activities shall be designed to minimize the disruption of normal traffic. Temporary traffic controls shall be used for work zones in or adjacent to traffic lanes, bike trails, and pedestrian walkways. These temporary traffic controls shall conform to the following standards or guides:

- Manual on Uniform Traffic Control Devices (MUTCD) – Part 6, Temporary Traffic
Control
- WSDOT – Work Zone Traffic Control Guidelines for Maintenance Operation
- WSDOT Standard Specifications – Section 9-35, Temporary Traffic Control Materials
- WSDOT Standard Plans – Section K, Work Zone Traffic Control
- These plans and specifications

(1/1/2016 COK GSP)

1-10.2 Traffic Control Management

1-10.2(2) Traffic Control Plans

The first and second sentences of Section 1-10.2(2) are deleted and replaced with the following:

The Contractor shall submit a traffic control plan or plans showing a method of handling traffic including pedestrian and bicycle traffic. All construction signs, flaggers, spotters and other traffic control devices shall be shown on the traffic control plan(s) except for emergency situations.

The second paragraph of section 1-10.2(2) is supplemented with the following:

(******)
Contractor prepared Traffic Control Plans shall also be prepared in accordance with the City of Kirkland Policy R-29, Guidelines for Temporary Traffic Control Plan preparation.

(4/18/2018 COK GSP)

1-10.3 Traffic Control Labor, Procedures, and Devices

1-10.3(3)C Portable Changeable Message Sign

Supplement this section with the following:

Two Portable Changeable Message Signs (PCMS) shall be provided for the duration of the project. Proposed locations shall be shown on Traffic Control Plan(s) submitted by the contractor. Contractor shall submit proposed message(s) to be displayed and receive approval by the Engineer prior to placement. Contractor is responsible for programming of the approved message into the PCMS(s), set-up, placement, and removal upon project completion.

1-10.5 Payment

(January 23, 2006 APWA GSP)

1-10.5(1) Lump Sum Bid for Project (No Unit Items)

Revise the pay item name to read:

“Project Temporary Traffic Control, min. Bid $ $$1$$S$, lump sum.

(November 30, 2018 APWA GSP)
1-10.5(2)  Item Bids with Lump Sum for Incidentals

Revise the names of the second and third pay items to read:

“Flaggers, min. Bid $1$$1$$, per hour”.
“Other Traffic Control Labor, min. Bid $2$$2$$, per hour”.

END OF DIVISION 1
Division 2  Earthwork

2-01  Clearing, Grubbing, and Roadside Cleanup

2-01.1  Description
Section 2-01.1 is supplemented with the following:

(******)
This Work also includes protection of delineated wetland areas, clearing and grubbing within wetland and wetland buffer areas as described in this Section, and removal of invasive plants, as defined by the King County Noxious Weed List, including all regulated and non-regulated noxious weeds, including Himalayan blackberry, reed canarygrass, and Scotch broom, which have been identified on-site.

The removal of invasives will occur with initial mobilization and again prior to restoration planting; additionally, as a part of 8-02 Roadside Restoration, the Contractor shall be responsible for meeting all requirements associated with Special Provisions in Section 8-02.3(13). Work to remove invasives shall be completed following the Washington Department of Fish and Wildlife’s decontamination protocols, which are outlined in the “Invasive Species Management Protocols” and available online at https://wdfw.wa.gov/species-habitats/invasive/prevention.

“Remove tree” means removing trees five inches or greater in diameter, as measured 48 inches above ground level. Removed tree will be stockpiled for use as large woody debris or removed from the site as described in the Special Provisions.

2-01.3  Construction Requirements
Section 2-01.3 is supplemented with the following:

(******)
The Contractor shall preserve and protect the delineated wetland area throughout the duration of construction, acting immediately to repair or restore any fencing, flagging or other delineation that is damaged or removed.

Prior to clearing the Contractor shall coordinate and submit to the City photographs that document existing conditions along potential temporary construction access routes along the Cross Kirkland Corridor that are outside the limits of work (as shown in the Plans) and that may be used for construction access based on Contractor means and methods. At a minimum, photographs shall be taken every 25 feet to document exiting trail and edge conditions and connections to public streets. Photographs will be used by the City to compare post-construction conditions to ensure disturbed areas outside the limits of work are restored to original, pre-construction conditions.

2-01.3(1)  Clearing
Section 2-01.3(1) is replaced with the following:

(******)
The Contractor shall clear invasive plants, as defined by the King County Noxious Weed List, including all regulated and non-regulated noxious weeds, including Himalayan blackberry, reed
canarygrass, and Scotch broom, which have been identified on-site, from all clearing and grubbing areas as indicated in the Plans.

Additional clearing requirements for areas outside of the wetland and wetland buffer. The Contractor shall:

- Leave standing any trees or native growth not designated for removal as indicated in the Plans or as directed by the Engineer.
- Remove any existing piles of vegetation, dead trees, or new piles of vegetation resulting from clearing.
- Protect, by fencing, all trees or native growth to remain from any damage caused by construction operations.
- Install temporary slope stabilization for slopes greater than 3:1. See Plans for reference to the type of slope stabilization to be utilized.

Additional clearing requirements for areas within the wetland and wetland buffer that are inside the limits of the high visibility silt fence. The Contractor shall:

- Remove from the site all brush cleared that is less than 5” in diameter.
- Remove any existing or new piles of vegetation resulting from clearing except retain trees/branches in stockpiles on-site that are larger than 5” diameter for reuse as Large Woody Debris per 8-02.3(7).
- Remove trees within the area to be cleared as indicated in the Plans. Stockpile any trees/branches larger than 5” diameter on site for reuse as Large Woody Debris per 8-02.3(7). Close-cut parallel to the slope of the ground all stumps of trees to be removed in the wetland and wetland buffer area
- Fell trees and stockpile for reuse as Snags as shown in the Plans.
- For areas within the wetland and wetland buffer that are outside the limits of the high visibility silt fence but within the limits of work:

The Contractor shall hand remove invasive plants to avoid damage to roots of vegetation to remain. Hand removal of invasive plants will occur at initial mobilization and again prior to the second growing season when any remnant invasive plans (e.g. blackberry canes) are visible. Additional requirements within the wetland per the HPA permit obtained from WDFW and the Clean Water Act permit obtained from the USACE may include:

- All work must be completed “in the dry”, i.e. when the work area portion of the wetland is not “flooded” (i.e. work area is not connected via surface waters to the wetland).
- Avoid work during times of precipitation and implement TESC Plans and a SWPPP to ensure compliance with these standards.
- Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance. No fill or drill spoils shall be placed in wetland.
- Follow Level 1 Decontamination protocol for all equipment working within the wetland.
- Clean equipment prior to entering the wetland area and use of biodegradable lubricants/liquids in accordance with permit requirements.

Restore (replant) all cleared areas in accordance with the approved restoration plans and permit requirements.
2-01.3(2) Grubbing
Section 2-01.3(2) is supplemented with the following:

(******)
The Contractor shall take care to remove the root crowns of all invasive plants within areas to be cleared and grubbed, especially Himalayan blackberry. Grubbing will occur at initial mobilization and again during the second growing season when any remnant blackberry canes are visible.

Areas within the wetland and wetland buffer that are inside the limits of high visibility fence shall be covered with jute matting as described in 8-02.3(3)A after the areas as been grubbed.

Areas within the wetland and wetland buffer areas that are outside the limits of the high visibility silt fence but within the limits of work the Contractor shall hand grub invasive plants, including Himalayan blackberry, to avoid damage to roots of vegetation to remain. Restore all grubbed areas in accordance with the approved restoration plans and permit requirements.

2-01.4 Measurement
Section 2-01.4 is supplemented with the following:

(******)
Tree removal will be measured per each for each tree removed that is greater than 5” in diameter.

Jute matting will be measured by the square foot along the ground slope line of surface area covered and accepted.

2-01.5 Payment
Section 2-01.5 is supplemented with the following:

(******)
“Remove Tree” per each
The unit Contract price per each for “Remove Tree” shall be full pay for all Work described in this section to remove, Grub and dispose of or stockpile the tree as applicable.

“Jute Matting” per square foot
The unit Contract price per square foot for “Jute Matting” shall be full pay for all costs to complete the specified Work.

No separate payment will be made for the time or Work required to photograph, document, coordinate, and submit photographs of existing conditions to verify existing conditions and document disturbed areas have been restored to the original, pre-construction condition.
2-02 Removal of Structures and Obstructions

2-02.1 Description
Section 2-02.1 is supplemented with the following:

(******)
Items to be removed and disposed of include the following as shown in the Plans:
- Asphalt pavement, including the existing asphalt trail (365 square yards)
- Planing bituminous pavement (30 square yards)
- Cement concrete sidewalk (30 square yards)
- Cement concrete traffic curb and gutter (145 linear feet)
- Signal house, including the removal and disposal of structural foundations and interior contents.
- Gravel surfacing 4" depth trail (111 cubic yards)
- Item to be removed and salvaged are indicated in the Plans.

2-02.3 Construction Requirements
Section 2-02.3 is supplemented with the following:

Section 2-02.3(3) is supplemented with the following:

(******)
Planing bituminous pavement in accordance with 5-04.3(14) and City standard plans as noted on the Plans.

(******)
2-02.3(4) Removal of Signal House

The removal of the shed in the existing traffic island shall be coordinated with the City; based on information provided by the City there is no live electrical or mechanical equipment in the signal house.

(******)
2-02.3(5) Salvage of Existing Signs

Salvage existing signs to the Contracting Agency or for reinstallation as noted in the Plans. Signs identified for salvage on the Plans shall be carefully salvaged in their existing conditions. If necessary, the Contractor shall hand excavate to ensure materials are not damaged.

Contractor shall store items to be salvaged until item is reinstalled as shown in the Plans or delivery of salvaged items is coordinated with the Engineer.

2-02.5 Payment
Section 2-02.5 is supplemented with the following:

(******)
“Salvage Signs” per lump sum.
The lump sum contract price for “Salvage Signs” shall be full payment for all costs incurred for Work required to remove, store, deliver, protect and reinstall site elements designated in the
Plans including the preparation and submittal of an approved work plan for items to be salvaged.
2-03 Roadway Excavation and Embankment

2-03.1 Description
Section 2-03.1 is supplemented with the following:

(******)
This work shall include the excavation, removal and disposal of cuts for infiltration ponds as shown in the Plans.

2-03.3(14)K Select, Common Borrow, Gravel Borrow for Structural Earth Walls or Permeable Ballast Including Haul
Section 2-03.3(14)K is supplemented with the following:

(******)
Select borrow shall be used to construct embankments for proposed trails segments from Sta 12+00 to Sta 15+00, Sta 60+00 to Sta 60+78 and Sta 22+90 to Sta 24+00 except where the MSE wall is located. Fill placed on slopes shall be constructed per the requirements for Hillside Terraces, Section 2-03.3(14). Select borrow shall be compacted to 95 percent of the maximum dry density as determined by the compaction control tests described in Section 2-03.3(14)D.

Gravel Borrow for Structural Earth Walls shall be used to construct the Vegetated-face MSE walls and shall meet Specification 9-03.14(4) with the added restriction that no more than 5 percent shall pass the U.S. No. 200 sieve. Gravel borrow for structural earth walls shall be compacted to 95 percent of the maximum dry density as determined by the compaction control tests described in Section 2-03.3(14)D.

The lower 18 inches of the embankment retained by the Vegetated-face MSE wall should consist of permeable ballast as specified in Section 6-14.2. Permeable ballast shall also be placed as part of the Permeable Pavement, Section 2-06.3(3). Permeable ballast material shall meet the requirements of Section 4-04.2.

2-03.4 Measurement
Section 2-03.4 is supplemented with the following:

(******)
No separate measurement will be made to construct or deconstruct interim conditions to provide temporary access for construction laydown (including the placement, removal and disposal of quarry spalls), stabilized construction entrances or the temporary trail. Measurement for excavation and haul, select, common, and gravel borrow will be as specified in the Standard Specifications based on comparing the original ground surface with the planned finished section and grades shown in the Plans.

2-03.5 Payment
Section 2-03.5 is supplemented with the following:

(******)
The costs for all Work of grading interim conditions to provide temporary access for construction laydown, stabilized construction entrances and the temporary trail and for placing, removing and disposing of quarry spalls from the construction laydown area shall be incidental to construction.
2-06 Subgrade Preparation
Add the following new section:

(March 9, 2016 APWA GSP)
2-06.3(3) Subgrade for Permeable Pavements

Before placing permeable ballast for Porous HMA/WMA, the Contractor shall bring the Subgrade to the required line, grade, and cross-section. The Contractor shall compact the Subgrade to a depth of 6 inches to at least 90 percent, but not more than 92 percent, of the maximum density as determined by the compaction control tests described in Section 2-03.3(14)D. Two (2) density tests will be conducted for every 5,000 square feet of prepared subgrade; or four (4) tests per 200 lineal feet of trail or sidewalk. All subgrade shall be firm and unyielding as determined by the Engineer.

The Contractor shall take measures to protect the prepared and approved subgrade from traffic, water run-on, standing water, or other damage. Subgrade that has been compacted to more than 92 percent of the maximum dry density per ASTM D-1557, shall be scarified to a minimum depth of eight (8) inches and recompacted.

Material used to protect the Subgrade from traffic or provide access to adjacent facilities shall be removed and the subgrade compacted prior to placing geotextile, if used and/or permeable ballast.

2-06.5 Measurement and Payment
This section is supplemented with the following:

(March 9, 2016 APWA GSP)
Measurement for Subgrade for Porous Asphalt Pavement will be in accordance with 2-06.5.
Division 4  Bases

4-04  Ballast and Crushed Surfacing

4-04.2  Materials

Revise section 9-03.9(2) to read:

(* * * * *)

**Crushed Surfacing for Trail**

Crushed Surfacing for Trail shall be manufactured from 100% ledger rock in accordance with the Provisions of Section 3-01. The materials shall be uniform in quality and substantially free from wood, roots, bark and other extraneous materials and shall meet the following requirements:

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>Percent Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8” (9.5mm)</td>
<td>100</td>
</tr>
<tr>
<td>#4 (4.75mm)</td>
<td>85-100</td>
</tr>
<tr>
<td>#10 (2mm)</td>
<td>40-65</td>
</tr>
<tr>
<td>#16 (1.18mm)</td>
<td>30-75</td>
</tr>
<tr>
<td>#30 (0.6mm)</td>
<td>15-40</td>
</tr>
<tr>
<td>#200 (75um)</td>
<td>5-15</td>
</tr>
<tr>
<td>% Fracture</td>
<td>100%</td>
</tr>
</tbody>
</table>

The material from which ballast is to be manufactured shall meet the following test requirements:

Los Angeles Wear, 500 Rev  25 percent max.
Degradation Factor  15 min.

The portion of crushed surfacing retained on a No. 4 sieve shall not contain more than 0.15 percent wood waste.

For approval of Source the Contractor shall supply one sample of material and test reports shown the product meets the above requirements.

Acceptance by the owner will be based on non-statistical evaluation as described in Section 3-04.3(5).

**Permeable Ballast**

Permeable ballast shall meet the requirements of Section 9-03.9(1) for ballast except for the following special requirements.

Permeable Ballast shall be manufactured from ledge rock, talus, or gravel in accordance with the provisions of Section 3-01. 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. 40% maximum, WSDOT Test Method T 96
Degradation Factor 15 minimum, WSDOT Test Method T 113
Minimum Void Ration Content  30% as determined by AASHTO T19 or ASTM C29, rodding
The grading and quality 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>95-100</td>
</tr>
<tr>
<td>3/4 inch</td>
<td>-</td>
</tr>
<tr>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>No. 4</td>
<td>0-5</td>
</tr>
<tr>
<td>No. 100</td>
<td>0-2</td>
</tr>
<tr>
<td>% Fracture</td>
<td>75 min</td>
</tr>
</tbody>
</table>

All percentages are by weight.

The sand equivalent value and dust ratio requirements do not apply.

The fracture requirement shall be at least two (2) fractured faces and will apply to the combined aggregate retained on the No. 4 sieve in accordance with WSDOT FOP for AASHTO T 335.

Aggregates shall meet the requirements for grading and quality when placed in hauling vehicles for delivery to the site, after placement in temporary, stockpiles on site, during installation, and after installation and compacted to project specifications.

Permeable ballast material may be conditionally approved based on Contractor submitted sampled materials prior to delivery to the site. Final Acceptance will be based on conformance testing completed on material that has been delivered, installed, and compacted on site. The exact point of acceptance will be determined by the Engineer. Material out of conformance with the project specifications will be removed and replaced at the Contractor’s expense.

Permeable ballast shall not include recycled material as defined in Section 9-03.21.

**4-04.3 Construction Requirements**

Section 4-04.5 is supplemented with the following:

(******)
Place liner for porous asphalt check dams as shown in details in the Plans.

**4-04.3(5) Shaping and Compaction**

*(March 9, 2016 APWA GSP)*

Supplement this section with the following:
Immediately following spreading and final shaping each layer of surfacing shall be lightly compacted in one lift until no visible movement of aggregate is observed resulting in a firm and unyielding condition, as determined by the Engineer.

(******)
Crushed surfacing for trail shall be compacted to at least 95 percent of the standard density as required by this section in the Standard Specifications.

Install irrigation sleeving as described in the notes on plan sheet L-210A/B and at locations shown in design/build irrigation plans approved by the Engineer.

4-04.4 Measurement
Section 4-04.4 is supplemented with the following:

(******)
The basis of measurement for “Crushed Surfacing Top Course”, “Crushed Surfacing Base Course” and “Crushed Surfacing for Trail” will be by the ton based on certified truck tickets collected by the inspector at the end of each working day. Tickets will be accepted for payment after the end of each working day only when prior arrangements have been made with the inspector.

Should the Contractor not prepare subgrade to the correct lines and grades as shown on the plans, and crushed surfacing materials are placed in excess of the depths required by the Plans, the excess depth will not be measured for payment. The crushed surfacing in these areas will instead be measured by neat line, to be converted to tons for deduction in quantities accepted based on the certified truck tickets.

The contractor is responsible for delivering certified truck tickets to the on-site inspector.

No separate measurement for payment will be made for water used in placing and compacting surfacing materials.

4-04.5 Payment
Section 4-04.5 is supplemented with the following:

(******)
This section is to be supplemented with the following:

“Crushed Surfacing for Trail”, per ton.

The Contract Bid prices for “Crushed Surfacing ___” including all incidental work, shall be full compensation for all Work to satisfactorily complete the work as defined in the Standard Specifications and these Special Provisions. Work elements include, but are not limited to, procuring, hauling, placing, grading, and compacting crushed surfacing material.

No separate payment will be made for installation of liner for porous asphalt check dams.

Payment for irrigation sleeving will be made as a part of the lump sum cost for “Irrigation System”.

TOTEM LAKE CONNECTOR – SPECIAL PROVISIONS
Division 5 Surface Treatments and Pavements

5-04 Hot Mix Asphalt
(July 18, 2018 APWA GSP)

(* *****)
Section 5-04, Hot Mix Asphalt as printed in the Standard Specifications for Road, Bridge and Municipal Construction, 2016 edition is added and renumbered as Section 5-06 and supplemented with the APWA GSPs and Special Provisions listed below for porous hot mix asphalt.

Delete Section 5-04 and amendments, Hot Mix Asphalt and replace it with the following:

5-04.1 Description
This Work shall consist 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. WMA processes include organic additives, chemical additives, and foaming.

HMA shall be composed of asphalt binder and mineral materials as may be required, mixed in the proportions specified to provide a homogeneous, stable, and workable mixture.

5-04.2 Materials
Materials shall meet the requirements of the following sections:
- Asphalt Binder 9-02.1(4)
- Cationic Emulsified Asphalt 9-02.1(6)
- Anti-Stripping Additive 9-02.4
- HMA Additive 9-02.5
- Aggregates 9-03.8
- Recycled Asphalt Pavement 9-03.8(3)B
- Mineral Filler 9-03.8(5)
- Recycled Material 9-03.21
- Portland Cement 9-01
- Sand 9-03.1(2)
  (As noted in 5-04.3(5)C for crack sealing)
- Joint Sealant 9-04.2
- Foam Backer Rod 9-04.2(3)A

The Contract documents may establish that the various mineral materials required for the manufacture of HMA will be furnished in whole or in part by the Contracting Agency. If the documents do not establish the furnishing of any of these mineral materials by the Contracting Agency, the Contractor shall be required to furnish such materials in the amounts required for the designated mix. Mineral materials include coarse and fine aggregates, and mineral filler.

The Contractor may choose to utilize recycled asphalt pavement (RAP) in the production of HMA. The RAP may be from pavements removed under the Contract, if any, or pavement
material from an existing stockpile.

The Contractor may use up to 20 percent RAP by total weight of HMA with no additional sampling or testing of the RAP. The RAP shall be sampled and tested at a frequency of one sample for every 1,000 tons produced and not less than ten samples per project. The asphalt content and gradation test data shall be reported to the Contracting Agency when submitting the mix design for approval on the QPL. The Contractor shall include the RAP as part of the mix design as defined in these Specifications.

The grade of asphalt binder shall be as required by the Contract. Blending of asphalt binder from different sources is not permitted.

The Contractor may only use warm mix asphalt (WMA) processes in the production of HMA with 20 percent or less RAP by total weight of HMA. The Contractor shall submit to the Engineer for approval the process that is proposed and how it will be used in the manufacture of HMA.

Production of aggregates shall comply with the requirements of Section 3-01. Preparation of stockpile site, the stockpiling of aggregates, and the removal of aggregates from stockpiles shall comply with the requirements of Section 3-02.

5-04.2(1) How to Get an HMA Mix Design on the QPL
If the contractor wishes to submit a mix design for inclusion in the Qualified Products List (QPL), please follow the WSDOT process outlined in Standard Specification 5-04.2(1).

5-04.2(1)A Vacant

5-04.2(2) Mix Design – Obtaining Project Approval
No paving shall begin prior to the approval of the mix design by the Engineer.

Nonstatistical evaluation will be used for all HMA not designated as Commercial HMA in the contract documents.

Commercial evaluation will be used for Commercial HMA and for other classes of HMA in the following applications: sidewalks, road approaches, ditches, slopes, paths, trails, gores, prelevel, and pavement repair. Other nonstructural applications of HMA accepted by commercial evaluation shall be as approved by the Project Engineer. Sampling and testing of HMA accepted by commercial evaluation will be at the option of the Project Engineer. The Proposal quantity of HMA that is accepted by commercial evaluation will be excluded from the quantities used in the determination of nonstatistical evaluation.

Nonstatistical Mix Design. Fifteen days prior to the first day of paving the contractor shall provide one of the following mix design verification certifications for Contracting Agency review;

- The WSDOT Mix Design Evaluation Report from the current WSDOT QPL, or one of the mix design verification certifications listed below.
- The proposed HMA mix design on WSDOT Form 350-042 with the seal and certification (stamp & sig-nature) of a valid licensed Washington State Professional Engineer.
- The Mix Design Report for the proposed HMA mix design developed by a qualified City or County laboratory that is within one year of the approval date.
The mix design shall be performed by a lab accredited by a national authority such as Laboratory Accreditation Bureau, L-A-B for Construction Materials Testing, The Construction Materials Engineering Council (CMEC’s) ISO 17025 or AASHTO Accreditation Program (AAP) and shall supply evidence of participation in the AASHTO: resource proficiency sample program.

Mix designs for HMA accepted by Nonstatistical evaluation shall;

- Have the aggregate structure and asphalt binder content determined in accordance with WSDOT Standard Operating Procedure 732 and meet the requirements of Sections 9-03.8(2), except that Hamburg testing for ruts and stripping are at the discretion of the Engineer, and 9-03.8(6).
- Have anti-strip requirements, if any, for the proposed mix design determined in accordance with AASHTO T 283 or T 324, or based on historic anti-strip and aggregate source compatibility from previous WSDOT lab testing.

At the discretion of the Engineer, agencies may accept verified mix designs older than 12 months from the original verification date with a certification from the Contractor that the materials and sources are the same as those shown on the original mix design.

Commercial Evaluation Approval of a mix design for “Commercial Evaluation” will be based on a review of the Contractor’s submittal of WSDOT Form 350-042 (For commercial mixes, AASHTO T 324 evaluation is not required) or a Mix Design from the current WSDOT QPL or from one of the processes allowed by this section. Testing of the HMA by the Contracting Agency for mix design approval is not required.

For the Bid Item Commercial HMA, the Contractor shall select a class of HMA and design level of Equivalent Single Axle Loads (ESAL’s) appropriate for the required use.

5-04.2(2)B Using Warm Mix Asphalt Processes
The Contractor may elect to use additives that reduce the optimum mixing temperature or serve as a compaction aid for producing HMA. Additives include organic additives, chemical additives and foaming processes. The use of Additives is subject to the following:

- Do not use additives that reduce the mixing temperature more than allowed in Section 5-04.3(6) in the production of mixtures.
- Before using additives, obtain the Engineer’s approval using WSDOT Form 350-076 to describe the proposed additive and 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 below, or when weather conditions otherwise prevent the proper handling or finishing of the HMA.
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 .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
When the Roadway being paved is open to traffic, the requirements of this Section shall apply.

The Contractor shall keep intersections open to traffic at all times except when paving the intersection or paving across the intersection. During such time, and provided that there has been an advance warning to the public, the intersection may be closed for the minimum time required to place and compact the mixture. 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.

Before closing an intersection, advance warning signs shall be placed and signs shall also be placed marking the detour or alternate route.

During paving operations, temporary pavement markings shall be maintained throughout the project. Temporary pavement markings shall be installed on the Roadway prior to opening to traffic. Temporary pavement markings shall be in accordance with Section 8-23.

All costs in connection with performing the Work in accordance with these requirements, except the cost of temporary pavement markings, shall be included in the unit Contract prices for the various Bid items involved in the Contract.

5-04.3(3) Equipment

5-04.3(3)A Mixing Plant
Plants used for the preparation of HMA shall conform to the following requirements:

1. Equipment for Preparation of Asphalt Binder – Tanks for the storage of asphalt binder shall be equipped to heat and hold the material at the required temperatures. The heating shall be accomplished by steam coils, electricity, or other approved means so that no flame shall be in contact with the storage tank. The circulating system for the asphalt binder shall be designed to ensure proper and continuous circulation during the operating period. A valve for the purpose of sampling the asphalt binder shall be placed in either the storage tank or in the supply line to the mixer.

2. Thermometric Equipment – An armored thermometer, capable of detecting temperature ranges expected in the HMA mix, shall be fixed in the asphalt binder feed line at a location near the charging valve at the mixer unit. The thermometer location shall be convenient and safe for access by Inspectors. The plant shall also be equipped with an approved dial-scale thermometer, a mercury actuated thermometer, an electric...
pyrometer, or another approved thermometric instrument placed at the discharge chute of the drier to automatically register or indicate the temperature of the heated aggregates. This device shall be in full view of the plant operator.

3. **Heating of Asphalt Binder** – The temperature of the asphalt binder shall not exceed the maximum recommended by the asphalt binder manufacturer nor shall it be below the minimum temperature required to maintain the asphalt binder in a homogeneous state. The asphalt binder shall be heated in a manner that will avoid local variations in heating. The heating method shall provide a continuous supply of asphalt binder to the mixer at a uniform average temperature with no individual variations exceeding 25°F. Also, when a WMA additive is included in the asphalt binder, the temperature of the asphalt binder shall not exceed the maximum recommended by the manufacturer of the WMA additive.

4. **Sampling and Testing of Mineral Materials** – The HMA plant shall be equipped with a mechanical sampler for the sampling of the mineral materials. The mechanical sampler shall meet the requirements of Section 1-05.6 for the crushing and screening operation. The Contractor shall provide for the setup and operation of the field testing facilities of the Contracting Agency as provided for in Section 3-01.2(2).

5. **Sampling HMA** – The HMA plant shall provide for sampling HMA by one of the following methods:
   a. A mechanical sampling device attached to the HMA plant.
   b. Platforms or devices to enable sampling from the hauling vehicle without entering the hauling vehicle.

5-04.3(3)B **Hauling Equipment**
Trucks used for hauling HMA shall have tight, clean, smooth metal beds and shall have a cover of canvas or other suitable material of sufficient size to protect the mixture from adverse weather. Whenever the weather conditions during the work shift include, or are forecast to include, precipitation or an air temperature less than 45°F or when time from loading to unloading exceeds 30 minutes, the cover shall be securely attached to protect the HMA.

The contractor shall provide an environmentally benign means to prevent the HMA mixture from adhering to the hauling equipment. Excess release agent shall be drained prior to filling hauling equipment with HMA. Petroleum derivatives or other coating material that contaminate or alter the characteristics of the HMA shall not be used. For live bed trucks, the conveyer shall be in operation during the process of applying the release agent.

5-04.3(3)C **Pavers**
HMA pavers shall be self-contained, power-propelled units, provided with an internally heated vibratory screed and shall be capable of spreading and finishing courses of HMA plant mix material in lane widths required by the paving section shown in the Plans.

The HMA paver shall be in good condition and shall have the most current equipment available from the manufacturer for the prevention of segregation of the HMA mixture installed, in good condition, and in working order. The equipment certification shall list the make, model, and year of the paver and any equipment that has been retrofitted.

The screed shall be operated in accordance with the manufacturer’s recommendations and shall effectively produce a finished surface of the required evenness and texture without
tearing, shoving, segregating, or gouging the mixture. A copy of the manufacturer’s recommendations shall be provided upon request by the Contracting Agency. Extensions will be allowed provided they produce the same results, including ride, density, and surface texture as obtained by the primary screed. Extensions without augers and an internally heated vibratory screed shall not be used in the Traveled Way.

When specified in the Contract, reference lines for vertical control will be required. Lines shall be placed on both outer edges of the Traveled Way of each Roadway. Horizontal control utilizing the reference line will be permitted. The grade and slope for intermediate lanes shall be controlled automatically from reference lines or by means of 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 the 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.

The Contractor shall 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. Any cleaning or solvent type liquids spilled on the pavement shall be thoroughly removed before paving proceeds.

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

A Material Transfer Device/Vehicle (MTD/V) shall only be used with the Engineer’s approval, unless otherwise required by the contract.

Where an MTD/V is required by the contract, the Engineer may approve paving without an MTD/V, at the request of the Contractor. The Engineer will determine if an equitable adjustment in cost or time is due.

When used, the MTD/V shall mix the HMA after delivery by the hauling equipment and prior to laydown by the paving machine. Mixing of the HMA shall be sufficient to obtain a uniform temperature throughout the mixture. If a windrow elevator is used, the length of the windrow may be limited in urban areas or through intersections, at the discretion of the Engineer.

To be approved for use, an MTV:

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

To be approved for use, an MTD:
• Shall be positively connected to the paver.
• May accept HMA directly from the haul vehicle or pick up HMA from a windrow.
• Shall mix the HMA after delivery by the hauling equipment and prior to placement into the paving machine.
• Shall mix the HMA sufficiently to obtain a uniform temperature throughout the mixture.

5-04.3(3)E Rollers
Rollers shall be of the steel wheel, vibratory, oscillatory, or pneumatic tire type, in good condition and capable of reversing without backlash. Operation of the roller shall be in accordance with the manufacturer’s recommendations. When ordered by the Engineer for any roller planned for use on the project, the Contractor shall provide a copy of the manufacturer’s recommendation for the use of that roller for compaction of HMA. The number and weight of rollers shall be sufficient to compact the mixture in compliance with the requirements of Section 5-04.3(10). The use of equipment that results in crushing of the aggregate will not be permitted. Rollers producing pickup, washboard, uneven compaction of the surface, displacement of the mixture or other undesirable results shall not be used.

5-04.3(4) Preparation of Existing Paved Surfaces
When the surface of the existing pavement or old base is irregular, the Contractor shall bring it to a uniform grade and cross-section as shown on the Plans or approved by the Engineer.

Preleveling of uneven or broken surfaces over which HMA is to be placed may be accomplished by using an asphalt paver, a motor patrol grader, or by hand raking, as approved by the Engineer.

Compaction of preleveling HMA shall be to the satisfaction of the Engineer and may require the use of small steel wheel rollers, plate compactors, or pneumatic rollers to avoid bridging across preleveled areas by the compaction equipment. Equipment used for the compaction of preleveling HMA shall be approved by the Engineer.

Before construction of HMA on an existing paved surface, the entire surface of the pavement shall be clean. All fatty asphalt patches, grease drippings, and other objectionable matter shall be entirely removed from the existing pavement. All pavements or bituminous surfaces shall be thoroughly cleaned of dust, soil, pavement grindings, and other foreign matter. All holes and small depressions shall be filled with an appropriate class of HMA. The surface of the patched area shall be leveled and compacted thoroughly. Prior to the application of tack coat, or paving, the condition of the surface shall be approved by the Engineer.

A tack coat of asphalt shall be applied to all paved surfaces on which any course of HMA is to be placed or abutted; except that tack coat may be omitted from clean, newly paved surfaces at the discretion of the Engineer. Tack coat shall be uniformly applied to cover the existing pavement with a thin film of residual asphalt free of streaks and bare spots at a rate between 0.02 and 0.10 gallons per square yard of retained asphalt. The rate of application shall be approved by the Engineer. A heavy application of tack coat shall be applied to all joints. For Roadways open to traffic, the application of tack coat shall be limited to surfaces that will be paved during the same working shift. The spreading equipment shall be equipped with a thermometer to indicate the temperature of the tack coat material.

Equipment shall not operate on tacked surfaces until the tack has broken and cured. If the
Contractor’s operation damages the tack coat it shall be repaired prior to placement of the HMA.

The tack coat shall be CSS-1, or CSS-1h emulsified asphalt. The CSS-1 and CSS-1h emulsified asphalt may be diluted once with water at a rate not to exceed one part water to one part emulsified asphalt. The tack coat shall have sufficient temperature such that it may be applied uniformly at the specified rate of application and shall not exceed the maximum temperature recommended by the emulsified asphalt manufacturer.

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 cracks. 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.

The sand slurry shall consist of approximately 20 percent CSS-1 emulsified asphalt, approximately 2 percent portland cement, water (if required), and the remainder clean Class 1 or 2 fine aggregate per section 9-03.1(2). The components shall be thoroughly mixed and then poured into the cracks and joints until full. The following day, any cracks or joints that are not completely filled shall be topped off with additional sand slurry. After the sand slurry is placed, the filler shall be struck off flush with the existing pavement surface and allowed to cure. The HMA overlay shall not be placed until the slurry has fully cured. The requirements of Section 1-06 will not apply to the portland cement and sand used in the sand slurry.

In areas where HMA will be placed, use sand slurry to fill the cracks.

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.

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:

A. Cracks ¼ inch to 1 inch in width - fill with hot poured sealant.
B. Cracks greater than 1 inch in width – fill with sand slurry.

5-04.3(4)B Vacant

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

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, the existing pavement shall be sawcut or shall be removed by a
pavement grinder. Excavated materials will become 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.

Asphalt for tack coat shall be required as specified in Section 5-04.3(4). A heavy application of
tack coat shall be applied to all surfaces of existing pavement in the pavement repair area.

Placement of the HMA backfill shall be accomplished in lifts not to exceed 0.35-foot compacted
depth. Lifts that exceed 0.35-foot of compacted depth may be accomplished with the approval
of the Engineer. Each lift shall be thoroughly compacted by a mechanical tamper or a roller.

5-04.3(5) Producing/Stockpiling Aggregates and RAP
Aggregates and RAP shall be stockpiled according to the requirements of Section 3-02.
Sufficient storage space shall be provided for each size of aggregate and RAP. Materials shall
be removed from stockpile(s) in a manner to ensure minimal segregation when being moved to
the HMA plant for processing into the final mixture. Different aggregate sizes shall be kept
separated until they have been delivered to the HMA plant.
5-04.3(5)A Vacant

5-04.3(6) Mixing
After the required amount of mineral materials, asphalt binder, recycling agent and anti-stripping additives have been introduced into the mixer the HMA shall be mixed until complete and uniform coating of the particles and thorough distribution of the asphalt binder throughout the mineral materials is ensured.

When discharged, the temperature of the HMA shall not exceed the optimum mixing temperature by more than 25°F as shown on the reference mix design report or as approved by the Engineer. Also, when a WMA additive is included in the manufacture of HMA, the discharge temperature of the HMA shall not exceed 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, the moisture content shall be reduced as directed by the Engineer.

Storing or holding of the HMA in approved storage facilities will be permitted with approval of the Engineer, but in no event shall the HMA be held for more than 24 hours. HMA held for more than 24 hours after mixing shall be rejected. Rejected HMA shall be disposed of by the Contractor at no expense to the Contracting Agency. The storage facility shall have an accessible device located at the top of the cone or about the third point. The device shall indicate the amount of material in storage. No HMA shall be accepted from the storage facility when the HMA in storage is 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.

Recycled asphalt pavement (RAP) utilized in the production of HMA shall be sized prior to entering the mixer so that a uniform and thoroughly mixed HMA is produced. If there is evidence of the recycled asphalt pavement not breaking down during the heating and mixing of the HMA, the Contractor shall immediately suspend the use of the RAP until changes have been approved by the Engineer. After the required amount of mineral materials, RAP, new asphalt binder and asphalt rejuvenator have been introduced into the mixer the HMA shall be mixed until complete and uniform coating of the particles and thorough distribution of the asphalt binder throughout the mineral materials, and RAP is ensured.

5-04.3(7) Spreading and Finishing
The mixture shall be laid upon an approved surface, spread, and struck off to the grade and elevation established. HMA pavers complying with Section 5-04.3(3) shall be used to distribute the mixture. Unless otherwise directed by the Engineer, the nominal compacted depth of any layer of any course shall not exceed the following:

<table>
<thead>
<tr>
<th>HMA Class</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&quot;</td>
<td>0.35 feet</td>
</tr>
<tr>
<td>¾&quot; and ½&quot;</td>
<td>0.30 feet</td>
</tr>
<tr>
<td>wearing course</td>
<td>0.30 feet</td>
</tr>
<tr>
<td>other courses</td>
<td>0.35 feet</td>
</tr>
<tr>
<td>⅜&quot;</td>
<td>0.15 feet</td>
</tr>
</tbody>
</table>

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, the material produced for each JMF shall be placed by separate spreading and compacting equipment. The intermingling of HMA produced from more than one JMF is prohibited. 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
For HMA accepted by nonstatistical evaluation the aggregate properties of sand equivalent, uncompacted void content and fracture will be evaluated in accordance with Section 3-04. Sampling and testing of aggregates for HMA accepted by commercial evaluation will be at the option of the Engineer.

5-04.3(9) HMA Mixture Acceptance
Acceptance of HMA shall be as provided under nonstatistical, or commercial evaluation.

Nonstatistical evaluation will be used for the acceptance of HMA unless Commercial Evaluation is specified.

Commercial evaluation will be used for Commercial HMA and for other classes of HMA in the following applications: sidewalks, road approaches, ditches, slopes, paths, trails, gores, prelevel, temporary pavement, and pavement repair. Other nonstructural applications of HMA accepted by commercial evaluation shall be as approved by the Engineer. Sampling and testing of HMA accepted by commercial evaluation will be at the option of the Engineer.

The mix design will be the initial JMF for the class of HMA. The Contractor may request a change in the JMF. Any adjustments to the JMF will require the approval of the Engineer and may be made in accordance with this section.

HMA Tolerances and Adjustments

1. Job Mix Formula Tolerances – The constituents of the mixture at the time of acceptance shall be within tolerance. The tolerance limits will be established as follows:

For Asphalt Binder and Air Voids (Va), the acceptance limits are determined by adding the tolerances below to the approved JMF values. These values will also be the Upper Specification Limit (USL) and Lower Specification Limit (LSL) required in Section 1-06.2(2)D2

<table>
<thead>
<tr>
<th>Property</th>
<th>Non-Statistical Evaluation</th>
<th>Commercial Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt Binder</td>
<td>+/- 0.5%</td>
<td>+/- 0.7%</td>
</tr>
<tr>
<td>Air Voids, Va</td>
<td>2.5% min. and 5.5% max</td>
<td>N/A</td>
</tr>
</tbody>
</table>

For Aggregates in the mixture:

a. First, determine preliminary upper and lower acceptance limits by applying the following tolerances to the approved JMF.

<table>
<thead>
<tr>
<th>Aggregate Percent Passing</th>
<th>Non-Statistical Evaluation</th>
<th>Commercial Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&quot;, ¾&quot;, ½&quot;, and 3/8&quot; sieves</td>
<td>+/- 6%</td>
<td>+/- 8%</td>
</tr>
<tr>
<td>No. 4 sieve</td>
<td>+/- 6%</td>
<td>+/- 8%</td>
</tr>
<tr>
<td>No. 8 Sieve</td>
<td>+/- 6%</td>
<td>+/- 8%</td>
</tr>
<tr>
<td>No. 200 sieve</td>
<td>+/- 2.0%</td>
<td>+/- 3.0%</td>
</tr>
</tbody>
</table>

b. Second, adjust the preliminary upper and lower acceptance limits determined
from step (a) the minimum amount necessary so that none of the aggregate properties are outside the control points in Section 9-03.8(6). The resulting values will be the upper and lower acceptance limits for aggregates, as well as the USL and LSL required in Section 1-06.2(2)D2.

2. Job Mix Formula Adjustments – An adjustment to the aggregate gradation or asphalt binder content of the JMF requires approval of the Engineer. Adjustments to the JMF will only be considered if the change produces material of equal or better quality and may require the development of a new mix design if the adjustment exceeds the amounts listed below.

   a. **Aggregates** – 2 percent for the aggregate passing the 1½", 1", ¾", ½", ⅜", and the No. 4 sieves, 1 percent for aggregate passing the No. 8 sieve, and 0.5 percent for the aggregate passing the No. 200 sieve. The adjusted JMF shall be within the range of the control points in Section 9-03.8(6).

   b. **Asphalt Binder Content** – The Engineer may order or approve changes to asphalt binder content. The maximum adjustment from the approved mix design for the asphalt binder content shall be 0.3 percent.

5-04.3(9)A Vacant

5-04.3(9)B Vacant

5-04.3(9)C Mixture Acceptance – Nonstatistical Evaluation

HMA mixture which is accepted by Nonstatistical Evaluation will be evaluated by the Contracting Agency by dividing the HMA tonnage into lots.

5-04.3(9)C1 Mixture Nonstatistical Evaluation – Lots and Sublots

A lot is represented by randomly selected samples of the same mix design that will be tested for acceptance. A lot is defined as the total quantity of material or work produced for each Job Mix Formula placed. Only one lot per JMF is expected. A subplot shall be equal to one day’s production or 800 tons, whichever is less except that the final subplot will be a minimum of 400 tons and may be increased to 1200 tons.

All of the test results obtained from the acceptance samples from a given lot shall be evaluated collectively. If the Contractor requests a change to the JMF that is approved, the material produced after the change will be evaluated on the basis of the new JMF for the remaining sublots in the current lot and for acceptance of subsequent lots. For a lot in progress with a CPF less than 0.75, a new lot will begin at the Contractor’s request after the Engineer is satisfied that material conforming to the Specifications can be produced.

Sampling and testing for evaluation shall be performed on the frequency of one sample per subplot.

5-04.3(9)C2 Mixture Nonstatistical Evaluation Sampling

Samples for acceptance testing shall be obtained by the Contractor when ordered by the Engineer. The Contractor shall sample the HMA mixture in the presence of the Engineer and in accordance with AASH-TO T 168. A minimum of three samples should be taken for each class of HMA placed on a project. If used in a structural application, at least one of the three samples
shall to be tested.

Sampling and testing HMA in a Structural application where quantities are less than 400 tons is at the discretion of the Engineer.

For HMA used in a structural application and with a total project quantity less than 800 tons but more than 400 tons, a minimum of one acceptance test shall be performed. In all cases, a minimum of 3 samples will be obtained at the point of acceptance, a minimum of one of the three samples will be tested for conformance to the JMF:

- If the test results are found to be within specification requirements, additional testing will be at the Engineer’s discretion.
- If test results are found not to be within specification requirements, additional testing of the remaining samples to determine a Composite Pay Factor (CPF) shall be performed.

**5-04.3(9)C3 Mixture Nonstatistical Evaluation – Acceptance Testing**

Testing of HMA for compliance of $V_a$ will at the option of the Contracting Agency. If tested, compliance of $V_a$ will use WSDOT SOP 731.

Testing for compliance of asphalt binder content will be by WSDOT FOP for AASHTO T 308.

Testing for compliance of gradation will be by FOP for WAQTC T 27/T 11.

**5-04.3(9)C4 Mixture Nonstatistical Evaluation – Pay Factors**

For each lot of material falling outside the tolerance limits in 5-04.3(9), the Contracting Agency will determine a Composite Pay Factor (CPF) using the following price adjustment factors:

<table>
<thead>
<tr>
<th>Constituent</th>
<th>Factor “f”</th>
</tr>
</thead>
<tbody>
<tr>
<td>All aggregate passing: $\frac{3}{4}$&quot;, $\frac{1}{2}$&quot;, $\frac{3}{8}$&quot;, $\frac{1}{4}$&quot; and No.4 sieves</td>
<td>2</td>
</tr>
<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 ($V_a$) (where applicable)</td>
<td>20</td>
</tr>
</tbody>
</table>

Each lot of HMA produced under Nonstatistical Evaluation and having all constituents falling within the tolerance limits of the job mix formula shall be accepted at the unit Contract price with no further evaluation. When one or more constituents fall outside the nonstatistical tolerance limits in the Job Mix Formula shown in Table of Price Adjustment Factors, the lot shall be evaluated in accordance with Section 1-06.2 to determine the appropriate CPF. The nonstatistical tolerance limits will be used in the calculation of the CPF and the maximum CPF shall be 1.00. When less than three sublots exist, backup samples of the existing sublots or samples from the Roadway shall be tested to provide a minimum of three sets of results for evaluation.
5-04.3(9)C5 Vacant

5-04.3(9)C6 Mixture Nonstatistical Evaluation – Price Adjustments
For each lot of HMA mix produced under Nonstatistical Evaluation when the calculated CPF is less than 1.00, a Nonconforming Mix Factor (NCMF) will be determined. The NCMF equals the algebraic difference of CPF minus 1.00 multiplied by 60 percent. The total job mix compliance price adjustment will be calculated as the product of the NCMF, the quantity of HMA in the lot in tons, and the unit Contract price per ton of mix.

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)C7 Mixture Nonstatistical Evaluation - Retests
The Contractor may request a sublot be retested. To request a retest, the Contractor shall submit a written request within 7 calendar days after the specific test results have been received. A split of the original acceptance sample will be retested. The split of the sample will not be tested with the same tester that ran the original acceptance test. The sample will be tested for a complete gradation analysis, asphalt binder content, and, at the option of the agency, $V_a$. The results of the retest will be used for the acceptance of the HMA in place of the original 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 $500 per sample.

5-04.3(9)D Mixture Acceptance – Commercial Evaluation
If sampled and tested, HMA produced under Commercial Evaluation and having all constituents falling within the tolerance limits of the job mix formula shall be accepted at the unit Contract price with no further evaluation. When one or more constituents fall outside the commercial tolerance limits in the Job Mix Formula shown in 5-04.3(9), the lot shall be evaluated in accordance with Section 1-06.2 to determine the appropriate CPF. The commercial tolerance limits will be used in the calculation of the CPF and the maximum CPF shall be 1.00. When less than three sublots exist, backup samples of the existing sublots or samples from the street shall be tested to provide a minimum of three sets of results for evaluation.

For each lot of HMA mix produced and tested under Commercial Evaluation when the calculated CPF is less than 1.00, a Nonconforming Mix Factor (NCMF) will be determined. The NCMF equals the algebraic difference of CPF minus 1.00 multiplied by 60 percent. The Job Mix Compliance Price Adjustment will be calculated as the product of the NCMF, the quantity of HMA in the lot in tons, and the unit Contract price per ton of mix.

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(10) HMA Compaction Acceptance
HMA mixture accepted by nonstatistical evaluation that is used in traffic lanes, including lanes for intersections, ramps, truck climbing, weaving, and speed change, and having a specified compacted course thickness greater than 0.10-foot, shall be compacted to a specified level of relative density. The specified level of relative density shall be a Composite Pay Factor (CPF) of not less than 0.75 when evaluated in accordance with Section 1-06.2, using a LSL of 92.0 (minimum of 92 percent of the maximum density). The maximum density shall be determined
by WSDOT FOP for AASHTO T 729. The specified level of density attained will be determined by the evaluation of the density of the pavement. The density of the pavement shall be determined in accordance with WSDOT FOP for WAQTC TM 8, except that gauge correlation will be at the discretion of the Engineer, when using the nuclear density gauge and WSDOT SOP 736 when using cores to determine density.

Tests for the determination of the pavement density will be taken in accordance with the required procedures for measurement by a nuclear density gauge or roadway cores after completion of the finish rolling.

If the Contracting Agency uses a nuclear density gauge to determine density the test procedures FOP for WAQTC TM 8 and WSDOT SOP T 729 will be used on the day the mix is placed and prior to opening to traffic.

Roadway cores for density may be obtained by either the Contracting Agency or the Contractor in accordance with WSDOT SOP 734. The core diameter shall be 4-inches minimum, unless otherwise approved by the Engineer. Roadway cores will be tested by the Contracting Agency in accordance with WSDOT FOP for AASHTO T 166.

If the Contract includes the Bid item “Roadway Core” the cores shall be obtained by the Contractor in the presence of the Engineer on the same day the mix is placed and at locations designated by the Engineer. If the Contract does not include the Bid item “Roadway Core” the Contracting Agency will obtain the cores.

For a lot in progress with a CPF less than 0.75, a new lot will begin at the Contractor’s request after the Engineer is satisfied that material conforming to the Specifications can be produced.

HMA mixture accepted by commercial evaluation and HMA constructed under conditions other than those listed above shall be compacted on the basis of a test point evaluation of the compaction train. The test point evaluation shall be performed 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.

HMA for preleveling shall be thoroughly compacted. HMA that is used for preleveling wheel rutting shall be compacted with a pneumatic tire roller unless otherwise approved by the Engineer.

**Test Results**

For a sublot that has been tested with a nuclear density gauge that did not meet the minimum of 92 percent of the reference 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 be used for determination of the relative density of the sublot. The relative density of the core will replace the relative density determined by the nuclear density gauge for the 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 sublot have been provided or made available to the Contractor. Core locations shall be outside of wheel paths and as determined by the Engineer. 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 cores. When the CPF for the lot based on the results of the HMA
cores is less than 1.00, the cost for the coring will be deducted 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)A HMA Compaction – General Compaction Requirements
Compaction shall take place when the mixture is in the proper condition so that no undue displacement, cracking, or shoving occurs. Areas inaccessible to large compaction equipment shall be compacted by other mechanical means. Any HMA that becomes loose, broken, contaminated, shows an excess or deficiency of asphalt, or is in any way defective, shall be removed and replaced with new hot mix that shall be immediately compacted 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. Unless the Engineer has approved otherwise, rollers shall only be operated in the static mode when the internal temperature of the mix is less than 175°F. Regardless of mix temperature, a roller shall not be operated in a mode that results in checking or cracking of the mat. Rollers shall only be operated in static mode on bridge decks.

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 Vacant

5-04.3(10)D HMA Nonstatistical Compaction

5-04.3(10)D1 HMA Nonstatistical Compaction – Lots and Sublots
HMA compaction which is accepted by nonstatistical evaluation will be based on acceptance testing performed by the Contracting Agency dividing the project into compaction lots.

A lot is represented by randomly selected samples of the same mix design that will be tested for acceptance. A lot is defined as the total quantity of material or work produced for each Job Mix Formula placed. Only one lot per JMF is expected. A sublot shall be equal to one day’s production or 400 tons, whichever is less except that the final sublot will be a minimum of 200 tons and may be increased to 800 tons. Testing for compaction will be at the rate of 5 tests per sublot per WSDOT T 738.

The sublot locations within each density lot will be determined by the Engineer. For a lot in progress with a CPF less than 0.75, a new lot will begin at the Contractor’s request after the Engineer is satisfied that material conforming to the Specifications can be produced.

HMA mixture accepted by commercial evaluation and HMA constructed under conditions other than those listed above shall be compacted on the basis of a test point evaluation of the compaction train. The test point evaluation shall be performed 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.

HMA for preleveling shall be thoroughly compacted. HMA that is used to prelevel wheel ruts
shall be compacted with a pneumatic tire roller unless otherwise approved by the Engineer.

5-04.3(10)D2 HMA Compaction Nonstatistical Evaluation – Acceptance Testing
The location of the HMA compaction acceptance tests will be randomly selected by the
Engineer from within each sublot, with one test per sublot.

5-04.3(10)D3 HMA Nonstatistical Compaction – Price Adjustments
For each compaction lot with one or two sublots, having all sublots attain a relative density that
is 92 percent of the reference maximum density the HMA shall be accepted at the unit Contract
price with no further evaluation. When a sublot does not attain a relative density that is 92
percent of the reference maximum density, the lot shall be evaluated in accordance with
Section 1-06.2 to determine the appropriate CPF. The maximum CPF shall be 1.00, however,
lots with a calculated CPF in excess of 1.00 will be used to offset lots with CPF values below
1.00 but greater than 0.90. Lots with CPF lower than 0.90 will be evaluated for compliance per
5-04.3(11). Additional testing by either a nuclear moisture-density gauge or cores will be
completed as required to provide a minimum of three tests for evaluation.

For compaction below the required 92% a Non-Conforming Compaction Factor (NCCF) will be
determined. The NCCF equals the algebraic difference of CPF minus 1.00 multiplied by 40
percent. The Compaction Price Adjustment will be calculated as the product of CPF, the
quantity of HMA in the compaction control lot in tons, and the unit Contract price per ton of mix.

5-04.3(11) Reject Work

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. HMA that has been rejected is subject to the requirements in Section 1-06.2(2)
and this specification, and the Contractor shall submit a corrective action proposal to the
Engineer for approval.

5-04.3(11)B Rejection by Contractor
The Contractor may, prior to sampling, 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. Any rejected section of Roadway shall be removed.

No payment will be made for the rejected materials or the removal of the materials unless the
Contractor requests that the rejected material be tested. If the Contractor elects to have the
rejected material tested, a minimum of three representative samples will be obtained and tested. Acceptance of rejected material will be based on conformance with the nonstatistical acceptance Specification. 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
In addition to the random acceptance sampling and testing, the Engineer may also isolate from a normal 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. A minimum of three random samples of the suspect material will be obtained and tested. 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
An entire sublot that is suspected of being defective may be rejected. When a sublot is rejected a minimum of two additional random samples from this sublot will be obtained. These 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
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:

1. When the Composite Pay Factor (CPF) of a lot in progress drops below 1.00 and the Contractor is taking no corrective action, or
2. When the Pay Factor (PF) for any constituent of a lot in progress drops below 0.95 and the Contractor is taking no corrective action, or
3. When either the PFi for any constituent or the CPF of a 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
The Contractor shall conduct operations such that the placing of the top or wearing course is a continuous operation or as close to continuous as possible. Unscheduled transverse joints will be allowed and the roller may pass over the unprotected end of the freshly laid mixture only when the placement of the course must be discontinued for such a length of time that the
mixture will cool below compaction temperature. When the Work is resumed, the previously compacted mixture shall be cut back to produce a slightly beveled edge for the full thickness of the course.

A temporary wedge of HMA constructed on a 20H:1V shall be constructed where a transverse joint as a result of paving or planing is open to traffic. The HMA in the temporary wedge shall be separated from the permanent HMA by strips of heavy wrapping paper or other methods approved by the Engineer. The wrapping paper shall be removed and the joint trimmed to a slightly beveled edge for the full thickness of the course prior to resumption of paving.

The material that is cut away shall be wasted and new mix shall be laid against the cut. Rollers or tamping irons shall be used to seal the joint.

5-04.3(12)A2 Longitudinal Joints
The longitudinal joint in any one course shall be offset from the course immediately below by not more than 6 inches nor less than 2 inches. All longitudinal joints constructed in the wearing course shall be located at a lane line or an edge line of the Traveled Way. A notched wedge joint shall be constructed 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 or more than ½ of the compacted lift thickness and then taper down on a slope not steeper than 4H:1V. The sloped portion of the HMA notched wedge joint shall be uniformly compacted.

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 seals 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 a manner that they remain functional for use in aligning the sawcut after placing the overlay.

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

Construct the bridge paving joint seal as specified on the Plans and in accordance with the detail shown in the Standard Plans. Construct the sawcut in accordance with the detail shown in the Standard Plan. Construct the sawcut 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 straighedge 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, the pavement surface shall be corrected by one of the following methods:

1. Removal of material from high places by grinding with an approved grinding machine, or
2. Removal and replacement of the wearing course of HMA, or
3. By other method approved by the Engineer.

Correction of defects shall be carried out 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 utility appurtenances such as manhole covers and valve boxes are located in the traveled way, the utility appurtenances shall be adjusted to the finished grade prior to paving. This requirement may be waived when requested by the Contractor, at the discretion of the Engineer or when the adjustment details provided in the project plan or specifications call for utility appurtenance adjustments after the completion of paving.

Utility appurtenance adjustment discussions will be included in the Pre-Paving planning (5-04.3(14)B3). Submit a written request to waive this requirement to the Engineer prior to the start of paving.

5-04.3(14) Planing (Milling) Bituminous Pavement
The planing plan must be approved by the Engineer and a pre planing meeting must be held prior to the start of any planing. See Section 5-04.3(14)B2 for information on planning submittals.

Locations of existing surfacing to be planed are as shown in the Plans.

Where planing an existing pavement is specified in the Contract, the Contractor must remove existing surfacing material and to reshape the surface to remove irregularities. The finished product must be a prepared surface acceptable for receiving an HMA overlay.

Use the cold milling method for planing unless otherwise specified in the Contract. Do not use the planer on the final wearing course of new HMA.

Conduct planing operations in a manner that does not tear, break, burn, or otherwise damage the surface which is to remain. The finished planed surface must be slightly grooved or roughened and must be free from gouges, deep grooves, ridges, or other imperfections. The Contractor must repair any damage to the surface by the Contractor’s planing equipment, using an Engineer approved method.
Repair or replace any metal castings and other surface improvements damaged by planing, as determined by the Engineer.

A tapered wedge cut must be planed longitudinally along curb lines sufficient to provide a minimum of 4 inches of curb reveal after placement and compaction of the final wearing course. The dimensions of the wedge must be as shown in the Plans or as specified by the Engineer.

A tapered wedge cut must also be made at transitions to adjoining pavement surfaces (meet lines) where butt joints are shown in the Plans. Cut butt joints in a straight line with vertical faces 2 inches or more in height, producing a smooth transition to the existing adjoining pavement.

After planing is complete, planed surfaces must be swept, cleaned, and if required by the Contract, patched and preleveled.

The Engineer may direct additional depth planing. Before performing this additional depth planing, the Contractor must conduct a hidden metal in pavement detection survey as specified in Section 5-04.3(14)A.

5-04.3(14)A Pre-Planing Metal Detection Check
Before starting planing of pavements, and before any additional depth planing required by the Engineer, the Contractor must conduct a physical survey of existing pavement to be planed with equipment that can identify hidden metal objects.

Should such metal be identified, promptly notify the Engineer.

See Section 1-07.16(1) regarding the protection of survey monumentation that may be hidden in pavement.

The Contractor is solely responsible for any damage to equipment resulting from the Contractor’s failure to conduct a pre-planing metal detection survey, or from the Contractor’s failure to notify the Engineer of any hidden metal that is detected.

5-04.3(14)B Paving and Planing Under Traffic

5-04.3(14)B1 General
In addition the requirements of Section 1-07.23 and the traffic controls required in Section 1-10, and unless the Contract specifies otherwise or the Engineer approves, the Contractor must comply with the following:

1. Intersections:
   a. Keep intersections open to traffic at all times, except when paving or planing operations through an intersection requires closure. Such closure must be kept to the minimum time required to place and compact the HMA mixture, or plane as appropriate. For paving, schedule such closure to individual lanes or portions thereof that allows the traffic volumes and schedule of traffic volumes required in the approved traffic control plan. Schedule work so that adjacent intersections are not impacted at the same time and comply with the traffic control restrictions required by the Traffic Engineer. Each individual intersection closure or partial closure, must be addressed in the traffic control plan, which must be submitted to and accepted by the
Engineer, see Section 1-10.2(2).

b. When planing or paving and related construction must occur in an intersection, consider scheduling and sequencing such work into quarters of the intersection, or half or more of an intersection with side street detours. Be prepared to sequence the work to individual lanes or portions thereof.

c. Should closure of the intersection in its entirety be necessary, and no trolley service is impacted, keep such closure to the minimum time required to place and compact the HMA mixture, plane, remove asphalt, tack coat, and as needed.

d. Any work in an intersection requires advance warning in both signage and a number of Working Days advance notice as determined by the Engineer, to alert traffic and emergency services of the intersection closure or partial closure.

e. Allow new compacted HMA asphalt to cool to ambient temperature before any traffic is allowed on it. Traffic is not allowed on newly placed asphalt until approval has been obtained from the Engineer.

2. Temporary centerline marking, post-paving temporary marking, temporary stop bars, and maintaining temporary pavement marking must comply with Section 8-23.

3. Permanent pavement marking must comply with Section 8-22.

5-04.3(14)B2 Submittals – Planing Plan and HMA Paving Plan

The Contractor must submit a separate planing plan and a separate paving plan to the Engineer at least 5 Working Days in advance of each operation’s activity start date. These plans must show how the moving operation and traffic control are coordinated, as they will be discussed at the pre-planing briefing and pre-paving briefing. When requested by the Engineer, the Contractor must provide each operation’s traffic control plan on 24 x 36 inch or larger size Shop Drawings with a scale showing both the area of operation and sufficient detail of traffic beyond the area of operation where detour traffic may be required. The scale on the Shop Drawings is 1 inch = 20 feet, which may be changed if the Engineer agrees sufficient detail is shown.

The planing operation and the paving operation include, but are not limited to, metal detection, removal of asphalt and temporary asphalt of any kind, tack coat and drying, staging of supply trucks, paving trains, rolling, scheduling, and as may be discussed at the briefing.

When intersections will be partially or totally blocked, provide adequately sized and noticeable signage alerting traffic of closures to come, a minimum 2 Working Days in advance. The traffic control plan must show where police officers will be stationed when signalization is or may be, countermanded, and show areas where flaggers are proposed.

At a minimum, the planing and the paving plan must include:

1. A copy of the accepted traffic control plan, see Section 1-10.2(2), detailing each day’s traffic control as it relates to the specific requirements of that day’s planing and paving. Briefly describe the sequencing of traffic control consistent with the proposed planing and paving sequence, and scheduling of placement of temporary pavement markings and channelizing devices after each day’s planing, and paving.

2. A copy of each intersection’s traffic control plan.

3. Haul routes from Supplier facilities, and locations of temporary parking and staging areas, including return routes. Describe the complete round trip as it relates to the sequencing of paving operations.

4. Names and locations of HMA Supplier facilities to be used.

5. List of all equipment to be used for paving.
6. List of personnel and associated job classification assigned to each piece of paving equipment.
7. Description (geometric or narrative) of the scheduled sequence of planing and of paving, and intended area of planing and of paving for each day’s work, must include the directions of proposed planing and of proposed paving, sequence of adjacent lane paving, sequence of skipped lane paving, intersection planing and paving scheduling and sequencing, and proposed notifications and coordinations to be timely made. The plan must show HMA joints relative to the final pavement marking lane lines.
8. Names, job titles, and contact information for field, office, and plant supervisory personnel.
9. A copy of the approved Mix Designs.
10. Tonnage of HMA to be placed each day.
11. Approximate times and days for starting and ending daily operations.

5-04.3(14)B3 Pre-Paving and Pre-Planing Briefing
At least 2 Working Days before the first paving operation and the first planing operation, or as scheduled by the Engineer for future paving and planing operations to ensure the Contractor has adequately prepared for notifying and coordinating as required in the Contract, the Contractor must be prepared to discuss that day’s operations as they relate to other entities and to public safety and convenience, including driveway and business access, garbage truck operations, Metro transit operations and working around energized overhead wires, school and nursing home and hospital and other accesses, other contractors who may be operating in the area, pedestrian and bicycle traffic, and emergency services. The Contractor, and Subcontractors that may be part of that day’s operations, must meet with the Engineer and discuss the proposed operation as it relates to the submitted planing plan and paving plan, approved traffic control plan, and public convenience and safety. Such discussion includes, but is not limited to:

1. General for both Paving Plan and for Planing Plan:
   a. The actual times of starting and ending daily operations.
   b. In intersections, how to break up the intersection, and address traffic control and signalization for that operation, including use of peace officers.
   c. The sequencing and scheduling of paving operations and of planing operations, as applicable, as it relates to traffic control, to public convenience and safety, and to other con-tractors who may operate in the Project Site.
   d. Notifications required of Contractor activities, and coordinating with other entities and the public as necessary.
   e. Description of the sequencing of installation and types of temporary pavement markings as it relates to planning and to paving.
   f. Description of the sequencing of installation of, and the removal of, temporary pavement patch material around exposed castings and as may be needed.
   g. Description of procedures and equipment to identify hidden metal in the pavement, such as survey monumentation, monitoring wells, street car rail, and castings, before planning, see Section 5-04.3(14)B2.
   h. Description of how flaggers will be coordinated with the planing, paving, and related operations.
   i. Description of sequencing of traffic controls for the process of rigid pavement base repairs.
   j. Other items the Engineer deems necessary to address.
2. Paving – additional topics:
   a. When to start applying tack and coordinating with paving.
b. Types of equipment and numbers of each type equipment to be used. If more pieces of equipment than personnel are proposed, describe the sequencing of the personnel operating the types of equipment. Discuss the continuance of operator personnel for each type equipment as it relates to meeting Specification requirements.

c. Number of JMFs to be placed, and if more than one JMF how the Contractor will ensure different JMFs are distinguished, how pavers and MTVs are distinguished if more than one JMF is being placed at the time, and how pavers and MTVs are cleaned so that one JMF does not adversely influence the other JMF.

d. Description of contingency plans for that day’s operations such as equipment breakdown, rain out, and Supplier shutdown of operations.

e. Number of sublots to be placed, sequencing of density testing, and other sampling and testing.

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
HMA approaches shall be constructed at the locations shown in the Plans or where staked by the Engineer. The Work shall be performed 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 mixture. If the Contractor elects to remove and replace mix 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.

Preparation of untreated roadway will be measured by the mile once along the centerline of the main line Roadway. No additional measurement will be made for ramps, Auxiliary Lanes, service roads, Frontage Roads, or Shoulders. Measurement will be to the nearest 0.01 mile.

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 prime coat will be measured by the ton in accordance with Section 1-09.2.

Prime coat aggregate will be measured by the cubic yard, truck measure, or by the ton, whichever is designated in the Proposal.

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.
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.

“Preparation of Untreated Roadway”, per mile.

The unit Contract price per mile for “Preparation of Untreated Roadway” shall be full pay for all Work described under 5-04.3(4), with the exception, however, that all costs involved in patching the Roadway prior to placement of HMA shall be included in the unit Contract price per ton for “HMA Cl. ___ PG ___” which was used for patching. If the Proposal does not include a Bid item for “Preparation of Untreated Roadway”, the Roadway shall be prepared as specified, but the Work shall be included in the Contract prices of the other items of Work.

“Preparation of Existing Paved Surfaces”, per mile.

The unit Contract Price for “Preparation of Existing Paved Surfaces” shall be full pay for all Work described under Section 5-04.3(4) with the exception, however, that all costs involved in patching the Roadway prior to placement of HMA shall be included in the unit Contract price per ton for “HMA Cl. ___ PG ___” which was used for patching. If the Proposal does not include a Bid item for “Preparation of Untreated Roadway”, the Roadway shall be prepared as specified, but the Work shall be included in the Contract prices of the other items of Work.

“Crack Sealing”, by force account.

“Crack Sealing” 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.
“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) 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 Prime Coat”, per ton.

The unit Contract price per ton for “Asphalt for Prime Coat” shall be full payment for all costs incurred to obtain, provide and install the material in accordance with Section 5-04.3(4).

“Prime Coat Agg.”, per cubic yard, or per ton.

The unit Contract price per cubic yard or per ton for “Prime Coat Agg.” shall be full pay for furnishing, loading, and hauling aggregate to the place of deposit and spreading the aggregate in the quantities required by the Engineer.

“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 perform the Work described in Section 5-04.3(12).

“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)C6.

“Compaction Price Adjustment”, by calculation.

“Compaction Price Adjustment” will be calculated and paid for as described in Section 5-04.3(10)D3.

“Roadway Core”, per each.
The Contractor’s costs for all other Work associated with the coring (e.g., traffic control) shall be incidental and included within the unit Bid price per each and no additional payments will be made.

“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.

5-04.5(1)B Price Adjustments for Quality of HMA Compaction
Delete this section and replace it with the following:

(January 16, 2014 APWA GSP)
The maximum CPF of a compaction lot is 1.00.

For each compaction lot of HMA when the CPF is less than 1.00, a Nonconforming Compaction Factor (NCCF) will be determined. THE NCCF equals the algebraic difference of CPF minus 1.00 multiplied by 40 percent. The Compaction Price Adjustment will be calculated as the product of the NCCF, the quantity of HMA in the lot in tons and the unit contract price per ton of the mix.

The following is added as Section 5-06
5-06 Porous Hot Mix Asphalt

5-06.1 Description
Supplement this section with the following:

(March 9, 2016 APWA GSP)
This Work shall also consist of providing and placing one or more layers of plant-mixed porous hot mix asphalt (PHMA) on a prepared foundation or base in accordance with these Specifications and the lines, grades, thicknesses, and typical cross-sections for Porous Asphalt Trail as shown in the Plans or established by the Engineer. The manufacture of PHMA may include porous warm mix asphalt (PWMA) processes in accordance with these Specifications. PWMA processes include organic additives, chemical additives, and foaming.

5-06.2 Materials
Supplement this section with the following:

(March 9, 2016 APWA GSP)
Aggregates for Porous Hot Mix Asphalt/Porous Warm Mix Asphalt (PHMA/PWMA)
General Requirements
Aggregates for Porous Hot Mix Asphalt (PHMA) or Porous Warm Mix Asphalt (PWMA) shall be manufactured from ledge rock, talus, or gravel, in accordance with the provisions of Section 3-01 that meet the following test requirements:

Los Angeles Wear, 500 Rev. 30% max.
Degradation Factor 15 min.

Grading
Aggregates for PHMA/PWMA shall meet the following requirements for grading:
<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>Percent Passing</th>
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<tbody>
<tr>
<td>¾&quot; square</td>
<td>100</td>
</tr>
<tr>
<td>½&quot; square</td>
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<tr>
<td>¾₅&quot; square</td>
<td>55 - 90</td>
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<td>0 - 13</td>
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<tr>
<td>U.S. No. 200</td>
<td>0 - 5</td>
</tr>
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</table>

* All percentages are by weight.

The aggregate for PHMA/PWMA shall consist of crushed stone with a percent fracture greater than 90% on two faces on the No. 4 sieve and above, and shall be tested in accordance with the field operating procedures for AASHTO T 335.

5-06.3 Construction Requirements
Supplement this section with the following:

(March 9, 2016 APWA GSP)

Porous Asphalt (PHMA/PWMA) Acceptance Infiltration Test
Contractor shall conduct infiltration tests on the finished PHMA/PWMA per ASTM C1701 at locations chosen by the Engineer. Newly placed PHMA/PHWA shall have a minimum infiltration rate of 100 inches/hour. Infiltration tests shall be completed every 150 linear feet of trail or sidewalk and conducted in accordance with ASTM C1701.

If the measured infiltration rate is less than 100 inches/hour, the Contractor shall conduct an additional four infiltration tests in line with the paver direction of travel. Two tests upstream and two tests downstream of the initial test locations shall be taken at distances of 20 feet and 40 feet. Results of the additional tests will be averaged. The Contractor shall conduct additional testing upstream and downstream to identify area to be removed. If the average infiltration rate is less than required remove and replace the failing section at the direction of the Engineer and at no cost to the Contracting Agency.

(******)
Install porous asphalt check dams in accordance with the details in the Plans.

5-06.3(1) Hot Asphalt Mixing Plant
Supplement this section with the following:

(March 9, 2016 APWA GSP)
Plants used for preparation of PHMA shall conform to the following requirements:

Fiber Supply System
When fiber stabilizing additives are determined necessary to achieve drain down criteria per APWA GSP 5-06.3(7)A of these Specifications, a separate feed system that meets the following shall be required:

1. Accurately proportions by weight the required quantity into the mixture in such a manner
that uniform distribution will be obtained.

2. The fibers shall be uniformly distributed prior to the injection of the asphalt binder into the mixture. When a continuous or drier-drum type plant is used, the fiber shall be added to the aggregate and uniformly dispersed prior to the injection of asphalt binder.

**Surge and Storage Systems**

The storage time for PHMA/PWMA mixtures shall be no more than four (4) hours for non-insulated silos or eight (8) hours for insulated silos. Placement temperature specifications shall be met regardless of silo storage time.

5-06.3(7)A Mix Design

Supplement this section with the following:

**(March 9, 2016 APWA GSP)**

Mix Designs for PHMA shall be submitted to the Engineer on Washington State DOT Form 350-042 with the additional PHMA test data required by this specification provided as a one page supplemental attachment. The supplemental test data form is available at http://www.wsdot.wa.gov/partners/apwa/PorousAsphaltPavement.pdf.

The asphalt binder for PHMA/PWMA shall be PG 70-22ER polymer modified or higher grade. Binder content shall be between 6.0% and 7.0% by total weight of the mix, and will be the highest percentage that passes both the drain down and void requirements tests at $N_{design} = 75$ gyrations. The binder content tolerance shall be ±0.3% during production/placement of the PHMA/PWMA. The Contractor shall adjust the aggregate to meet the maximum drain down test requirements within the ranges provided below.

1. Drain down shall be 0.3 %, maximum, according to ASTM D6390
2. Void ratio shall be 16% to 25% per ASTM D3203 at $N_{design} = 75$ gyrations.

The Contractor shall include with the submittal temperature-viscosity curves from the polymer-modified asphalt binder supplier showing the recommended mixing and compaction temperatures developed for dense graded HMA applications.

The Contractor shall determine anti-strip requirements for PHMA/PWMA and provide data for anti-stripping. The asphaltic mix shall be tested for its resistance to stripping by water in accordance with ASTM D-3625. If the estimated coating area is not above 95 percent, anti-stripping agents shall be added to the asphalt. Contractor shall be responsible for conducting the anti-stripping evaluation and providing a report to the Engineer.

Alternately, anti-stripping evaluation of an existing dense graded hot mix asphalt of the same maximum nominal aggregate class and from the same aggregate materials source may be used to set the anti-stripping requirements for PHMA/PWMA. The anti-strip requirement for the PHMA/PWMA shall be equivalent to the anti-stripping requirement for the HMA.

5-06.3(8)A1 General

Supplement this section with the following:

**(March 9, 2016 APWA GSP)**

Commercial evaluation will be the basis for acceptance of PHMA/ PWMA.

5-06.3(8)A6 Test Methods
Supplement this section with the following:

(March 9, 2016 APWA GSP)
The temperature of the mix at the time of discharge from the haul vehicle shall be within the temperature range identified in the approved PHMA submittal.

5-06.3(9) Spreading and Finishing
Supplement this section with the following:

(March 9, 2016 APWA GSP)
Placement temperature of the mixture shall be within the temperature range identified in the approved PHMA/PWMA submittal.

5-06.3(10)A General
Supplement this section with the following:

(March 9, 2016 APWA GSP)
Pneumatic tire rollers shall not be used for compaction of PHMA/PWMA.

The Contractor shall develop a roller pattern that will initially consolidate the pavement structure as well as target 15% to 18% final air voids (82% to 85% of maximum theoretical (Rice) density). The Contractor shall monitor compaction during placement of PHMA/PWMA with a pavement density gauge.

5-06.4 Measurement
Supplement this section with the following:

(March 9, 2016 APWA GSP)
PHMA/PWMA will be measured by the ton in accordance with Section 1-09.2, with no deduction being made for the weight of asphalt binder, blending sand, mineral filler, or any other component of the HMA. If the Contractor elects to remove and replace mix as allowed in Section 5-06.3(11), the material removed will not be measured.

(******)
No separate measurement will be made for porous asphalt check dams.

Associated land survey for final grades and subbase preparation shall be included in this pay item.

5-06.5 Payment
Supplement this section with the following:

(March 9, 2016 APWA GSP)
“PHMA CL. 1/2 In. PG 70-22ER”, per ton.
The unit Contract price per ton for “PHMA CL. 1/2 In. PG 70-22ER” shall be full compensation for all costs, including anti-stripping additive and tack coat, incurred to carry out requirements of Section 5-04 except for those costs included in other items which are included in this Subsection.
Division 6 Structures

6-02 Concrete Structures
6-02.2 Materials
Section 6-02.2 is supplemented with the following:

(******)
Precast Concrete Stay-In-Place Panels
Concrete shall have a 28 day minimum compressive strength, as specified in the Plans.

Weldable rebar shall be used for connecting to the sole plates. The sole plate with attached bent rebar shall be hot dip galvanized.

 Panels shall be placed on a layer of Evazote EV30 or approved equivalent material as specified in the Plans.

Soil Tie-Back Grid at Abutment 1
Soil tie back grid shall be as specified in the Plans. Embedded MSE hooks shall be submitted to Engineer for approval.

6-02.3 Construction Requirements
Section 6-02.3 is supplemented with the following:

6-02.3(2)A1 Contractor Mix Design for Concrete Class 4000D
The first line item of Section 6-02.3(2)A1 is revised with the following:

(******)
1. Aggregate shall use combined gradation in accordance with Section 9-03.1(5) with a nominal maximum aggregate size of 3/4 inches.

6-02.3(12) Construction Joints
Section 6-02.3(12) is supplemented with the following:

(******)
6-02.3(12)C Control Joints

Control Joint Preparation and Installation Procedure
Control joints are shallow saw cuts made transversely across the bridge deck over each floor-beam and end-beam centerline as described in the Plans. The control joints shall be filled with sealant as described in the Plans. The Contractor shall submit a Type 1 Working Drawing consisting of the sealant manufacturer's recommended deck control joint preparation and installation procedure.

Placing Deck Control Joint Sealant
The Contractor shall have the services of a qualified sealant manufacturer's technical representative physically present at the job site to train the Contractor's personnel installing the joint sealant, assist in assuring the proper installation of the rapid cure sealant, provide technical assistance for the use of the joint sealant, and to observe and inspect the installation of at least 10% of the completed control joints.
Contractor shall use Sika Sikaflex Concrete Fix one-component polyurethane sealant or approved equivalent.

6-02.3(14)  Finishing Concrete Surfaces
6-02.3(14)D  Concrete Surface Finishes Produced by Form Liners

Section 6-02.3(14)D is supplemented with the following:

(******)

6-02.3(14)C  Pigmented Sealer for Concrete Surfaces
Section 6-02.3(14)C is supplemented with the following:

(******)
(April 6, 2009)
The color of the pigmented sealer shall be Mt. St. Helens Gray.

Unless noted otherwise, all exposed concrete faces, except the top of deck, shall receive pigmented sealer as shown in the Plans.

6-02.3(19)  Bridge Bearings

6-02.3(19)B  Bridge Bearing Assemblies
This section is supplemented with the following:

(******)
Disc Bearing Types
The disc bearings shall be one of the following types, with bridge specific modifications, if any, as shown in the Plans:

- Fixed Disc Bearings
- Guided Disc Bearings
- Multi-Directional Bearings

Each guided and multi-directional disc bearing shall consist of an upper and a lower unit. The lower unit consists of a masonry bearing plate and an upper bearing plate, with a polyether urethane disc between the plates. A polytetrafluoroethylene (PTFE) sheet is bonded to the upper bearing plate.

The upper unit consists of a sole plate with a stainless steel sheet welded to the bottom side. Guide bars shall be attached to the sole plate.

The interspace between the guide bars of the upper unit and the upper bearing plate of the lower unit shall be provided with stainless steel sheet against PTFE. The stainless steel sheet shall be welded to the guide bars and the PTFE sheet shall be mechanically fastened to the upper bearing plate of the lower unit.
Design Requirements
The Contractor shall design the bearing assemblies based on the current AASHTO LRFD Bridge Design Specifications and AASHTO Guide Specifications for LRFD Seismic Bridge Design, including latest interims, and also based on the following:

1. The bearing assembly design requirements for loads, movements, and rotations shall be as shown in the Plans.
2. The bearing assembly shall be removable and replaceable by raising the bridge superstructure 1/4 inch maximum.
3. The minimum coefficient of friction on PTFE surfaces used for design of the bearings shall be those corresponding to 0°F in Table 14.7.2.5-1 of the AASHTO LRFD Bridge Design Specifications. The PTFE surface shall be dimpled and lubricated.
4. The anchorage of the sole plates and masonry plates to the supporting structural element shall be designed for the maximum horizontal design force per bearing shown in the Plans, the friction force, or 10 percent of the maximum unfactored vertical design force per bearing, whichever is greater.
5. The sole and masonry plates shall have leveling capabilities.
6. The guide bars shall maintain all guided components within the guides at all points of translation and rotation of the bearing.

Submittals

Design Calculations
The Contractor shall submit design calculations for all the bearing components, including the polyether urethane disc, shear pin, bearing plates, sole plates, masonry plates, guide bars, welded attachment to end beams, and anchor rod attachment to substructure to the Engineer for approval. The design calculations shall accompany the shop plans and shall be signed/sealed by a licensed SE in the State of Washington.

The calculations shall provide, but not be limited to the following information:

1. Bending stresses in the plates due to bearing pressure at maximum design load and eccentricity.
2. Concrete bearing pressure under the plates at maximum bearing pressure and eccentricity.
3. Bearing clearances at maximum load and rotation, including allowance for uncertainties per Section 14.4.2.2.2 of the AASHTO LRFD Bridge Design Specifications. The calculated clearances shall include the effects of anticipated initial set and modified center of rotation.
4. Shear stress in the shear pin at maximum horizontal load.
5. Design of all connections and mating surfaces, including friction forces.
6. Compressive stress on all sliding surfaces at maximum and minimum design loads, including rotation.

The Contractor shall not begin bearing fabrication until receiving the Engineer's written approval of the calculations.

Bearing Manufacturer Requirements
The disc bearing manufacturer shall have a minimum of three years' experience in fabrication of disc bearings, and shall meet additional testing requirements as specified in this Special Provision.
The Contractor shall submit the name of the disc bearing manufacturer with a certification of disc bearing manufacturing experience to the Engineer for approval. The certification of experience shall include a list of at least three disc bearing installations performed by the bearing manufacturer on previous projects. The list shall include the following information for each installation:

1. Project Name and Location (Bridge name and highway number).
2. Date of installation.
4. Name, address, and phone number of the Governmental Agency's/Owner's representative.
5. Type and size of bearing.

The Contractor shall not begin preparation of the design calculations and shop plans until receiving the Engineer's written approval of the bearing manufacturer's certification of experience.

Shop Drawings
The Contractor shall submit shop drawings to the Engineer for approval in accordance with Section 6-03.3(7). These drawings shall include but not be limited to the following information:

1. Bearing schedule identifying location and bearing type as described in subsection Bearing Types of this Special Provision.
2. Minimum and maximum horizontal and vertical service loads.
3. Magnitude and direction of movements at all bearing support points.
4. Minimum and maximum rotation capacity.
5. Construction rotation requirements, per the Contractor's approved construction sequence.
6. Plan and elevation of the assembled bearing and each of the components showing dimensions and tolerances, including the required plinth sizes.
7. Complete details of all components and sections showing all materials incorporated into the bearing.
8. All AASHTO, ASTM, and other material designations.
9. All surface finishes, including the corrosion protection method.
10. Bearing manufacturer's recommendations and procedures for bearing assembly shipment, storage, and installation. This shall include the initial setting and adjustments for setting guided and multi-directional bearings at various temperatures.
11. Bearing manufacturer shall provide a maintenance inspection schedule and procedure.

The Contractor shall not begin fabricating the disc bearings until receiving the Engineer's approval of the shop drawings.

Shop Inspection
The manufacturer shall provide for inspection, as specified in the Bearing Inspection and Acceptance subsection of this Special Provision. Inspection during the fabrication process shall ensure that the materials and workmanship meet the requirements of the contract.

Quality Assurance Inspection and Final Shop Inspection shall be performed by an independent inspection entity approved by the Engineer. The Contractor shall submit the name, address, phone number and contact person of the inspection entity performing the required certified
shop inspection of the bearings to the Engineer for approval. The Contractor shall not begin bearing fabrication until receiving the Engineer’s written approval of the inspection entity for certified shop inspection.

**Bearing Testing Procedure**
The Contractor shall submit the name, address, phone number, and contact person of the testing entity performing the required bearing testing specified in Bearing Testing subsection of this Special Provision to the Engineer for approval.

The testing entity shall be one of the following:

1. An independent testing agency.
2. The disc bearing manufacturer, with independent verification by the inspection entity performing the certified shop inspection of the bearings.

The Contractor shall not begin bearing fabrication until receiving the Engineer’s written approval of the testing entity.

**Bearing Assembly Inspection Reports and Certificates**
The Contractor shall submit the daily inspection reports of the independent inspection entity performing the required certified shop inspection to the Engineer for approval. The daily inspection reports shall report on the shop fabrication and testing activities relating to the bearing assemblies, and their conformance to the specification requirements.

The Contractor shall submit written documentation from the bearing manufacturer certifying that the bearing assemblies have been manufactured in full compliance with the specification requirements.

The Contractor shall not ship the bearing assemblies from the fabricator’s facility until receiving the Engineer’s approval of the certified shop inspection daily inspection reports and the bearing manufacturer’s certificate of compliance.

**Flatness and Manufacturing Tolerances**
Flatness of bearing surfaces shall be determined by the following method:

1. A precision straightedge, longer than the nominal dimension to be measured shall be placed in contact with the surface to be measured as parallel to it as possible.
2. A feeler gauge having an accuracy of ± 0.001 inches equal to the tolerance allowed shall be selected and inserted under the straightedge.
3. If the feeler gauge does not pass under the straightedge, the surfaces shall be acceptable for flatness.
4. In determining the flatness, the straightedge may be located in any position on the surface being measured.

Flatness tolerances shall be defined as follows:

1. Class A tolerance = 0.001 x nominal dimension
2. Class B tolerance = 0.002 x nominal dimension
3. Class C tolerance = 0.005 x nominal dimension

(Nominal dimension shall be taken as the actual dimension of the plate or sheet under the
straightedge, in inches.)

Manufacturing tolerances for the bearings are as follows:

Polyether Urethane Disc
Diameter: ± 1/8 inch
Thickness: -0, + 1/16 inch
Flatness: Class B tolerance
Discs shall be manufactured from a single piece.

Sole, Bearing, Masonry, and Sliding Plate
Plan dimensions
Greater than 30 inches: -0.00, +3/16 inch
30 inches or less: -0.00, +1/8 inch
Thickness: -1/32, +1/8 inch
Flatness: Class A tolerance, side in contact with steel, polyether urethane disc, or PTFE
Class C tolerance, side in contact with grout or concrete

Guide Bar
Length: ± 1/8 inch
Section dimensions: ± 1/16 inch
Flatness: Class A tolerance, side in contact with steel
Bar to bar tolerance: ± 1/32 inch
Bars shall be not more than 1/32" out of parallel over 1 foot

PTFE Sheet
Plan dimensions: Total nominal design area –0, +5 percent
Thickness: -0.00, +1/64 inch
Flatness: Class A tolerance
PTFE Recess: Length and width –0.00, +0.04 inch

Stainless Steel Sheet
Flatness: Class A tolerance

Overall Height
Total thickness: -1/16, +3/16 inch

The edges of all components shall be broken by grinding so that there are no sharp edges.

Special Fabrication Requirements
When the following components are shown in the Plans as part of the disc bearing assembly, the following special fabrication requirements shall apply:

Sole Plate and Masonry Plate
The sole plate and masonry plate shall be 3/4 inches minimum thickness, unless otherwise shown in the Plans.

PTFE Sheet
The thickness of solid PTFE sheet shall be a minimum of 1/8 inch and a maximum of 3/16 inch.
Solid PTFE sheet shall be recessed for a depth equal to one-half of its thickness into the material it is bonded to.

The thickness of woven PTFE fabric, if used, shall be a minimum of 1/16 inch and a maximum of 1/8 inch.

Dimpled PTFE, if shown in the Plans, shall be unfilled and shall have a maximum thickness of 3/16 inch. Dimples shall be placed on a 1/2 inch grid and have a depth of 1/16 inch.

The PTFE sheet shall be recessed and chemically bonded to the supporting steel plate or bar. The woven PTFE sheet shall be mechanically bonded to the supporting steel plate or bar by using an interlocking grid. Bonding shall be performed under controlled conditions and in accordance with the written instructions of the PTFE manufacturer.

Following the bonding operation, the PTFE surface shall be smooth and free from bubbles. Filled PTFE shall be polished after the bonding operation is complete, in accordance with AASHTO LRFD Bridge Construction Specification Section 18.8.3.2.2, current edition and latest interims.

**Stainless Steel Sheet**
The stainless steel sliding surface shall completely cover the PTFE surface in all operating positions plus one additional inch in all directions.

The stainless steel shall be 14 gauge thick for the main sliding surfaces and 10 gauge thick for the guide bars.

The stainless steel sheet shall be seal welded all around to the supporting steel plate or bar by the gas tungsten arc welding (GTAW) process in accordance with current AWS specifications. The stainless steel sheet shall be clamped down to have full contact with the supporting steel plate or bar during welding. The welds shall not protrude beyond the sliding surface of the stainless steel sheet.

**Guide Bar**
Each guide bar shall be fabricated from a single steel plate. The guide bars shall be connected to the disc bearing assembly by recessing and bolting. The stainless steel sheet shall be welded to the guide bar before attaching the guide bar to the disc bearing assembly. The space between the guide bar and the guided component shall be 3/16 inch ± 1/16 inch.

**Corrosion Protection**
Steel surfaces, except as otherwise specified below, shall be painted in accordance with Section 6-07.3(9), and Section 6-03.3(30) as supplemented in these Special Provisions. The weld surfaces fastening stainless steel to structural steel shall be painted as specified for structural steel. Stainless steel shall not be painted. Galvanized fastening hardware (anchor bolts, bolts, nuts and washers) shall be painted in accordance with Section 6-07.3(11)A.

All coats of paint as specified in Section 6-07.3(9)A for steel surfaces shall be applied in the shop. After the disc bearing assembly has been erected in its final position with the anchor bolt nuts installed, all surfaces with damaged paint shall be repaired in accordance with Section 6-07.3(9)I.

All coats of paint as specified in Section 6-07.3(11)A for galvanized fastening hardware shall
be applied after the disc bearing assembly has been erected in its final position with the anchor bolt nuts installed. The Contractor shall prepare the galvanized surfaces for painting in accordance with Section 6-07.3(11)A except only hand or power tool cleaning methods shall be used.

**Bearing Testing**

The Contractor shall provide for testing of the bearings. The testing shall be performed by the testing entity submitted by the Contractor and approved by the Engineer as specified in the *Bearing Testing Procedure* subsection of this Special Provision.

All testing specified by this Special Provision performed by the bearing manufacturer shall be witnessed by the inspection entity performing the certified shop inspection of the bearings.

When fabrication of the bearings is complete, a Proof Load test shall be performed either on bearing assemblies randomly selected from the production bearings, or on an equal number of prototype bearing(s) with a design capacity equal to the largest production bearing(s). One bearing per lot shall be tested where one lot is defined as the smaller of the following:

1. 25 disc bearing assemblies.
2. The total quantity of disc bearing assemblies specified in the contract.

The Proof Load test shall be performed on the selected test bearing assemblies as follows:

1. A proof load of 150 percent of the design service load capacity of the bearing shall be applied at the maximum design bearing rotation for a duration of six hours.
2. A bevel plate with a taper equal to the maximum design bearing rotation shall be used to simulate the specified bearing rotation.
3. After completing the specified load duration, the bearing shall be disassembled and inspected for wear and damage.
4. The test bearing shall show no signs of defects and failure while under load, and after disassembly and inspection.
5. The recovery of the disc shall be checked for permanent set after releasing the load.

Failure of the test bearing will result in rejection of all bearings in that particular lot.

The testing requirements specified above may be waived for bearing manufacturers with at least three years of disc bearing fabrication experience provided:

1. The bearing manufacturer, through the Contractor, shall submit certified test results from a previous installation of disc bearings of similar design and load capacity to the Engineer for approval. This submittal shall accompany the design calculation and shop plan submittal.
2. The tests performed on the previously installed bearings satisfy the requirements specified above.

The test bearing may be used as a production bearing provided:

1. The test results meet with the approval of the Engineer.
2. The test bearing was selected from the production bearings.
3. All PTFE in the test bearing assembly shall be replaced with new PTFE.
Bearing Inspection and Acceptance
Three levels of inspection shall be satisfied before the bearings are accepted. These are: Quality Control Inspection, Quality Assurance Inspection, and Final Shop Inspection. The manufacturer shall provide for both Quality Control and Quality Assurance Inspection. The manufacturer shall provide access for the Final Shop Inspection. The three levels of inspection are described below:

1. Quality Control Inspection

   During the fabrication process of all major components, the manufacturer shall provide full time Quality Control Inspection to ensure that the materials and workmanship meet or exceed the minimum requirements of the contract. Quality Control Inspection shall be the responsibility of the manufacturer's quality control group that shall be independent of the fabrication group.

2. Quality Assurance Inspection

   Quality Assurance Inspection shall be performed by the independent inspection entity performing the certified shop inspection, as submitted by the Contractor and approved by the Engineer. The independent inspection entity, the proposed Quality Assurance Inspection Program, and the forms to be used for the Quality Assurance Program shall be submitted to the Engineer for approval prior to the start of fabrication. Quality Assurance Inspection is not required to be full time inspection, but shall be done at all phases of the manufacturing process. The frequency of inspection shall be included in the Quality Assurance Inspection Program.

3. Final Shop Inspection

   Prior to shipping the bearings to the job site, a representative number of bearings shall be inspected by the independent inspection entity at the manufacturer's facility. The manufacturer shall provide a clean, dry, and enclosed area for the bearing inspection. The manufacturer shall disassemble and reassemble the bearings for inspection by the Independent Inspection Agency. The independent inspection entity shall certify that the bearings have been inspected, and that the bearings have been manufactured in full compliance with the contract requirements.

The bearings shall satisfy each of the three levels of inspection described above before they will be accepted. Bearings that fail any one of the three levels of inspection shall be replaced or repaired as approved by the Engineer at no additional expense to the Contracting Agency. All proposed corrective procedures shall be submitted by the Contractor to the Engineer for approval before beginning corrective work.

Bearing Component Assembly, Shipping, and Storage
Each bearing shall be fully assembled at the manufacturing plant and delivered to the construction site as a complete unit, ready for installation. The units shall be held together with removable restraints so that the sliding surfaces are not damaged. Softeners shall be placed under the restraints to protect all painted surfaces. The Contractor shall not damage the painted surfaces while shipping, storing and installing the bearing assemblies.

All bearing assemblies shall be marked with the following information prior to shipping:
1. Location of the bearing, including the pier and the specific location along the pier.
2. Direction arrow pointing in the ahead on station direction.

The above information shall be marked on the top plate of the upper unit of the bearing assembly. The marks shall be permanent and shall be visible after bearing installation.

The bearing assemblies shall have centerlines marked on both upper and lower units for checking alignment in the field.

The bearing assemblies shall be shipped in light-proof, moisture-proof and dust-proof containers.

**Bearing Assembly Field Inspection**

Field inspection of a representative number of bearings assemblies will be performed by the Engineer. The Contractor shall provide a clean, dry and enclosed area at the site, spacious enough for the field inspection activities. The Contractor shall disassemble and reassemble the bearings for inspection as requested by the Engineer. The disassembly and reassembly of the bearings shall be in accordance with the bearing manufacturer’s written procedure and in the presence of the Engineer.

Bearings that fail the inspection shall be replaced or repaired by the Contractor, as approved by the Engineer, at no additional expense to the Contracting Agency. All proposed corrective procedures shall be submitted by the Contractor to the Engineer for approval before beginning corrective work.

**Bearing Assembly Installation**

The Contractor shall install the disc bearing assembly in accordance with the installation procedure included with the shop drawing submittal as approved by the Engineer.

PTFE sheet shall not be greased, except as otherwise noted. A thin uniform film of silicone grease shall be applied to the entire dimpled PTFE sheet before installation (all dimples shall be filled with grease).

For disc bearing assemblies with PTFE and stainless steel components, the Contractor shall take special care at all times to ensure protection of the PTFE and stainless steel surfaces from coming in contact with concrete and any other foreign matter.

When bearing assemblies are supporting steel superstructure, the interface between the sole plate and the steel girder flange (or the upper and lower sole plates when separate) shall be set with epoxy gel just before setting the superstructure in place. The (lower) sole plate surface in contact with the epoxy gel shall receive a thin uniform film of silicone grease, to prevent bonding to the epoxy gel. The threads of the sole plate clamping bolts shall be greased to prevent bonding and allow future removal. The Contractor shall apply the epoxy gel by troweling it onto the bottom surface of the steel girder flange or the upper sole plate welded to the steel girder flange and shall immediately bolt the (lower) sole plate in place to obtain a level surface.

Before the epoxy gel has cured, the superstructure shall be set in place, squeezing out the excess epoxy gel while filling the interface between the steel surfaces. Excess epoxy and grease shall be removed immediately. After the epoxy gel has cured, the sole plate clamping bolts shall be tightened to snug tight.
6-02.3(20)  Grout for Anchor Bolts and Bridge Bearings
Section 6-02.3(20) is supplemented with the following:

Grout placed at the following locations shall conform to the requirements of this section.

A1, P2, P3, P4, P5, P6 bearing pads and anchor bolt sleeves.
P7, P8, P9, P10, P11 pier base plate grout pads.
A12 tie-chord base plates grout pads.

6-02.3(24)  Reinforcement
Section 6-02.3(24) is supplemented with the following:

Prior to fabricating any reinforcing steel, the Contractor shall submit Type 2 Working Drawings (placing drawings and bending lists) for review by the Engineer. Working Drawings shall be prepared in accordance with the CRSI Manual of Standard Practice and the ACI Detailing Manual. Placing drawings shall show the location of all concrete construction joints and rebar lap splices.

6-02.3(26)  Cast-In-Place Prestressed Concrete
Section 6-02.3(26) is supplemented with the following:

At Piers 2-6, high strength post-tensioning bars and associated hardware and installation shall be as determined from information provided in the Plans. Pipe strut and base plate are included in “Structural Low Alloy Steel – Substr.”

6-02.3(28)  Precast Concrete Panels

6-02.3(28)A  Shop Drawings
The list included in the third paragraph of Section 6-02.3(28)A is supplemented with the following:

(******)
Construction sequence and method of forming the precast concrete stay-in-place panels, duration in forms, strength at form release, lifting details, and storage details.
Details of additional reinforcement, if any, provided at lifting and support locations.
Method, blocking material, and equipment used to support the panels during storage, transporting, and erection.
Erection sequence, including the method of lifting the panels, placing and adjusting the panels to proper alignment and grade.

6-02.3(28)B  Casting
Section 6-02.3(28)B is supplemented with the following:

(******)
The Contractor shall replace any panels damaged during handling, storage and erection at Contractor’s cost.

6-02.3(28)E  Finishing
Section 6-02.3(28)E is supplemented with the following:
The Contractor shall furnish a Class 2 surface finish, as specified in Section 6-02.3(14)B, on all surfaces of the precast concrete stay-in-place panels, except as otherwise noted. The top surface of all panels shall be roughened to a full amplitude of ¼” using a green cut surface to expose aggregate or using a tined surface in the transverse direction.

Pigmented sealer in accordance with section 6-02.3(14)C of the Special Provisions shall be applied to the side and bottom surfaces of the panels, and may be applied prior to erecting the panels.

6-02.3(28)F Tolerances
Section 6-02.3(28)F is supplemented with the following:

The precast concrete stay-in-place panels shall not exceed the following scalar tolerances:

Length and Width: ± 1/8 inch
Thickness: + 1/8, -0 inch
Camber (either upward or downward) ± 1/4 inch in ten feet

Precast concrete stay-in-place panels with tolerances exceeding those specified above, or with hairline cracks visibly apparent radiating from the strand at the end of the panel and extending more than three inches along the panel will be subject to evaluation by the Engineer for possible rejection.

6-02.3(28)G Handling and Storage
Section 6-02.3(28)G is supplemented with the following:

Precast concrete stay-in-place panels shall be maintained in a flat and level position, without any twisting, at all times. After reaching 28 day strength, panels shall be supported at approximately 1’-6” from the panel ends and at the midpoint during storage. Supports shall be placed parallel to the long side and shall extend the full width of the panel.

Unloading and reloading at a site other than the bridge site will be permitted only under the direct supervision of the Engineer. The panels may be stacked, after reaching 28 day strength, to a height of 5 panels. The panel supports shall be in the same vertical plane and shall be of sufficient height to prevent damage to the lifting bar loops. The Contractor shall have received the Engineer’s verification that the bottom panel of the stack is flat and level, without any twisting, prior to stacking additional panels. The panels shall not be in contact with the ground at any time. Any discoloration due to transport and storage shall be cleaned at Contractor’s expense to the Engineer’s satisfaction.

6-02.3(28)I Erection
Section 6-02.3(28)I is supplemented with the following:

The precast concrete stay-in-place panels shall be at least 60 days old at the time of placing bridge deck concrete. The Contractor shall place the panels atop the floor beams as shown in
the Plans.

Prior to placing the bridge deck concrete, the surface of the panels shall be cleaned of all foreign materials and fully saturated with water.

(*****)

6-02.3(29)  Soil Tie-Back Grid

Soil tie back grid shall be coordinated with MSE wall soil reinforcement as specified in the Plans. Placement of fill shall follow the same requirements as the MSE wall as specified in Section 6-14.

6-02.4  Measurement

Section 6-02.4 is supplemented with the following:

(June 26, 2000)

“Disc Bearing - Superstr.” will be measured per each for each bearing assembly furnished and installed.

“Bridge Deck (Totem Lake Connector)” contains the following approximate quantities of materials and work, but does not represent all work included in this item:

<table>
<thead>
<tr>
<th>Material</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precast Concrete Stay-in-Place Forms (Class 4000D)</td>
<td>135 CY</td>
</tr>
<tr>
<td>CIP Concrete Overlay (Class 4000D)</td>
<td>182 CY</td>
</tr>
<tr>
<td>Steel Reinforcing Bar Gr. 60</td>
<td>74,130 LB</td>
</tr>
<tr>
<td>Metal Bar Grating</td>
<td>690 SF</td>
</tr>
<tr>
<td>Pultruded Grating</td>
<td>110 SF</td>
</tr>
<tr>
<td>Expansion Joints</td>
<td>33 LF</td>
</tr>
<tr>
<td>Deck Drains</td>
<td>24 Each</td>
</tr>
<tr>
<td>Pigmented Sealer</td>
<td>1,830 SY</td>
</tr>
</tbody>
</table>

The quantities are listed only for the convenience of the Contractor to assist in determining the volume of work involved and are not guaranteed to be accurate. The prospective bidders must verify these quantities before submitting a bid. No adjustments other than for approved changes will be made in the lump sum contract price for “Bridge Deck (Totem Lake Connector)” even though the actual quantities required may deviate from those listed.

“Bridge Approach Slab” contains the following approximate quantities of materials and work, but does not represent all work included in this item:

<table>
<thead>
<tr>
<th>Material</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIP Concrete (Class 4000A)</td>
<td>9 CY</td>
</tr>
<tr>
<td>Steel Reinforcing Bar Gr. 60</td>
<td>1,020 LB</td>
</tr>
<tr>
<td>Pigmented Sealer</td>
<td>5 SY</td>
</tr>
</tbody>
</table>

The quantities are listed only for the convenience of the Contractor to assist in determining the volume of work involved and are not guaranteed to be accurate. The prospective bidders must verify these quantities before submitting a bid. No adjustments other than for approved changes will be made in the lump sum contract price for “Bridge Approach Slab” even though the actual quantities required may deviate from those listed.
"Prestressing Bar – Substr." will be measured per each for each PT bar assembly furnished and installed.

“Soil Tie-Back Grid at Abutment 1” shall include all work associated with constructing the tie-back grid as shown in the Plans.

6-02.5 Payment
Section 6-02.5 is supplemented with the following:

(June 26, 2000)
“Disc Bearing - Superstr.”, per each.

“Bridge Deck (Totem Lake Connector)”, lump sum.
The lump sum contract price for “Bridge Deck (Totem Lake Connector)” shall be full pay for constructing the reinforced concrete portions of the steel bridge superstructure, including miscellaneous items as described in 6-02.4.
For the purpose of payment, such bridge and structures items as metal bar grating and accessories, pultruded grating and accessories, etc, for which there is no pay item included in the proposal, are considered as bridge and structures minor items. All costs in connection with furnishing and installing these bridge and structures minor items as shown and noted in the Plans and as outlined in these specifications and in the Standard Specifications shall be included in “Bridge Deck (Totem Lake Connector)”.

“Prestressing Bar – Substr.”, per each.

“Soil Tie-Back Grid at Abutment 1”, Lump Sum.
6-03 Steel Structures
6-03.3 Construction Requirements

6-03.3(7) Shop Plans
Section 6-03.3(7) is supplemented with the following:

(******)
The Contractor shall submit drawings and documents that identify interface items and maps out the fabrication process.

6-03.3(28) Shop Assembly

6-03.3(28)A Method of Shop Assembly
Section 6-03.3(28)A is supplemented with the following:

(******)
Progressive Arch (Truss) assembly – The superstructure shall be assembled span by span and shall include all elements above the bearings (End Beams, Floor Beams, Arches, Tie-Chords, Hangers, etc.). Each next span of the shop assembly shall be assembled to one of the previous assemblies, repositioned if necessary, and pinned to ensure accurate alignment.

Contractor shall confirm that the pipe ovality of two adjoining members are not in opposite directions at all CJP field welded splice locations.

Anchor bolt templates shall be fabricated in the same shop in which the arch truss is assembled, and then shipped to site with anchor bolts attached to template plate.

6-03.3(28)B Check of Shop Assembly
Section 6-03.3(28)B is supplemented with the following:

(August 3, 2015)
If an assembly or stage of assembly is not accepted by the Engineer, deficiencies shall be corrected and the assembly or stage of assembly shall be resubmitted to the Engineer for acceptance.

6-03.3(30) Painting
Section 6-03.3(30) is supplemented with the following:

(******)
Paint for the new steel, excluding "strut" pipe at Piers 2-6, maintenance walkway in spans 2 and 4, and bridge railing shall be applied in accordance with Section 6-07.3(9). The color of the top coat, when dry, shall match Federal Standard 595 Paint Specification Color: "Medium Blue" FS 35177 (RGB Hex Code:436F94).

A color swatch shall be submitted for approval prior to ordering the paint top coat.

A mockup shall be submitted for approval, consisting of a painted 36" long section of the 20" diameter pipe section.

(******)
6-03.3(44) Slack Restrainer

Slack restrainers at Pier 4 shall be as specified in the Plans. The PT bars shall conform to ASTM A722, with associated nuts and washers per the manufacturer.

6-03.4 Measurement
Section 6-03.4 is supplemented with the following:

(******)
“Structural Low Alloy Steel – Substr.” contains the following approximate quantities of materials and work as shown in the Plans for Piers 2-6 and Piers 7-11, but does not represent all work included in this item:

- Rectangular HSS 11,720 LBS
- Steel Plate 9,310 LBS
- Round HSS 1,770 LBS
- Anchor Rods 20 Each

“Structural Low Alloy Steel – Superstr.” contains the following approximate quantities of materials and work as shown in the Plans for the superstructure, but does not represent all work included in this item:

- Pipe 324,050 LBS
- Steel Plate 75,500 LBS
- Rolled W Sections 74,100 LBS
- Round HSS 7,930 LBS
- Rectangular HSS 340 LBS
- Rolled L Sections 3,950 LBS
- Rolled WT Sections 210 LBS
- Shear Studs 2,606 Each
- Bolts 696 Each
- Threaded Rods 326 Each
- Anchor Rods 52 Each
- PT Bars 2 Each

The quantities are listed only for the convenience of the Contractor to assist in determining the volume of work involved and are not guaranteed to be accurate. The prospective bidders must verify these quantities before submitting a bid. No adjustments other than for approved changes will be made in the lump sum contract price for “Structural Low Alloy Steel – Substr.” And “Structural Low Alloy Steel – Superstr.” even though the actual quantities required may deviate from those listed.

6-03.5 Payment
Section 6-03.5 is supplemented with the following:

“Structural Low Alloy Steel – Substr.”, lump sum.

“Structural Low Alloy Steel – Superstr.”, lump sum.
6-06 Bridge Railings

6-06.1 Description

This Work consists of constructing railings along the Mechanically Stabilized Earth walls at the north and south approaches and along the full length of the bridge superstructure, as shown in the Plans. This Work includes top and bottom stainless steel pipes, steel stem pipes, saddles, base plates, anchor rods, stainless steel mesh infill and related accessories, stainless steel base and cap for glass panels, and aluminum brackets and channels for the Linear LED Rail Lighting (see Section 8-30).

6-06.2 Materials

Section 6-06.2 is supplemented with the following:

(******)
Pedestrian railing material shall be as specified below and in the Plans. Provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.

Tamper resistant bolts shall be Type 316 stainless-steel fasteners for exterior use.

Stem pipes shall be in accordance with ASTM A53/A53M-12.

Pipe saddles shall be in accordance with ASTM A36 or ASTM A709.

Stainless-Steel Pipe:
1.25” schedule 40 (1.66” O.D) stainless steel pipe as indicated in the Plans shall be Type 316 stainless steel conforming to ASTM 268. Finish must be a No. 4 finish.

Stainless-Steel Mesh: Carl Stahl X-TEND® Stainless Steel Flexible Mesh Handrail Infill, or approved equivalent.

Cable Diameter x Mesh Aperture Dimensions:

b. 1.5mm or 2.0mm x 60mm

Perimeter Finishes: Closed loops with loose ferrules for ‘sewn-on’ installation method

Direction (Grain) of mesh: horizontal mesh direction for rectangular frame shapes

Ferrule Style: seamless ASTM A492 316L stainless steel ferrule

Attachment cable material: ASTM A492 Type 316 stainless steel 7x7 (or 7x19) wire rope joined with Type 316 stainless steel ferrules.

Accessories: Provide tensioning turnbuckles, grommet, bushings, washers, swaging ferrules, studs, receivers, fittings and other components as required for system installation, all in Type
316 stainless steel.

Aluminum U-Channel housing for LED lighting:
Type 6061-T6 structural aluminum U-channel in accordance with ASTM B221-14 and ASTM B308

Roll-form in shop in 25 foot lengths to radius of curvature shown in the Plans

Aluminum Bracket:
Type 6061-T6 aluminum plate in accordance with ASTM B209

6-06.3 Construction Requirements

6-06.3(2) Metal Railings
Section 6-06.3(2) is supplemented with the following:

Railing post orientation shall be as shown in the Plans. Pipe geometry shall be smoothly curved between posts as represented in the Plans.

The Contractor shall shop fabricate and paint the guardrail stanchions and associated components and wrap the stanchions with protective material prior to delivery to the site to prevent damage to the finish during delivery, storage and construction. Prior to delivery of railing materials, the Contractor shall review and be thoroughly knowledgeable with the fabricator’s care and handling recommendations.

Store on site in a location and manner to avoid damage. Stacking shall be done in a manner that will prevent bending. Store material in a clean, dry location away from uncured concrete or masonry. The Contractor shall protect the steel and stainless-steel surfaces from organic solvents such as acetone, benzene, and paint thinner; petroleum-based solvents such as gasoline and diesel fuel; and open flames. Any protection on the railings during transportation shall remain until railing is installed.

Keep handling on site to a minimum. Exercise caution to avoid damage to railing finish. Components with damage shall be replaced or repaired to satisfaction of the Engineer.

Railings shall be painted as required in the Special Provisions Section 6-07.2

Working Drawings shall provide setting diagrams and templates for anchorages to be installed by others. Include mesh aperture and rope dimensions, cable and mesh attachment hardware, tensioning devices, and mounting technology for the stainless steel mesh infill.

6-06.3(3) Sampling and Testing

Verification Samples: Two samples representing actual products and finishes as follows:

Typical stanchions complete with all attachments.
SS wire mesh with fittings
Size: Minimum of one 10 ft long module consisting of two guardrails, vertical tension cable at Overlook ends (wire rope), and stainless steel wire mesh infill. Do not proceed with remaining...
work until workmanship is approved by Engineer.

Rework mock-up as required to produce acceptable work.

Retain mock-up during construction as quality standard.

Mock-up may be incorporated into final construction with approval of Engineer.

6-06.3(4) Quality Assurance

Manufacturer Qualifications: Company specializing in fabrication of stainless steel mesh infill with five years minimum successful experience.

Installer Qualifications: Experienced in performing work of this section that is similar to that required for this project.

Pre-Installation Meeting: After acceptance of mock-up, conduct meeting with Contractor, Engineer, Owner, Installer and Supplier whose work involves railing system to verify project requirements, framing and support conditions, mounting surfaces, manufacturer’s installation instructions, and warranty requirements.

Manufacturer’s Warranty: Submit, for Owner’s acceptance, manufacturer’s standard warranty document executed by authorized company official. Include manufacturer’s standard maintenance instructions.

6-06.3(5) Fabrication and Installation

General: Comply with manufacturer’s product data, including product technical bulletins, product catalog installation instructions and product carton instructions for installation.

Infill Mesh Fabrication: Infill mesh sections shall be dimensioned and manufactured to specified size in accordance with the Plans and these Special Provisions and labeled according to installer’s specifications.

Examination: Site Verification of Conditions: Verify condition of rail posts as installed, to ensure it is acceptable for product installation in accordance with manufacturer’s instructions. Do not begin installation until mounting surfaces are in satisfactory condition.

Preparation: Take field measurements after permanent end terminations are in place and prior to finalizing shop drawings and fabrication, to ensure fitting of work.

Installation: Install mesh infill system in accordance with manufacturer’s instructions and the approved shop drawings. Mesh panel infill system shall be square to grade and railing and taut. Terminate and tension mesh panels in accordance with manufacturer’s instructions. Ensure mesh is clean, and without waves, kinks, or sags.

Anchor railing system to mounting surfaces as indicated in the Plans. Use manufacturers supplied mounting hardware. Separate dissimilar materials with bushings, grommets or
washers to prevent electrolytic corrosion.

Cleaning: Clean installed products in accordance with manufacturer's instructions before owner's acceptance. Do not use chlorine-based or abrasive cleaners.

6-06.3(6)  Post Foundations

Bridge Railing Post Foundations off the bridge are specified in the Plans. Post foundation system through MSE wall geogrid shall be constructed using Sleeve-It system by Strata, sonotubes connected together via a tie-bar, or an approved equivalent. Post Foundations shall not impart lateral loading on the wall facing.

The suggested construction sequence is to place the Post Foundations in accordance with the manufacturer's specifications, then after wall, fill, and pavement are complete, fill post foundation form with concrete shy of the top and press post anchorage into concrete. Ensure post is in proper orientation and dispose of any concrete displaced during installation. Exposed surfaces of rail post base plate and post foundation form shall be protected to ensure that excess concrete can be removed fully to give a clean appearance.

6-06.4  Measurement

(*****)
No separate measurement and payment shall be allowed for the work specified in this section. All work shall be incidental to the work to which it applies.

“Bridge Railing – MSE Walls” includes all railing off the bridge (beyond the deck joint at A1 and beyond CL A12).

“Bridge Railing – Superstr.” Includes all railing on the bridge (between the deck joint at A1 and CL A12).

“Post Foundations” includes all work for constructing post foundations, including post foundation system concrete infill and associated work.

6-06.5  Payment

(*****)
“Bridge Railing – MSE Walls” and “Bridge Railing – Superstr.”, per linear foot

“Post Foundations”, each
6-07 Painting

6-07.2 Materials

Section 6-07.2 is supplemented with the following:

(******)

Paint for the railing, excluding the stainless steel pipes, cable mesh infill, and the aluminum U-channels and brackets for LED lighting shall be applied in accordance with Section 6-07.3(9). The color of the top coat, when dry, shall match Federal Standard 595 Paint Specification Color: "Light Gray" FS 36495 (RGB Hex Code: C6C5CA).

A color swatch shall be submitted for approval prior to ordering the paint top coat. A mockup shall be submitted for approval, consisting of a painted 12" section of the HSS post section.

Paint for Seating shall be applied in accordance with Section 6-07.3(9). The color of the top coat, when dry, shall match AMS standard 595 color 17925 -White.

Paint finish for the aluminum U-channel and bracket shall be shop-applied spray-coated PVDF (70% fluoropolymer) coating per the American Architectural Manufacturing Association -AAMA 2605-13 coating specification. The color of the top coat, when dry, shall match Federal Standard 595 Paint Specification Color: "Light Gray" FS 36495 (RGB Hex Code: C6C5CA).
6-14 Geosynthetic Retaining Walls

Description

Section 6-14.1 is replaced with the following:

This Work consists of constructing Mechanically Stabilized Earth (MSE) retaining walls having vegetated facing along the north and south bridge approaches, as specified herein and as shown in the Plans. The work includes excavating, furnishing all materials, constructing the wall and backfilling. The Contractor shall furnish all labor, materials and equipment for completing the work.

The terms “Vegetated Faced MSE Wall”, “Mechanically Stabilized Earth Wall”, “MSE Wall”, and “Structural Earth Wall” are synonymous with “Geosynthetic Retaining Wall” in this section. The use of any of these terms in the Plans and Special Provisions is to be taken to mean “Geosynthetic Retaining Wall”.

The Contractor is responsible for the construction means and methods and control of the process of the work. This includes the construction sequence, the safety of the workers, temporary hand rails, excavation access, barriers, lifting of materials and construction equipment into and out of the excavation, temporary bracing of formwork, the stability of all temporary cut slopes and other methods, techniques, sequences or procedures required to perform the work.

Reference Document:


Existing Site Conditions and Utilities

The design of the MSE walls for this project shall be based on soil conditions as described in the October 10, 2018 Geotechnical Report titled, “Phase 2 Geotechnical Engineering Services, Totem Lake Connector, NE 124th Street/124th Avenue NE, Kirkland, Washington” and prepared by GeoEngineers, Inc. for this project. If site conditions or design parameters are different than what has been specified, GeoEngineers shall be contacted immediately to assess the need for any design revisions.

Wall layout and reinforcement geometry shall be based on topographic and other project information presented in the project plans and specifications. The Contractor shall verify all dimensions, conditions and elevations before proceeding with final design and construction of the MSE wall. Any discrepancies shall be brought to the attention of the Engineer.

The Contractor shall verify the location of any and all existing and proposed utilities. Any conflicts between utility locations and the MSE walls will be resolved as directed by the Engineer. The Contractor shall seek approval of the Engineer to modify the soil reinforcement location or wall alignments to avoid conflicts. The Contractor shall be responsible for any repair/replacement to damaged utilities during construction.

The Contractor is responsible for any removal of abandoned utilities or other underground
obstructions that interfere with the MSE walls or that underlie the MSE wall footprints, including
the area under the geogrid reinforced zone, and within 5 feet of the face of the MSE walls.

Materials

Section 6-14.2 is supplemented with the following:

(******)
The following products are approved for use of the Vegetated-Faced Mechanically Stabilized
Earth Wall:
Flex MSE
Envirogird Geocell
Filtrex
Sierra Slope

Topsoil, planting, fence, curb, railing foundation, utility installation, and trail surfacing shall be
as specified in other sections of the project plans and specifications.

Geogrid reinforcement, plantable facing reinforcing, and wall facing wrap shall conform to
manufacturers recommendations and shall have a 75 year design life. If soil reinforcing steel is
to be used, it shall be cold drawn wire, as per section 9-07.9. A positive shear connection shall
be provided between the wall facing and internal reinforcement.

Geosynthetic facing elements left permanently exposed to sunlight shall be stabilized to be
resistant to ultraviolet radiation. Product specific test data shall be provided which can be
extrapolated to the intended design life and which demonstrates that the product can perform
as intended in an exposed environment.

Drainage zone shall be placed beneath and adjacent to the wall to promote active drainage
from the irrigated wall facing and reinforcement zone. Backfill material for the first layer placed
within and under the structural reinforcement zone shall be 18 inches thick and shall consist of
Permeable Ballast per Section 4-04.2. A perforated wall drain should also be included in
design. The drainage zone shall be designed to provide global stability, prevent erosion of the
West Swale and to provide positive drainage away from the walls and supporting
embankments. The wall drain shall be located above the infiltration layer as noted in the Plans.
The remainder of the fill material within and under the structural geogrid zone shall be Gravel
Borrow for Structural Earth Wall conforming to WSDOT Standard Specification 9-03.14(4) with
the added restriction it contain less than 5 percent passing the U.S. No. 200 sieve.

A nonwoven drainage geotextile should be placed to separate native soils from the permeable
ballast and also native soils from the reinforced backfill. The drainage fabric shall meet the
requirements of Table 1 in Section 9-33.2(1) of the standard specifications for moderate
survivability, and Class A of Table 2.

Topsoil and vegetation shall be approved by the Landscape Architect.

6-14.3(1) Quality Assurance

Section 6-14.3(1) is supplemented with the following:

(******)
The Contracting Agency will appoint a geotechnical engineering firm to perform inspection and
testing which will include:
- Evaluation of foundation subgrades for fill placement and wall construction. This will include approval of all subgrade areas prior to fill placement or wall construction. Unsuitable soils, if present, will be identified by the geotechnical engineer for removal and replacement.
- Placement and compaction of backfill.
- Installation of wall facing, geosynthetic, and geogrid reinforcement.
- Material testing for content conformity.
- Wall drainage installation.
- Vegetation and topsoil installation.

The above field inspection and testing will not relieve the Contractor of the Contractor’s responsibility to meet the requirements of the Plans, manufacturer’s requirements and the project specifications.

6-14.3(2) Submittals
Section 6-14.3(2) is supplemented with the following:

(******)
The Contractor responsible for constructing the MSE retaining wall shall demonstrate at least 50,000 square feet of MSE retaining wall experience, at least 3 years with such systems, and at least 5 living or green walls.

The vegetated-faced MSE wall product shall be constructed by a Contractor who is a certified installer of that product. The Contractor shall submit a letter from the product manufacturer indicating that they are a certified installer of the vegetated-faced MSE wall product.

The Contractor shall have a product manufacturer’s representative on site at the Preconstruction Meeting for the vegetated-face MSE wall and shall have such representative on site periodically to monitor at least 24 hours of MSE wall construction, including the first two days of MSE wall construction, and at intermediate completion. The product manufacturer representative cost shall be included in the Contractor’s bid. The Contractor shall schedule the Preconstruction Meeting with the Engineer prior to starting wall construction.

The Contractor shall be responsible for preparing and submitting a final design of the vegetated face MSE wall in accordance with the manufacturer’s requirements and the design criteria listed below. The plans and calculations shall be stamped by a registered Professional Engineer in the State of Washington. The Contractor shall submit the design for review and approval by the Engineer at least 2 weeks prior to starting wall construction.

Design of the MSE walls is to be based on the following soil parameters:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Reinforced Backfill</th>
<th>Retained Backfill</th>
<th>Foundation Soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit Weight (pcf)</td>
<td>130</td>
<td>125</td>
<td>120</td>
</tr>
<tr>
<td>Friction Angle (deg)</td>
<td>34</td>
<td>32</td>
<td>34</td>
</tr>
<tr>
<td>Cohesion (psf)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

MSE wall seismic design is to be based on a peak ground acceleration of 0.38g and a coefficient of horizontal acceleration equal to 0.5 times the peak ground acceleration. Connections between the geogrid reinforcing layers and the wall facing units shall be sufficient.
to withstand seismic loading conditions.

Groundwater shall be assumed to be below the base of the MSE wall.
Wall shall be designed for 250 psf live load surcharge.
MSE wall design for this project shall be in accordance with NCMA methodologies and the product manufacturer’s methodologies.

The following factors of safety shall be used in design:

<table>
<thead>
<tr>
<th>Factor</th>
<th>Static</th>
<th>Seismic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geogrid Strength</td>
<td>1.5</td>
<td>1.1</td>
</tr>
<tr>
<td>Geogrid Pullout</td>
<td>1.5</td>
<td>1.1</td>
</tr>
<tr>
<td>Sliding</td>
<td>1.5</td>
<td>1.1</td>
</tr>
<tr>
<td>Overturning</td>
<td>2.0</td>
<td>1.5</td>
</tr>
<tr>
<td>Peak Connection</td>
<td>1.5</td>
<td>1.1</td>
</tr>
<tr>
<td>External Global Stability</td>
<td>1.5</td>
<td>1.1</td>
</tr>
</tbody>
</table>

The Contractor shall submit one 50-pound sample for each backfill material to the Contracting Agency’s geotechnical representative for evaluation and testing at least 5 days prior to placement.

The Contractor shall submit one 12-inch by 12-inch sample of all geosynthetic materials including geotextiles and geogrid products to the Engineer for approval, including data sheets for the specified product. Samples shall have permanently applied identification information.

Bridge Railing foundations and light pole foundations shall be included in the Type 2E Working Drawings. Design and details of geosynthetic reinforcing at these foundations shall be included.

6-14.3(5) Guardrail Placement
Section 6-14.3(5) is replaced with the following:

(******)
Geogrid layout shall be coordinated with post foundations. Post foundations shall not impart lateral loading on the wall facing.

6-14.3(6) Permanent Facing
Section 6-14.3(6) is supplemented with the following:

(******)
Geosynthetic facing elements left permanently exposed to sunlight shall be stabilized to be resistant to ultraviolet radiation. Product specific test data shall be provided which can be extrapolated to the intended design life and which proves that the product will be capable of performing as intended in an exposed environment. Wall facing shall be vegetated per the wall planting elevations shown in the Plans.

6-14.4 Measurement
Section 6-14.4 is supplemented with the following:
“Vegetated Faced MSE Wall” will be measured by the square foot of exposed face of completed wall. Corner wrap area and extensions of the MSE wall beyond the area of wall face shown in the Plans or staked by the Engineer are considered incidental to the wall construction and will not be include in the measurement. Measurement is based on the vertical projection of the exposed wall face.

Gravel borrow for structural earth wall will be measured as specified in Section 2-03.4

6-14.5 Payment
Section 6-14.5 is supplemented with the following:

“Vegetated Faced MSE Wall”, per square foot

No separate payment will be made for the Work to provide the drainage zone, permeable ballast, and wall drain. This Work shall be incidental to construction.
6-19 Shafts

6-19.3 Construction Requirements

6-19.3 is supplemented with the following:

(******)
The Contractor shall include costs associated with temporary access and temporary protections to the future stormwater outfall in this pay item.

A deep NUD sanitary sewer manhole is in close proximity to Abutment A12 and connects to a deep pipe that crosses the spiral ramp area and is in proximity to the Pier 11 foundation, and a shallower pipe that crosses Totem Lake Boulevard that will be abandoned. Contractor shall verify the location of all utilities to confirm no conflicts are present between utility locations and proposed site work. The contractor shall be responsible for any repair/replacement to damaged utility lines during construction. The contractor shall perform a video inspection of the sewer pipes prior to the start of and after the end of construction to verify that the pipes have not been damaged. See Section 1-07.16(1) of these Special Provisions.

6-19.3(1) Quality Assurance

6-19.3(1)A Shaft Construction Tolerances

The third row of the table in Section 6-19.3(1)A is revised to read:

(******)

\[
\begin{array}{|c|c|}
\hline
\text{5 or larger} & 5 \\
\hline
\end{array}
\]

6-19.3(3) Shaft Excavation

6-19.3(3)B Temporary and Permanent Shaft Casing

Section 6-19.3(3)B is supplemented with the following:

(******)

(January 2, 2012)
The Contractor shall furnish and install casings as prescribed in the Plans.

When installing required permanent casings between the upper and lower elevation limits specified above, the casing shall be advanced prior to or concurrently with the excavation. In no case shall shaft excavation and/or casing placement extend below the bottom of shaft elevation prescribed in the Plans.

(January 2, 2012)
Shaft casing shall be equipped with cutting teeth or a cutting shoe, and installed by either rotating or oscillating the casing. Installing the casing by vibratory means will not be allowed.

6-19.4 Measurement

Section 6-19.4 is supplemented with the following:

“Constructing __Diam Shaft” contains the following approximate quantities of materials and work, but does not represent all work included in this item:
Furnish & Place Permanent Casing 365,010 LB
Cast-In-Place Concrete for Drilled Shafts (Class 5000P) 738 CY
Steel Reinforcing Bar Gr. 60 141,690 LB

The quantities are listed only for the convenience of the Contractor to assist in determining the volume of work involved and are not guaranteed to be accurate. The prospective bidders must verify these quantities before submitting a bid. No adjustments other than for approved changes will be made in the lump sum contract price for “Constructing __Diam Shaft” even though the actual quantities required may deviate from those listed.
6-20 Bridge Vibration Dampers

The following new section is added:

(Special Provision) New

6-20.1 Description

In order to avoid unwanted vibrations due to pedestrian loading, the bridge will require additional damping in the form of tuned mass dampers (TMDs). This section describes the anticipated damping system requirements as well as the procedure of testing and installation that must be followed.

As the TMDs influence the visual appearance of the bridge, the design and arrangement of the dampers shall be fully contained within the Pier 9 Overlook cantilever box beam as shown in the Plans. The final arrangement shall be approved by the Engineer.

All damping values, weights, and quantities are subject to change upon testing of the bridge in its final constructed state. The quantities and recommendations herein are for information as to what is expected, but should not be assumed to constitute the final damping system design.

6-20.1(1) Description of Work

The work of this section includes:

- Design of TMDs and connections to the structure
- Fabrication of TMDs and connections
- Workshop testing of TMDs
- Shipping of TMDs and connections
- Installation of TMDs
- Performance Testing of the TMD system
  - An Expert shall supervise the testing
- Re-tuning or revising the damping system as necessary based on the performance test results
  - (This could include modifying the spring system or adding/removing weights).

6-20.1(2) Design Criteria

The design assessment of the theoretical model identified Mode 5 as the dominant mode for the vertical vibration of the Pier 9 / Overlook. The theoretical frequency of Mode 5 is 2.39 Hz. The theoretical mode shapes and frequencies of the other modes can be supplied by the design team upon request.

The mode shape targeted for supplemental damping is Mode 5 (Pier 9 Overlook), which is the vertical mode shown in the image below.
Pier 9 Overlook - Damping
Frequency to be damped: 2.39Hz ± 10% (to be confirmed by field measurement from performance testing)
Dampers: 2 vertical dampers total, with 1 located within the tip of each cantilever as indicated in the Plans.
Mass of individual dampers: 1125-lbs
Mass Ratio between TMD and modal mass: approximately 10%
The TMD mass shall be variable up to ±20%. Mass plates for variation shall be included
Connections to the structure shall be designed and detailed by the Contractor in accordance with TMD supplier requirements. Connections shall be bolted and the attachment shall be reviewed and approved by the Engineer.

6-20.2 Materials
6-20.2(1) Tuned Mass Dampers

Approved Vertical Damper Suppliers:
GERB – 1950 Ohio St. Lisle, IL 60532
DEICON – 7525 Paragon Rd. Dayton, OH 45475
Taylor Devices – 90 Taylor Dr. North Tonawanda, NY 14120

The TMD supplier shall have at least ten years experience in the design and fabrication of tuned mass dampers.

Proposed supplier shall be approved by the Engineer. Submit references and qualifications of TMD manufacturer for review.

Dampers must be “deactivated” for the initial testing as part of the field performance testing of the bridge. Supplier shall provide means to do this.

For each TMD a workshop test shall be done which verifies the following quantities:
  a. Frequency within a tolerance of ±1%
  b. Damping within a tolerance of ±15%
  c. Internal friction within the guide system shall be a maximum of 1% of the considered TMD mass.
  d. These test results shall be reviewed by the TMD expert.

The dampers shall have a Quality Control Inspection and Quality Assurance Inspection, prior to being released for shipment to the site.
6-20.2(2) **Corrosion Protection**
Corrosion protection of the damper assembly shall be as follows:

- Hot-dipped galvanized or
- Paint system as specified in Specification Section 6-07.

6-20.2(3) **Warranties**
The TMDs shall be designed for a service life of at least 30 years. Provide a 5 year warranty on the design and manufacture of the dampers guaranteeing their performance.

6-20.3 **Construction Requirements**
6-20.3(1) **Examination**
Examine the areas to receive the TMDs and verify that the proper attachments and any reinforcing that must be done is properly installed to receive the dampers.

6-20.3(2) **Contractor Qualifications**
The TMD installation shall be supervised by an Expert in the field of vibration and damping with at least ten years of experience. This Expert may be provided by the supplier.

The bridge will require testing after construction has obtained substantial completion. The Contractor shall provide a time at the end of construction of the bridge to allow the Expert in the field of vibration and damping to perform the testing specified herein. The Contractor shall provide two weeks advance notice of the field performance testing to the Engineer.

6-20.3(3) **Installation**
Install the TMDs in the locations agreed upon by the Engineer, TMD expert, and TMD supplier.

The Contractor shall be responsible for the final installation procedure. Installation shall be reviewed by the TMD expert.

Carry out all testing before and after TMD activation as per Section 6-20.3(5) and the TMD expert’s recommendations.

6-20.3(4) **Maintenance**
TMDs shall be virtually maintenance free. Replacement of the components of the TMDs shall not be required during their design service life of 30 years. TMD supplier shall provide an inspection schedule and procedure. TMDs shall be mounted in such a way as to allow for ease of visual inspection.

6-20.3(5) **Performance Testing**
Expert testing of the completed bridge structure with dampers installed, but deactivated, shall be performed to determine:

- Frequency and shape of the targeted mode.
- Modal damping from free-vibration test

The targeted frequency of TMDs shall be adjusted based on the measured frequency if the measured frequency is different from the theoretical frequency.
Retesting of the bridge with the dampers activated shall be performed to determine:

- Modified frequencies
- Supplemental damping values
- Effectiveness of damping system

6-20.3(6) Submittals

Submit TMD manufacturer’s qualifications and reference projects showing at least 10 years of experience in the field of bridge damping.

Submit TMD expert’s qualifications and references showing at least 10 years of experience in the field of vibration, dynamics, and damping testing.

Submit manufacturer’s product data and installation and handling requirements for each material and product used.

Drawings: Submit Type 2 Working Drawings of the fully assembled TMD with all important dimensions and interface loads for fabrication and erection of all components of the damping system. Submit Calculations and Type 2 Working Drawings of TMD connections to structure, stamped by a licensed Washington SE.

Layout Drawings for Dampers: Provide location drawings for TMD attachment to structure.

Submit the plan for shop and field testing and in situ adjustments. The plan shall establish the performance criteria and outline the methodology, equipment to be used, and schedule for testing, including how the performance will be verified.

Submit the certified results from shop testing of the fabricated TMDs

Submit the certified results from field performance testing of the installed TMDs and a letter signed by the TMD expert certifying that the installed dampers have met the performance requirements based on the field test results.

6-20.4 Measurement

“Vibration Dampers” will be measured once per damper installed, including design, testing, performance verification, and connections to structure.

6-20.5 Payment

“Vibration Dampers”, per each
6-21  Metal Bar Grating
The following new section is added:

(Special Provision)  New

6-21.1  Description
This work includes furnishing of all labor, materials, and equipment necessary for construction of metal bar grating used in Spans 2 and 4, as described in the Plans. This includes:
Prefabricated steel bar gratings
Prefabricated support frames for metal bar grating
Miscellaneous installation hardware and accessories for metal bar grating

6-21.2  Materials
Metal bar gratings and miscellaneous installation hardware and accessories shall meet the requirements of Buy America per Section 1-06 of these Specifications.

6-21.2(A)  Metal Bar Grating
Metal bar grating materials shall be carbon steel conforming to the following standards:

ASTM A-1011 Structural Grade 50 Steel Strip Hot-Rolled Carbon
ASTM A-1011 CS Type B Steel Strip Hot Rolled Carbon
ASTM A-36 Carbon Steel

6-21.2(B)  Installation Hardware and Accessories
Installation hardware and accessories shall conform to the following standards:

18-8 stainless steel

6-21.3  Construction Requirements

6-21.3(A)  Performance Requirements
Metal Bar Grating shall meet the following, minimum performance requirements:
Orientation of the metal bar grating surface bars shall be as specified in the Plans.
Overall depth of the metal bar grating shall be as specified in the Plans.
Metal bar grating shall be manufactured without welded connections at its top surface.
Provide appropriate stainless steel fasteners for the approved metal bar grating anchorage system.

Segments of grating are intended to be cut from a larger standard section of grating. Exposed ends of bearing bars shall be protected with zinc coating.

6-21.3(A)  Manufacturer Requirements
The manufacturer of the metal bar grating shall have a minimum of 10 years of documented experience. The Contractor shall submit the name of the manufacturer with a certification of applicable manufacturing experience to the Engineer for approval. The certification of experience shall include a list of at least 5 different metal bar grating installations on previous projects. This certification shall contain, at a minimum, the following pieces of information for each installation:

1  Project name and location
The Contractor shall not begin preparation of the shop plans until receiving the Engineer’s written approval of the metal bar grating manufacturer’s certification of experience. Acceptable metal bar grating manufacturers include:

McNichols Co. 2502 N Rocky Point Dr Ste 750 Tampa, FL 33607-1453, www.mcnichols.com
Grating Pacific, Inc. 3651 Sausalito Street, Los Alamitos, CA 90720, 562-598-4314 www.gratingpacific.com
Interstate Gratings, LLC. 1820 West 200 South, Lindon, UT 84042, 801-922-4700 www.interstategratings.com
Ohio Gratings Inc. 5299 Southway St. SW, Canton, Ohio 44706, 800-321-9800 www.ohiogratings.com
Alabama Metal Industries Corp. P.O. Box 3928, Birmingham, AL 35208, 205-787-2611 www.amico-online.com

6-21.3(B) Shop Plans
Before beginning fabrication, the Contractor shall submit shop drawings for the grating with interface to supporting elements, and shall contain the following items:
- The manufacturer’s catalog pages or cut sheets of the proposed grating product, including load tables, installation hardware (anchors, fasteners, etc.), and standard installation details.
- A letter from the metal bar grating manufacturer certifying that the product offered meets the performance requirements given in this specification.
- Show type and location of all fasteners and how they attach to other work.
- Welding certificates.
- Signed mill certificates for all carbon steel and stainless steel used in the fabrication of the metal bar grating and installation hardware certifying that the products furnished meet the material specifications and Buy America requirements of these Specifications.
- Prior to installation of the metal bar grating, the Contractor shall inspect the supports for correct alignment and conditions for proper attachment of the metal bar grating and any inconsistencies from the Plans shall be communicated in writing to the Engineer prior to placement.

6-21.4 Measurement and Payment
This work shall be incidental to and included in the Lump Sum item for “Bridge Deck (Totem Lake Connector)".
6-22 Pultruded Grating
The following new section is added:

(Special Provision) New

6-22.1 Description
This work includes furnishing of all labor, materials, and equipment necessary for construction of pultruded grating used on the Overlook as described in the Plans. This includes:
Prefabricated pultruded grating.
Cutting grating to trapezoidal sections.
Miscellaneous installation hardware and accessories for grating.

6-22.2 Materials
Pultruded grating shall be Fiberglass Reinforced Polymer (FRP).
Pultruded grating and miscellaneous installation hardware and accessories shall meet the requirements of Buy America per Section 1-06 of these Specifications.
Materials used in the manufacture of the FRP products shall be raw materials in conformance with the specification described here-in and certified as meeting the manufacturer’s approved list of raw materials.

Materials covered by these specifications shall be furnished by an ISO-9001 certified manufacturer.

ANSI/ACMA/FGMC FRP Composites Grating Manual for Pultruded and Molded Grating and Stair Treads.

Visual quality of the pultruded shapes shall conform to ASTM D4385.

Color: dark grey.

The bearing bars shall be joined into panels by passing continuous length fiberglass pultruded cross-rods through the web of each bearing bar. A continuous fiberglass pultruded bar shaped section shall be wedged between the two cross rod spacers mechanically locking the notches in the cross rod spacers to the web of the bearing bars. Continuous adhesive bonding shall be achieved between the cross rod spacers and the bearing web and between the bar shaped wedge and the two cross rod spacers locking the entire panel together to give a panel that resists twist and prevents internal movement of the bearing bars.

The top surface of all panels shall have an integrated non-skid grit affixed to the surface by an epoxy resin followed by a baked-on top coat of epoxy resin.

The pultruded grating shall be manufactured using a process utilizing polyester resin with flame retardant and ultraviolet (UV) inhibitor additives. A synthetic surface veil fabric shall encase the glass reinforcement. FRP shapes shall achieve a flame spread rating of 25 or less in accordance with ASTM test method E-84, the flammability characteristics of UL 94 V0 and the self-extinguishing requirements of ASTM D635. Surface shall have a Wear Index of less than 1.0 when tested to ASTM D4060 (before and after 750 hours of UV exposure per ASTM D4329 cycle A).

Hold down clamps shall be type 316L stainless steel clips. Use 2 at each support with a
minimum of 4 per panel.

6-22.3 **Construction Requirements**
Grating shall be shipped from the manufacturer, palletized and banded with exposed edges protected to prevent damage in shipment. Any material which, in the opinion of the Design Engineer, has become damaged as to be unfit for use, shall be promptly removed from the site of work, and the Contractor shall receive no compensation for the damaged material or its removal.

Furnish all labor, materials, equipment and incidentals governed by this section necessary to install the fiberglass reinforced polymer (FRP) products as specified herein.

Panels shall be fabricated to the sizes shown in the Plans with edges sanded smooth to be free of barbs. All cut ends shall be sealed with a compatible resin coating.

6-22.3(A) **Manufacturer Requirements**
The manufacturer of the pultruded grating shall have a minimum of five years of documented experience. The Contractor shall submit the name of the manufacturer with a certification of applicable manufacturing experience to the Engineer for approval. The certification of experience shall include a list of at least 5 different pultruded grating installations on previous projects. This certification shall contain, at a minimum, the following pieces of information for each installation:

1. Project name and location
2. Date of installation
3. Owner
4. Name, address and phone number of the Owner or Owner’s Representative

The Contractor shall not begin preparation of the shop plans until receiving the Engineer’s written approval of the pultruded grating manufacturer’s certification of experience.

Acceptable pultruded grating manufacturers include:

McNichols Co. 2502 N Rocky Point Dr Ste 750 Tampa, FL 33607-1453, www.mcnichols.com
Grating Pacific, Inc. 3651 Sausalito Street, Los Alamitos, CA 90720, 562-598-4314 www.gratingpacific.com
Interstate Gratings, LLC. 1820 West 200 South, Lindon, UT 84042, 801-922-4700 www.interstategratings.com
Alabama Metal Industries Corp. P.O. Box 3928, Birmingham, AL 35208, 205-787-2611 www.amico-online.com

6-22.3(B) **Shop Plans**
Before cutting of the pultruded grating into the panel segments shown in the Plans, the Contractor shall submit shop drawings for the grating with interface to supporting elements that shall contain the following items:

The manufacturer’s catalog pages or cut sheets of the proposed grating product, including load tables, installation hardware (anchors, fasteners, etc.), and standard installation details. A letter from the pultruded grating manufacturer certifying that the product offered meets the performance requirements given in this specification.
Show type and location of all fasteners and how they attach to other work. Prior to installation of the metal bar grating, the Contractor shall inspect the supports for correct alignment and conditions for proper attachment of the pultruded grating and any inconsistencies from the Plans shall be communicated in writing to the Engineer prior to placement.

6-22.4 Measurement and Payment
This work shall be incidental to and included in the Lump Sum item for “Bridge Deck (Totem Lake Connector)”. 
Division 7 Drainage Structures, Storm Sewers, Sanitary Sewers, Water Mains, and Conduits

7-02 Culverts

7-02.2 Materials
This section is supplemented with the following:

(******)
Reinforced concrete box culvert shall be Oldcastle Precast 6070 Trench or approved equal, except that the box culvert shall be ordered to the dimensions shown in the plans and the trench top shall be ordered to have a light broom finish on the trench top.

Grout to fill void around lift anchors on the trench top shall be nonshrink grout as specified on the "General Notes" sheet of the Plans.

Wood curb and the fasteners and attachments to attach the wood curb to the reinforced concrete box culvert shall be as noted in the Plans.

7-02.3 Construction Requirements
This section is supplemented with the following:

(******)
After the box culvert has been installed on-site the trench top shall be finished with a light to medium sandblast finish. The sandblast texture and degree of ‘bite’ will be determined from a 3’x3’ sample finish performed on the inside bottom of the box culvert. The sample finish will be reviewed and approved by the Engineer prior to beginning the sand blast finish on the top of the trench top.

Install wood curb as shown in the details in the Plans.

7-02.4 Measurement
This section is supplemented with the following:

(******)
No separate measurement will be made for the bedding for box culvert, gravel borrow for culvert backfill, sandblast finish, or wood curbing, including attaching the wood curbing to the culvert.

7-02.5 Payment
This section is supplemented with the following:

(******)
"Precast Reinf. Conc. Box Culvert”
The lump sum unit Contract price for “Precast Reinf. Conc. Box Culvert” shall be full pay for all Work to construct and complete the installation including the concrete headwalls, culvert bedding, backfill, light sandblast finish on the top surface of the culvert trench top including the sample finish, wood curbing including fasteners and hardware, and coordination with the Engineer.
7-05 Manholes, Inlets, Catch Basins, and Drywells

7-05.1 Description
This section is supplemented with the following:

(******)
This works consists of rehabilitating and coating the existing Northshore Utility District (NUD) sanitary sewer manhole adjacent to Abutment A12, as shown in the Plans.

7-05.2 Materials
This section is supplemented with the following:

(******)
Work covered in this section includes the requirements for surface preparation and coating of DMH-10. The coating product shall be Raven 405, as manufactured by Raven Lining Systems. No alternate products allowed.

7-05.3 Construction Requirements
This section is supplemented with the following:

(******)
7-05.3(3) Rehabilitation and Coating of Existing Manholes

A. SUBMITTALS
1. Repair and resurfacing product data
2. Product technical data sheets
3. Safety Data Sheets (SDS)
4. Technical data sheet and project specific data for repair materials to be topcoated with the coating product(s) including application, cure time and surface preparation procedures.
5. Contractor Data: Current documentation from coating product manufacturer certifying Contractor’s training and equipment complies with the Quality Assurance requirements specified herein. Five (5) recent references of Contractor indicating successful application of coating product(s) of the same material type as specified herein, applied by spray application within the municipal wastewater environment.

Contractor shall obtain acceptance from NUD on all submittals prior to beginning work for rehabilitating and coating the existing manhole.

B. QUALITY ASSURANCE
Coating product(s) shall be capable of being installed and curing properly within a sanitary sewer manhole environment. Coating product(s) shall be resistant to all forms of chemical or bacteriological attack found in municipal sanitary sewer systems; and, capable of adhering to the manhole structure substrates.

Repair product(s) shall be fully compatible with coating product(s) including ability to bond effectively forming a composite system.

Contractor shall utilize equipment for the spray application of the coating product(s) which has
been approved by the coating product manufacturer; and, Contractor shall have received training on the operation and maintenance of said equipment from the coating product manufacturer.

Contractor shall be trained by, or have their training approved and certified by, the coating product manufacturer for the handling, mixing, application and inspection of the coating product(s) to be used as specified herein.

Contractor shall initiate and enforce quality control procedures consistent with the coating product(s) manufacturer recommendations and applicable NACE or SSPC standards as referenced herein.

C. DELIVERY, STORAGE, AND HANDLING
Materials are to be kept dry, protected from weather and stored under cover.

Coating and repair materials are to be stored between 50 degrees F and 90 degrees F. Do not store near flame, heat or strong oxidants.

All materials are to be handled according to their Safety Data Sheets.

D. SITE CONDITIONS
Contractor shall conform to all local, state and federal regulations including those set forth by OSHA, RCRA and the EPA and any other applicable authorities.

Confined space entry, flow diversion and/or bypass plans shall be presented by Contractor as necessary to perform the specified work.

E. SPECIAL WARRANTY
Contractor shall warrant all work against defects in materials and workmanship for a period of two (2) years from the date of final acceptance of the project. Contractor shall, within a reasonable time after receipt of written notice thereof, repair defects in materials or workmanship which may develop during said two (2) year period, and any damage to other work caused by such defects or the repairing of same, at his own expense and without cost to the District.

F. REPAIR AND RESURFACING PRODUCTS
Repair products shall be used to fill voids, bugholes, and/or smooth transitions between components prior to the installation of the coating product(s). Repair materials must be compatible with the specified coating product(s) and shall be used and applied in accordance with the manufacturer’s recommendations.

Resurfacing products shall be used to fill large voids, lost mortar in masonry structures, smooth deteriorated surfaces and rebuild severely deteriorated structures.

The following products may be accepted and approved as compatible repair and resurfacing products for use within the specifications:

100% solids, solvent-free epoxy grout specifically formulated for epoxy topcoating compatibility.

Factory blended, rapid setting, high early strength, fiber reinforced, non-shrink repair
mortar that can be trowelled or pneumatically spray-applied may be approved if specifically formulated to be suitable for topcoating with the specified coating product(s).

G. EXECUTION

1. Examination

Appropriate actions shall be taken by Contractor to comply with local, state and federal regulatory and other applicable agencies with regard to environment, health and safety during work.

Any active flows shall be diverted as required to ensure all liquids are maintained below or away from the surfaces to be coated. Contractor shall coordinate with NUD on requirements for diverting flow, if required.

Temperature of the surface to be coated should be maintained between 40 and 120 deg F, per the manufacturer’s recommendations.

Prior to commencing surface preparation, Contractor shall inspect all surfaces specified to receive the coating and notify District, in writing, of any noticeable disparity in the site, structure or surfaces which may interfere with the work, use of materials or procedures as specified herein.

2. Surface Preparation

Excessive debris, sediment, root intrusion or other foreign materials which may impact the effectiveness of the surface preparation process shall be removed prior to the commencement thereof.

Offset structural components, lids, covers, frames, etc. shall be repaired, replaced, or reset prior to the commencement of surface preparation.

Oils, grease, incompatible existing coatings, waxes, form release, curing compounds, efflorescence, sealers, salts, or other contaminants which may affect the performance and adhesion of the coating to the substrate shall be removed in accordance with SSPC-SP 1 – Solvent Cleaning.

Concrete and/or mortar damaged by corrosion, chemical attack or other means of degradation shall be removed so that only sound substrate remains.

Choice of surface preparation method(s) should be based upon the condition of the structure and concrete or masonry surface, potential contaminants present, access to perform work, and required cleanliness and profile of the prepared surface to receive the coating product(s).

Surface preparation method, or combination of methods, that may be used include high pressure water cleaning, high pressure water jetting, abrasive blasting, shotblasting, grinding, scarifying, detergent water cleaning, hot water blasting and others as described in NACE No. 6/SSPC SP-13. Whichever method(s) are used, they shall be performed in a manner that provides a uniform, sound clean neutralized surface suitable for the specified coating product(s).
Infiltration shall be stopped by using a material which is compatible with the repair products and is suitable for topcoating with the coating product(s).

3. Application of Repair and Resurfacing Products

Repair products shall be used to fill voids, bugholes, and other surface defects which may affect the performance or adhesion of the coating product(s).

Resurfacing products shall be used to repair, smooth or rebuild surfaces with rough profiles to provide a concrete or masonry substrate suitable for the coating product(s) to be applied. These products shall be installed to minimum thickness as recommended within manufacturers published guidelines.

Repair and resurfacing products shall be handled, mixed, installed and cured in accordance with manufacturer guidelines.

All repaired or resurfaced surfaces shall be inspected for cleanliness and suitability to receive the coating product(s). Additional surface preparation may be required prior to coating application.

4. Application of Coating Product(s)

Application procedures shall conform to the recommendations of the coating product(s) manufacturer, including environmental controls, product handling, mixing, application equipment and methods.

Spray equipment shall be specifically designed to accurately ratio and apply the coating product(s) and shall be in proper working order.

Contractors qualified in accordance with these specifications shall perform all aspects of coating product(s) installation.

Prepared surfaces shall be coated by spray application of the coating product(s) described herein to a minimum wet film thickness of 125 mils.

Subsequent topcoating or additional coats of the coating product(s) shall occur within the product’s recoat window. Additional surface preparation procedures will be required if this recoat window is exceeded.

Coating product(s) shall interface with adjoining construction materials throughout the manhole structure to effectively seal and protect concrete or masonry substrates from infiltration and attack by corrosive elements. Procedures and materials necessary to effect this interface shall be as recommended by the coating product(s) manufacturer.

Termination points of the coating product(s) shall be made at the manhole chimney joint, and shall include the whole interior of the existing manhole, including the invert, and a minimum of 1” interfacing with each pipe penetration.

Sewage flow shall be stopped, bypassed or diverted for application of the coating product(s) to the invert and interface with pipe materials.
5. Testing and Inspection

During application a wet film thickness gauge, meeting ASTM D4414 - Standard Practice for Measurement of Wet Film Thickness of Organic Coatings by Notched Gages, shall be used. Measurements shall be taken, documented and attested to by Contractor for submission to NUD.

After the coating product(s) have set in accordance with manufacturer instructions, all surfaces shall be inspected for holidays with high-voltage holiday detection equipment. Reference NACE RPO 188-99 for performing holiday detection. All detected holidays shall be marked and repaired by abrading the coating surface with grit disk paper or other hand tooling method. After abrading and cleaning, additional coating can be hand applied to the repair area. All touch-up/repair procedures shall follow the coating manufacturer’s recommendations. Documentation on areas tested, results and repairs made shall be provided to NUD by the Contractor.

Visual inspection shall be made by NUD and/or Inspector. Any deficiencies in the finished coating shall be marked and repaired according to the procedures set forth herein by Contractor.

The sewer system may be returned to full operational service as soon as the final inspection has taken place and as authorized by the NUD.

7-05.3(4) Drop Structure Abandonment at Existing Manholes

The overflow pipe of the drop structure comes into the existing manhole at a section joint. The manhole section above this joint, along with the cone, may be removed during construction as outlined in Section 1-07.16 of these Special Provisions. The rest of the manhole below this joint shall remain in place. The tee at the top of the drop structure shall be removed, the abandoned sewer shall be capped water tight and the drop pipe shall be capped drop tight. After bridge construction is complete, a two-ft high concrete collar shall be poured around the joint between the existing manhole and the new section, per NUD standard detail. This collar will also seal the penetration into the manhole from the drop tee removed. The base of the drop structure shall be packed with grout and the manhole channel cleaned and repaired to remove the channel from the abandoned drop structure. The repair of cracks and coating of the manhole shall be the last work completed on the manhole.

The figures on the following pages provide reference information for this scope of work.
11/27/19
DROP STRUCTURE ABANDONMENT

- Pack drop pipe with grout from inside penetration, filling bend at a minimum.
- Clean and rechannel MH to eliminate channel from drop structure.
- Remove tee from MH and drop pipe. Cap abandoned sewer main.
- Cap drop pipe with water tight cap.
- Drop connection overflow enters at MH section joint.
1. Manhole shall conform to the general notes and all applicable requirements of standard detail 1.
2. Where depth of manhole neck exceeds 24", adjust manhole to grade by installing new manhole barrel section and cone on existing manhole barrel.
3. Where key sections of new and existing manholes are not compatible, cut key off bottom of new section and provide a cast-in-place concrete collar around manhole perimeter. Cast collar with 3000 P.S.I. concrete.
4. Upward adjustment of existing manholes must be done with all new parts, as necessary, to ensure only one incompatible seam.
5. Grout all joints inside, outside and in between to achieve watertight construction. Finish smooth the inside of structure. Use non-shrink grout only.
This section is supplemented with the following:

(******)
Rehabilitating and coating the existing sanitary sewer manhole will be measured per Lump Sum.

7-05.5 Payment
This section is supplemented with the following:

(******)
“Rehab and Coat Existing Sanitary Sewer Manhole”
The lump sum unit Contract price for “Rehab and Coat Existing Sanitary Sewer Manhole” shall be full pay for all Work to rehabilitate and coat the existing sanitary sewer manhole, including protecting the existing structure throughout construction, abandonment of drop structure and related repairs, and coordination with NUD.
7-15 Service Connections

7-15.1 Description
This section is supplemented with the following:

(******)
This Work shall include installing the service connection from the existing water pipe to and including the meter box as shown in City of Kirkland Standard Plan No. CK-W.18.
Division 8 Miscellaneous Construction

8-01 Erosion Control and Water Pollution Control

8-01.1 Description
This section is supplemented with the following:

(******)
This Work consists of treating sediment laden water for acceptable discharge and preventing the conveyance of pollutants and sediment into surface waters, drainage systems, and environmentally critical areas.

8-01.2 Materials
This section is supplemented with the following:

(******)
Pipe for temporary storm drain bypass shall meet the requirements of Section 7-04.2 based on the Contactor’s means and methods to maintain the 100-year peak flow rate shown in Plans.

Jointing new pipe to existing pipe for storm drain pipe shall be in accordance with WSDOT 7-04.3. Connections between pipes of differing material shall be made with a flexible gasketed coupling, adaptor or coupling-adaptor to make a watertight joint. Couplings shall be those manufactured by Romac, Caulder, or Fernco or approved equivalent product. Jointing of dissimilar pipe shall be in accordance with WSDOT Section 7-08.3(2)G.

8-01.3 Construction Requirements
This section is supplemented with the following:

(******)
The Contractor shall be responsible for providing adequate erosion control for the protection of the Municipal Separate Storm Sewer System and Waters of the State at all times.

The Contractor shall bear sole responsibility for damage to completed portions of the Work and to property located off the project site caused by erosion, siltation, runoff, or other related items during performance of the Work. The Contractor shall also bear sole responsibility for any pollution of rivers, streams, wetlands, groundwater, or other water which may occur as a result of the Work.

The Contractor shall exercise all necessary precaution and use all appropriate Best Management Practices (BMPs) throughout performance of the Work and the life of the Project to prevent pollution, erosion, siltation, damage to property, and damage to Municipal Separate Storm Sewer System and Waters of the State.

Project requires a Department of Ecology National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit (CSWGP), which will be obtained by the City of Kirkland prior to construction. The Contractor will be required to transfer the NPDES permit from the Contracting Agency to the Contractor as the responsible party.

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.

(******)
The Contractor shall be responsible for all Work required for compliance with the CSWGP including annual permit fees.

8-01.3(1)A Submittals
Section 8-01.3(1)A is supplemented with the following:

(******)
Prior to the Preconstruction Conference, and prior to beginning work at the site and/or incorporation of materials and equipment into the project, the Contractor shall prepare, submit, and obtain approval from the Contracting Agency for the following:

1. Spill Prevention, Control & Countermeasures (SPCC) Plan – Per Section 1-07.15(1);
2. Temporary Erosion and Sediment Control (TESC) Plans – Per Section 8-01.3(1)A.

The Contractor shall develop the TESC Plan in accordance with City of Kirkland and Ecology’s guidelines.

(******)
If the TESC Plan, at any time, is found to be inadequate to meet the intent of this section, or Ecology’s requirements, the Contracting Agency may require the Contractor to revise and resubmit the plan. The Contractor shall implement the plan and any other BMP’s necessary to adequately assure compliance with water quality standards.

8-01.3(1)C4 Management of Off-Site Water
This section is supplemented with the following:

(******)
The Type 2 Working Drawing shall show that the temporary storm bypass can convey the required flow rates as shown in the Plans.

8-01.3(2)B Seeding and Fertilizing
Section is supplemented with the following:

(******)
In the event seeding is used as a temporary measure, refer to the Section 8-02 for seed mix. Submit a proposal to the Engineer prior to placing seed mix. Temporary seeding for erosion control is not to be applied outside of seeded lawn areas.

8-01.3(9)A2 Silt Fence
Section is supplemented with the following:

(******)
Silt fence shall be in accordance with City of Kirkland Standard Plan No. CK-E.03 as shown in the Plans.
8-01.3(9)D  *Inlet Protection*
Section is supplemented with the following:

(******)
Inlet protection shall be in accordance with City of Kirkland Standard Plan No. CK-E.11 as shown in the Plans.

8-01.3(10)  *Wattles*
Section is supplemented with the following:

(******)
Wattles shall be in accordance with City of Kirkland Standard Plan No. CK-E.10 as shown in the Plans.

8-01.3(17)  *Temporary Culverts*
This section is supplemented with the following:

(******)
Temporary culverts shall be constructed in accordance with Section 7-02 of the Standard Specifications and sized for the bypass flow indicated in the Plans.

8-01.4  *Measurement*
This section is supplemented with the following:

(******)
The areas for Erosion and Water Pollution Control shall be as follows:

- South Work Area – all areas south of the NE 124th Street road centerline
- North Work Area – all areas north of the Totem Lake Blvd NE road centerline
- Traffic Island Work Area – all areas between the South Work Area and the North Work Area.

ESC Lead will be measured by the hour. Hours will be measured for the time the ESC Lead spends on activities described in Special Provision Section 8-01.3(1)B and will be logged each day.

8-01.5  *Payment*
This section is supplemented with the following:

(******)
“ESC Lead”, per hour.
The unit Contract price shall be full compensation for all costs incurred by the Contractor in performing the Work defined in Section 8-01.3(1)B.

“Contractor Prepared TESC Plan”, per lump sum.
The lump sum contract shall be full pay for all costs for the Work specified in this Section associated with creating and revising and resubmitting, if required, the TESC Plan to comply with City and Department of Ecology requirements.

“Erosion and Water Pollution Control, ______”, per lump sum.
The lump sum contract price shall be full compensation for all Work required for the furnishing, installation, maintenance and removal of Erosion Control and Water Pollution Controls identified in the Contractor Prepared TESC Plan for each of the separate project areas, which include the south, traffic island, and north work areas.

“Temporary Storm Drain Bypass”, per lump sum.

The unit Contract price per lump sum for “Temporary Storm Drain Bypass” shall be full pay for all Work to design, develop the Type 2 Working Drawing, install, maintain, connect to existing pipe, disconnect from existing pipe, remove and dispose of the temporary bypass.
8-02 Roadside Restoration

8-02.1 Description
This section is supplemented with the following:

(******)
This Work shall include furnishing and placing Bioretention Soil Mix, Arborist Wood Chip Mulch, split rail fence, reinforced lawn surfacing, and large woody debris stockpiled during clearing, see special provision 2-01.3 in accordance with these Specifications and as shown in the Plans.

(******)
8-02.1(1) Submittals

Contractor shall submit the following within 14 days after notice to proceed of Work under this section. Submittal shall be grouped into one package. This submittal does not preclude other acceptance and warranty requirements. Submit:

Materials Lists: A complete list of plant, seed mixes and miscellaneous staking materials proposed to be furnished and installed, demonstrating conformance with the requirements specified. List to include names and addresses of all nurseries and suppliers as well as type and quantity of plants being supplied by each nursery. Contractor shall submit documentation from each of the plant suppliers within 20 days of notice-to-proceed that the plant materials have been secured. Securing plant materials shall include documented orders or other approved documentation.

One gallon sample of Topsoil Type A, Compost (fine and medium) and Arborist Wood Chip Mulch to the Engineer for approval. Include names and addresses of suppliers.
Test reports for supplied Topsoil Type A and Compost including composition and nutrient levels from an approved agricultural testing laboratory at Contractor’s expense.
Description of equipment, methods and procedures for ripping/tilling areas specified for soil preparation.

Landscape Contractor/Installer qualifications per this Section.
Plant Establishment Plan per Section 8-02.3(2)C.

At least 14 Working Days in advance of construction, the Contractor must submit to the Engineer for approval the source name, samples and data demonstrating conformance of Bioretention Soil Mix with the Specifications including:

- A 2-pound minimum sample of Mineral Aggregate for Bioretention Soil Mix;
- A 2 pound minimum sample of Compost for Bioretention Soil Mix;
- A 5 pound sample of mixed Bioretention Soil Mix;
- Grain-size analysis per ASTM Designation D 422 (Standard Test Method for Particle-Size Analysis of Soils) from a representative sample of the Mineral Aggregate for Bioretention Soil Mix material, demonstrating that it meets the specifications of this section.
- Quality analysis results for Compost performed in accordance with Seal of Testing Assurance (STA) standards, as specified in this section; Compost for Bioretention Soil Mix shall be tested every thirty (30) calendar days and test results submitted within five
(5) days of testing.

- Organic matter content test results of Bioretention Soil Mix. Organic content test shall be performed in accordance with Testing Methods for the Examination of Compost and Composting (TMECC) 05.07A, “Loss-On-Ignition Organic Matter Method” or per ASTM D 2974 Method C or D (Standard Test Methods for Moisture, Ash and Organic Matter of Peat and Other Organic Soils) test results demonstrating the Bioretention Soil Mix meets the requirements specified in this section.
- Modified Proctor compaction testing of mixed Bioretention Soil Mix, performed in accordance with ASTM D 1557, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort;
- A description of the equipment and methods proposed to mix the Mineral Aggregate and Compost to produce Bioretention Soil Mix;
- Provide the following information about the testing laboratory(ies):
  - Name of laboratory(ies) including contact person(s),
  - Address(es),
  - Phone contact(s),
  - Email address(es);
- Prior to construction, provide Manufacturer certification that the Compost for Bioretention Soil Mix material meets the specifications of this section, including certified laboratory test results dated within sixty (60) days of placement of material.
- During construction, perform quality conformance tests every sixty (60) days or every one thousand (1,000) cubic yards of Bioretention Soil Mix brought to or mixed on site, whichever is more frequent. Submit:
  - Manufacturer certification that the Compost for Bioretention Soil Mix material meets the specifications of this section, including certified laboratory test results.

Stepping stones: At least 14 Working Days in advance of construction, the Contractor shall submit to the Engineer for approval:

- Product data and source for each type of stone.
- Samples of stone (consisting of stones not less than 12 inches square) for verification purposes of form, color, grade, finish, type, and variety of stone required. Stones shall be a flat stone, suitable and comfortable for stepping on. Stone thickness shall be 1.5” minimum. Include 2 or more stones in each set of samples showing the full range of variations in appearance characteristics to be expected in the completed work. Deliver samples to the site for review by the Engineer.

Reinforced lawn surfacing: Product data for each element to provide a complete installation as shown in the Plans.

8-02.2 Materials
Section 8-02.2 is supplemented with the following:

(******)
Streambed Boulders shall meet the requirements of 9-03.11(3).

Stepping stones shall be quartzite flagstone or approved equal and have a smooth finish free of cracking and flaking. Minimum flagstone thickness shall be 1.5”. Stone type and color to be approved by Engineer.
Arborist Wood Chip Mulch (AWCM) shall be coarse ground wood chips (approximately 1/2" to 4" along the longest dimension) derived from the mechanical grinding or shredding of the above-ground portions of trees. It may contain wood, wood fiber, bark, branches, and leaves; but may not contain visible amounts of soil. It shall be free of weeds and weed seeds, including but not limited to plants on the King County Noxious Weed list (available at: https://www.kingcounty.gov/services/environment/animals-and-plants/noxious-weeds/laws/list.aspx), and shall be free of invasive plant portions capable of resprouting, including but not limited to horsetail, ivy, clematis, knotweed, etc. It may not contain treated wood, lumber and/or more than 0.5% by weight of manufactured inert material (plastic, concrete, ceramics, metal, etc.).

Arborist Wood Chip Mulch, when tested, shall meet the following loose volume gradation:

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>Percent Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>2&quot;</td>
<td>95 100</td>
</tr>
<tr>
<td>1&quot;</td>
<td>70 100</td>
</tr>
<tr>
<td>5/8&quot;</td>
<td>0 50</td>
</tr>
<tr>
<td>¼&quot;</td>
<td>0 40</td>
</tr>
</tbody>
</table>

No particles may be longer than six inches.

Bioretention Soil Mix
Bioretention Soil Mix (BSM) shall consist of an imported, well-blended homogeneous mixture of Compost for Bioretention Soil Mix and Mineral Aggregate for Bioretention Soil Mix that provides by volume: 35 to 40 percent max compost and 60-65 percent mineral aggregate (with less than 5% fines). Total BSM organic matter content of 4-8% (by dry weight). The Compost for Bioretention Soil Mix and Mineral Aggregate for Bioretention Soil Mix shall be as specified below.

The mixture shall have an organic material content that is four to eight percent by weight, as confirmed by organic matter content test results of Bioretention Soil Mix. Organic content test shall be performed in accordance with Testing Methods for the Examination of Compost and Composting (TMECC) 05.07A, “Loss-On-Ignition Organic Matter Method” or per ASTM D 2974 Method C or D (Standard Test Methods for Moisture, Ash and Organic Matter of Peat and Other Organic Soils) test results demonstrating the Bioretention Soil Mix meets the requirements specified in this section.

Mineral Aggregate for Bioretention Soil Mix:
Shall be analyzed by an accredited lab and shall meet the following gradation:

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>Percent Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8&quot; square</td>
<td>100</td>
</tr>
<tr>
<td>No. 4</td>
<td>60-100</td>
</tr>
<tr>
<td>No. 10</td>
<td>40-100</td>
</tr>
</tbody>
</table>
Grain-size analysis per ASTM Designation D 422 (Standard Test Method for Particle-Size Analysis of Soils) from a representative sample of the Mineral Aggregate for Bioretention Soil Mix material.

Mineral Aggregate for Bioretention Soil Mix shall be free of wood, waste, coating, or any other deleterious material. All aggregate passing the No. 200 sieve size shall be non-plastic.

Efforts shall be made to have the Mineral Aggregate for Bioretention Soil Mix meet the following gradation coefficients according to ASTM D 2487-98: Coefficient of Uniformity (Cu = D60/D10) equal to or greater than 4; and Coefficient of Curve (Cc = (D30)²/D60xD10) greater than or equal to 1 and less than or equal to 3.

**Compost for Bioretention Soil Mix:**
Shall meet the following:

- Manufactured by facilities which have an active solid waste handling permit from the local jurisdictional Health Department as per WAC 173-350-220 or WAC 173-308. Submit a copy of this permit. Compost production and quality must comply with Chapter 173-350 WAC and with the criteria below:
- Compost products must be the result of the biological degradation and transformation of feedstocks as specified below, under the controlled conditions designed to promote aerobic decompositions, per WAC 173-350-220, which is available at [http://apps.leg.wa.gov/wac/default.aspx?cite=173-350-220](http://apps.leg.wa.gov/wac/default.aspx?cite=173-350-220).
- The compost Supplier must test all compost products within 90 calendar days prior to application at the Suppliers expense. Submit a copy of producer’s current Seal of Testing Assurance (STA) certification as issued by the U.S. Composting council.
- The compost product must contain a minimum of 65 percent by volume from recycled plant waste as defined in WAC 173-350-100 as yard debris, wood waste, crop residues, and bulking agents. A maximum of 35 percent by volume of pre-or post-consumer food waste as defined in WAC 173-350-100 may be substituted for recycled plant waste. Biosolids or manure feedstock shall not be used for the compost going into bioretention soils or infiltration ponds.
- Salmonella must be less than 3 MPM (Most Probable Number) per 4 grams of total solids, by dry weight.
- Metals must be at levels below those specified in WAC 173-350-220, Table 220B.
- Moisture content range: no visible free water or dust produced when handling the material.
- Screened to the following size gradations for Fine Compost when tested in accordance with TMECC test method 02.02-B, Sample Sieving for Aggregate Size Classification." Fine Compost shall meet the following gradation by dry weight:
  - Minimum percent passing 2'' 100%
  - Minimum percent passing 1" 99% - 100%
  - Minimum percent passing 5/8" 90% - 100%
  - Minimum percent passing ¼" 75% - 100%
- pH between 6.0 and 8.5 (TMECC 04.11-A); 1:5 Slurry pH
- Physical contaminants, defined in WAC 173-350 (plastic, concrete, ceramics, metal,
etc.) shall be less than 1.0 percent by weight as determined by TMECC 03.08-A “percent dry weight basis”.

- Minimum organic matter content of 40% by dry weight basis as determined by (TMECC 05.07A) Loss-On-Ignition-Organic Matter Method.
- Soluble salt content less than 5.0 mmhos/cm (TMECC 04.10-A) Slurry Method, Mass Basis.
- Maturity greater than 80% (TMECC 05.05-A “Germination and Vigor”). The Engineer may also evaluate compost for maturity using the Solvita® Maturity Test at time of delivery. Fine compost shall score a number 6 or above on the Solvita® Compost Maturity Test.
- Stability of 7 or below (TMECC 05.08-B “Carbon Dioxide Evolution Rate”)
- Fine compost must have a carbon-to-nitrogen ratio of less than 25:1 as determined using (TMECC 04.01 “Total Carbon” and TMECC 04.02D “Total Kjeldahl Nitrogen”).

**Fertilizer for Lawn Installation**

Fertilizer shall meet the following specifications:

Total Nitrogen (N) 12% - 16%

A minimum of 40 percent of the total nitrogen shall be derived from isobutylidene dirurea (IBDU)®, or Polyon®. The remainder may be derived from any source.

Available Phosphoric Acid (P2O5) 9% - 14%

Soluble Potash (K) 9% - 14%

The selected fertilizer shall contain these micro-nutrients:

- Sulfur (S)
- Boron (B)
- Iron (Fe)
- Manganese (Mn)
- Zinc (Zn)

In addition to the requirements above, the Contractor shall show proof the product contains 70% or greater slow release nitrogen with a release time period greater than six weeks.

**Additional Lawn Fertilizer**

Fertilizer to be applied after the lawn establishment period, shall meet the following specifications:

Total Nitrogen (N) 18% - 26.0%

A minimum of 40 percent of the total nitrogen shall be derived from isobutylidene diurea (IBDU)®, or Polyon®. The remainder may be derived from any source.

Available Phosphoric Acid (P2O5) 2.0% - 6%
Soluble Potash (K20) 10.0% - 20%

The selected fertilizer shall contain these micro-nutrients:

Sulfur (S)
Boron (B)
Iron (Fe)
Manganese (Mn)
Zinc (Zn)

In addition to the requirements above, the Contractor shall show proof the product contains 70% or greater slow release nitrogen with a release time period greater than six weeks.

**Split rail fence** shall be as specified in the details in the Plans.

**Reinforced lawn surfacing** system, which includes the surfacing, edge restraint and anchor shall be Grasspave2 Porous Grass Paver or approved equivalent.

8-02.3(3)A  **Chemical Pesticides**
Supplement section 8-02.3(3)A with the following:

(******)
Chemical pesticides may not be used on this project unless prior written approval is obtained from the Engineer.

8-02.3(3)B  **Planting and Lawn Area Weed Control**
Delete paragraph 6, Section 8-02.3(3)B and replace with the following:

(******)
Herbicides may not be used on this project for weed control within the planting areas. Weed control shall be performed by hand, as needed to control weed growth.

Supplement 8-02.3(3)B with the following:

Weed barrier mat shall be jute matting of a uniform open plain weave of unbleached, single jute yarn treated with a fire retardant chemical. The yarn must be of a loosely twisted construction and must not vary in thickness by more than half of its nominal diameter. Jute matting must be furnished in rolled strips approximately 50 yards in length. Matting width must be 48 inches with an average weight of 0.92 pound per square yard. A tolerance of ± 1 inch in roll width and ± 5 percent in weight per square yard will be allowed. Stakes for securing the matting may be wire staples, steel pins, steel spikes, or wooden stakes. Stakes for securing weed barrier matting to earth surfaces must be a minimum 12 inches in length, and must have sufficient strength to withstand pounding the stakes into soil flush with the surface.

8-02.3(4)  **Topsoil**
This section is replaced with the following:

(******)
Topsoil shall be evenly spread over the specified areas to the depth shown in the Plans and
specifications or as otherwise ordered by the Engineer.

Topsoil shall not be placed when the ground or topsoil is frozen or excessively wet.

8-02.3(4)A Topsoil Type A
Section 9-14.1(1) is replaced with the following:

(******)

Topsoil Type A shall consist of the following:

Two-way topsoil consisting of 2/3 sandy loam, 1/3 fine compost by volume. Soil shall meet the following requirements:

Soil shall be sandy loam or loamy sand consisting largely of sand, but with enough silt and clay present to give it a small amount of stability. Individual sand grains can be seen and felt readily. On squeezing in the hand when dry, it shall fall apart when the pressure is released; on squeezing when moist, it shall form a cast that will not only hold its shape when the pressure is released, but shall withstand careful handling without breaking.

The mixed topsoil shall meet the following:

<table>
<thead>
<tr>
<th>Screen Size</th>
<th>Percent Retained</th>
<th>Percent Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4 inch</td>
<td>5%</td>
<td>95%</td>
</tr>
<tr>
<td>#10</td>
<td>15</td>
<td>85</td>
</tr>
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<td>#30</td>
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<td>#100</td>
<td>80</td>
<td>20</td>
</tr>
<tr>
<td>#200</td>
<td>90</td>
<td>10</td>
</tr>
</tbody>
</table>

Topsoil shall have a pH range of 5.0 - 6.5 with dolomitic limestone added as necessary to attain this range (pH determined by soil test).

Submit soil analysis from a soils testing laboratory to the Engineer. Indicate source and obtain the Engineer’s approval before hauling to site (analysis test with a 2-pound bag sample is required).

Compost for Topsoil mix shall be fine compost meeting the requirements of Section 9-14.5(8).

8-02.3(5) Roadside Seeding, Lawn and Planting Area Preparation
This section is supplemented with the following:

(******)

The Work involved in preparing areas shall be conducted so the flow lines in drainage channels are maintained. Material displaced by the Contractor’s operations that interferes with drainage, shall be removed from the channel and disposed of as approved by the Engineer.

Before planting and final grading takes place, the area shall be cultivated when specified in the Plans or the Special Provisions. The areas shall be brought to a uniform finished grade, 1 inch, or the specified depth of mulch plus 1 inch, below walks, curbs, junction and valve boxes, catch
basins, and driveways, unless otherwise specified. All excess material and debris, stumps, and rocks larger than 3 inches, shall be removed and disposed of off the project site or as approved by the Engineer.

Work within the wetland and wetland buffer shall be conducted either through hand-turning of the soil or by using an excavator and backing out of the work area so that the cultivated soils are not re-compacted prior to placing large woody debris and/or planting.

Contractor shall coordinate with other Work related to this Project to achieve subgrade depths, allowing for specified amendments, topsoil and mulch. Establish subgrade depths by excavating native soils or filling deficit areas with Topsoil Type B. Subgrades shall be as follows:

Infiltration pond, Planting and Lawn Areas: Establish subgrades per details shown in the Plans. Do not cultivate subgrade within the dripline of existing trees. Hand dig planting holes when planting within a tree's critical root zone (CRZ).

8-02.3(5)B   Lawn Area Preparation
This section is supplemented with the following:

(*****)
Soil preparation for Seeded Lawn Areas:
- Prepare subgrades by thoroughly tilling the existing soils to eight-inch (8") depth and removing concrete debris, rocks, and organic matter over two inches in diameter. Secure approval by the Engineer after first tilling operations for confirmation of tilling depth and debris removal. If large (over 4" width) clods of soil or root masses remain, further tilling and/or removal of the material may be required by Engineer.
- Place one four-inch (4") lift of Topsoil Type A over prepared subgrade. Provide smooth grades and secure approval by the Engineer.

Soil preparation for Sod Installation Areas:
- Prepare subgrades by thoroughly tilling the existing soils to eight-inch (8") depth and removing concrete debris, rocks, and organic matter over two inches in diameter. Secure approval by the Engineer after first tilling operations for confirmation of tilling depth and debris removal. If large (over 4" width) clods of soil or root masses remain, further tilling and/or removal of the material may be required by Engineer.
- Provide smooth grades and secure approval by the Engineer.

8-02.3(5)   Planting Area Preparation
This section is supplemented with the following:

(*****)
Prepare subgrades by thoroughly decompacting the existing soils in accordance with the Standard specifications.

Place one 4-inch (4") lift of Topsoil Type A over prepared subgrade and till into subgrade below. Provide smooth grades and secure approval by the Engineer.
Soil preparation for Infiltration Ponds:

- Prepare subgrades by uniformly tilling, excavating or otherwise turning the existing soils to twelve-inch (12") depth along the bottom of the infiltration pond area and removing concrete, asphalt or other debris and foreign matter over two inches (2") in diameter. If the Contractor encounters possible poor draining or heavily compacted soil conditions, notify the Engineer prior to proceeding with construction secure approval by the Engineer after first tilling operations for confirmation of tilling depth and debris removal. Hand tamp to compact.

- All debris, including stumps, sticks, roots, and rocks, concrete or asphalt specified for removal per above shall be removed and disposed of off the project site before topsoil or bioretention soil mix is placed.

- Prepare Bioretention Soil Mix and place 8" in infiltration pond areas in 4-inch lifts. Till first 4-inch lift into subgrade, then place the second 4" lift. Do not walk on, use equipment, drive on or otherwise compact the placed soils, except to plant and/or mulch. Allow soils to settle for a minimum of 30 days. Assume the Infiltration Pond will settle by approximately two inches (2") during this time. Apply additional Bioretention Soil Mix to achieve finished grade minus mulch as detailed.

For planting areas that become over-compacted due to construction use, such as staging areas and access roads, the Contractor shall remove any construction materials, rocks, or debris, then loosen and cultivate subgrade to a minimum depth of 12” prior to planting and seeding operations.

Soil preparation for MSE walls:

Prepare per MSE wall manufacturer’s instructions.

8-02.3(6) Mulch and Amendments
This section is replaced with the following:

(******)
Soil amendments of the type, quality, and quantities specified shall be applied where shown in the Plans or as specified in the Special Provisions. Areas receiving soil amendments shall be bare soil or vegetation free prior to application.

8-02.3(6)A Compost
This section is replaced with the following:

(******)
Compost used for soil amendment shall be Compost for Bioretention Soil Mix as described in 8-02.2. All soil amendments shall be installed as shown in the Plans within 30 calendar days after delivery to the project site.

8-02.3(7) Layout of Planting, Lawn and Seeding Areas
This section is supplemented with the following:

(******)
The Contractor shall coordinate with the Engineer for the location and placement of all previously stockpiled large woody debris in the wetland and wetland buffer areas.
8-02.3(8) Planting
This section is supplemented with the following:

(******)
Protect new plantings against harm from wind, unusual weather, foot traffic or other vandalism through project acceptance. Special planting techniques may be required by the Engineer for unseasonal planting or prolonged periods of drought.

Other than seeding, all planting outside of the wetland shall occur between September 15 and December 1.

Watering: Provide water to plantings immediately following installation. From initial installation through substantial completion, apply a minimum of 1/2” of water every three days.

Weeding and Pest Control:

Weeding of the planted landscape areas: Weeding of the planted areas to occur a minimum of once a week from installation through acceptance by Engineer. Weed more frequently as needed to prevent weeds from going to seed.

2. The Contracting Agency strongly encourages environmentally sensitive maintenance practices. The principals of Integrated Pest Management are preferred over routine chemical applications.

Remove the majority of weeds manually by use of pincer-type weeding tools, flame or hot water weederes. Spot treat isolated weeds with the least toxic method, such as fatty-acid (soap) based non-selective herbicides. Plantings may, at some time, require corrective insect and/or pest control. Maintain close inspection on each trip to the site to insure immediate identification of disease or insect infestation. An integrated pest management program is recommended. However, it is acknowledged that other methods may be required. When necessary, and as approved by Engineer, apply the appropriate and least toxic pesticide in accordance with state and local regulations. Applications are to be corrective rather than preventative.

4. Use of chemicals must be approved in writing in advance. Under no circumstances should a preventative “blanket” application of herbicide, fungicide, or insecticide be used without prior written approval of the Engineer. Provide the Engineer a minimum of 15 days notice prior to large scale applications. Applications must be coordinated with the Engineer. Applications must be made before 7 a.m. or after 6 p.m. and coordinated with the Engineer to avoid special event conflicts. Chemicals must be EPA-approved and applied by a licensed Washington State Pesticide Applicator and per the manufacturer's.

5. Materials and methods must be in accordance with state and local regulations and applied only by licensed applicators.

8-02.3 (10)B Lawn Seeding and Sodding
Section 8-02.3(10)B is supplemented with the following:

(******)
Seed mix for seeded lawn shall be as follows:
### Kind and Variety of Seed in Mixture

<table>
<thead>
<tr>
<th>Kind and Variety of Seed in Mixture</th>
<th>Percent by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turf type Perennial Rye Blend (2 or more approved varieties)</td>
<td>50%</td>
</tr>
<tr>
<td>Chewings Fescue</td>
<td>30%</td>
</tr>
<tr>
<td>Hard Fescue</td>
<td>20%</td>
</tr>
</tbody>
</table>

Turf varieties must include only those ranked “Best” by the 2011 or most current succeeding year's WSU Turfgrass Cultivars Evaluated in Western Washington/Oregon In Recent years list (see Puyallup.wsu.edu/turf).

The seed mixture must be no less than 98 percent pure, and must have a minimum germination rate of 90 percent, and contain less than 1.5% inert material. No noxious weeds will be permitted. Seed must be certified grown in Washington, Oregon or Idaho and tagged with the information specified in Section 9-14.2.

Seeding rate is 6 pounds per 1000 square feet. Apply starter fertilizer.

**Fine Grade**

After installation of the underdrain pipe and irrigation system, the Contractor shall fine grade the areas to a maximum deviation of 0.10 foot within any 10-foot segment without localized low areas to trap water.

**Rake**

The area shall be raked by approved hand or mechanical methods to remove and dispose of all clods, rocks, debris, and litter larger than 1 inch in any dimension.

**Finished Grade**

The finished grade shall be ½ (half) inch below all mowing strips, curbs, sidewalks, and other appurtenances.

**Sow Seed**

Lawn area seeding shall be applied via hydro seeding, in accordance with Section 8-01.3(2), unless otherwise approved by Engineer.

PAM shall not be used as tackifier. Do not place straw or wood strand mulch on seeded lawn areas.

**Fertilizer**

Fertilizer for lawn installation shall be furnished and applied at the rate of 1 lb. of actual nitrogen per 1000 sq. ft.

**Water Application**

Water shall be applied as required throughout germination, initial growth period, and the lawn establishment period.

**Sod**

Sod shall be net-free, and be a variety specified by supplier for use in sports or play field environments.
8-02.3(106DC) Lawn Mowing
Section 8-02.3(16)C is supplemented with the following:

Lawn areas shall be mowed a minimum of twice per month (every 2 weeks) from March through November.

8-02.3(11)B Bark and Wood Chip Mulch
Replace this section with the following:

(******)
Arborist Wood Chip Mulch shall be the Material used to meet erosion control and tree /vegetation protection requirements. Any contamination of the mulch due to the Contractor’s operations shall be corrected to its former condition at the Contractor’s expense.

Arborist Wood Chip Mulch erosion control application shall be with a forced air mulch spreader, or by a delivery method that does not disturb the surface to be protected, followed by hand-raking to obtain uniform coverage and clearance around tree trunks. Where a forced air equipment mulch application is indicated as providing unacceptable results, the Contractor shall employ manual or other application methods such as hand spreading and raking.

Planting and restoration areas shall receive two inches (2") depth of Arborist Wood Chip Mulch per section 9-14.4(3). Mulch shall be feathered to the base of the plant and 1 inch below the top of junction and valve boxes, curbs, and pavement edges. All plant crowns shall be free of mulch.

Infiltration Ponds shall receive two inches (2") depth of Medium Compost per Section 9-14.5(8) on bottom and ponding areas (up to rim elevation of overflow drain), and 2" depth of Arborist Wood Chip Mulch per section 9-14.4(3) on side slopes above ponding area and all other areas. Mulch shall be feathered to the base of the plant and 1 inch below the top of junction and valve boxes, curbs, and pavement edges. All plant crowns shall be free of mulch.

Mulch shall be raked or manually cleared 6 to 8 inches from the trunk(s) of each new tree and 12-18" from existing trees to prevent damage from rot or rodents.

Should the wood chip mulch coverage expose at any time bare ground of more than 50% in any 100 square foot area, the Contractor shall promptly remulch the exposed area to full coverage of the thickness required.

8-02.3(13) Plant Establishment
The third paragraph of this section is supplemented with the following:

(******)
Maintaining a weed-free condition shall include the removal of any remnant blackberry canes and roots.

(******)
8-02.3(18) Streambed Boulders

Streambed boulders shall be placed as shown in the Plans.
8-02.3(19)  **Stepping Stones**

Install stepping stones in accordance with the details in the plans. Clean stone surfaces that have become dirty and stained prior to setting. Prior to placement remove soil, stains, and foreign materials and clean stones by thoroughly scrubbing stones with fiber brushes followed by a thorough drenching with clear water. Use only mild cleaning compounds that contain no caustic or harsh filler or abrasives.

8-02.3(20)  **Split Rail Fence**

Contractor shall furnish and construct split rail fence, including sensitive area signs, in accordance with the Plans including modifications required for rails. All timber and lumber shall be in accordance with Section 9-16.2(1)B.

8-02.3(21)  **Reinforced Lawn Surfacing**

Install reinforced lawn surfacing, including paver, edge restraint and anchor, and base and fill materials in accordance with manufacturer’s recommendations. Surfacing shall be installed over a six inch depth of compacted gravel base meeting manufacturer specifications for base material and placed upon a prepare subgrade in accordance with Section 2-06.

8-02.4  **Measurement**

Section 8-02.4 is supplemented with the following:

Topsoil shall be measured in place by the cubic yard.

Bioretention Soil Mix shall be measured in place by the cubic yard.

Lawn Mowing shall be per lump sum, to be full pay for the specified work for the duration of the lawn mowing period.

Split rail fence shall be measured by the linear foot of completed fence, along the ground line, exclusive of openings. No separate measurement will be made for sensitive area signs.

8-02.5  **Payment**

Section 8-02.5 is supplemented with the following:

“Topsoil Type A”, per cubic yard. The unit Contract price per cubic yard for “Topsoil Type A” shall be full pay for all Work to prepare the subgrade, soil preparation, and furnish and spread the material.

“Bioretention Soil Mix”, per cubic yard. The unit Contract price per cubic yard for “Bioretention Soil Mix” shall include subgrade
preparation and testing, furnishing and testing of soil mix, compost amendment, soil preparation, mixing, placement, soil tests, amendments, materials, compaction or other work required for completion of the Work.

“Large Woody Debris Placement”, per lump sum. The unit Contract price per lump sum for “Large Woody Debris Placement” shall be full pay for all Work to coordinate and place the large woody debris.

The Payment item for “Lawn Mowing” in Section 8-02.5 is replaced with the following: “Lawn Mowing”, per lump sum. All costs for lawn mowing per Section 8-02.3(16)C shall be included in the lump sum price for “Lawn Mowing” including work, materials and equipment required to provide mowing, weeding, fertilizing, as specified.

“Live Stake”, per each.

“Streambed Boulder Two Man”, per each. The unit Contract price per each for “Streambed Boulder Two Man” shall be full pay for all Work required to obtain and install the boulders.

“Stepping Stones”, per lump sum. The lump sum unit Contract price for “Stepping Stones” shall be full pay for all Work required to coordinate the selection and install the stepping stones.

“Split Rail Fence”, per linear foot. The unit Contract price per linear foot for “Split Rail Fence” shall be full pay for all Work to furnish and install the fence including sensitive area signs and any required modifications to rails noted in the Plans.

“Reinforced Lawn Surfacing”, per lump sum. The unit Contract price per lump sum for “Reinforced Lawn Surfacing” shall be full pay for all Work to furnish and install the surfacing including the edge restraints and anchors, Topsoil Type A, subgrade preparation, and providing, placing and compacting the gravel base material.
8-03 Irrigation Systems

8-03.1 Description
Section 8-03.1 is replaced with the following:

(******)

Description:

This work consists of the designing, laying out, furnishing materials and installing an automatic irrigation systems in accordance with the Plans, Specifications and Notes, or as approved by the Engineer.

Project Conditions:

Follow all procedures in Contract Plans regarding locating existing underground utilities.

Follow requirements of the Tree and Vegetation Protection.

Utility locate and review of newly installed utilities.

Before proceeding with any work, the Contractor shall inspect the site, carefully checking all grades and verifying all dimensions and conditions affecting the work to satisfy him/her that he/she may safely proceed. Changes or alterations to the system to meet actual conditions shall be made at the Contractor’s expense.

When renovating or working around an existing irrigation system, the Contractor shall test and document the condition of the existing system prior to the Contractor beginning the work. Take care to neither disturb nor damage any above ground or underground utilities or elements. Keep streets, sidewalks and site clean, free from debris and affected drains open and free flowing at all times.

Follow requirements for porous asphalt and infiltration pond protection.

:

8-03.5 Payment
Section 8-03.5 is supplemented with the following:

("Irrigation System - _____ Area", per lump sum. South Area includes all planted areas to be irrigated, as indicated on the plans, south of NE 124th Street. North Area includes all planted areas to be irrigated, as indicated on the plans, north of Totem Lake Boulevard NE.

All costs for furnishing and installing irrigation system shall include irrigation sleeving as shown in the Plans.
8-05 Pigmented Concrete Deck

8-05.1 Description

Integrally colored finishes for cast-in-place concrete in Span 3 “Resting Area”, as shown in the Plans.

8-05.2 Material

Provide colors from color additive manufacturer’s Buddy Rhodes SB-40 Cobalt Blue, or approved equivalent. SB-40 is an easy dispersing complex inorganic cobalt pigment with a bright blue shade with a subtle red undertone.

8-05.3 Construction Requirements

Entire deck shall receive the same transverse broom finish.

8-05.3(1) Submittals

Submit three mock-up samples 24” x 24” x 4” thick demonstrating colored concrete color with broom finished texture. Use three different pigment percentages to provide a range of colors for the Owner to select from.

It is acknowledged that sample submittals provide only general indication of color; color of completed work may differ.

8-05.3(2) Quality Assurance

Perform work in accordance with: ACI 305.1, ACI 306.1, ACI 318.

Obtain pigment material from the same source and maintain high degree of consistency in workmanship throughout the Project.

Installer Qualifications: Concrete work shall be performed by a firm with at least five years of experience with work of similar scope and quality.

Contractor to submit written description of methods to be used for construction of the pigmented concrete “Resting Area” indicated in the Plans, including finishing conditions, materials, workmanship, joint treatments, and curing methods.

Accepted mock-up samples will provide visual standard for work of Section.

8-05.4 Measurement and Payment

This work shall be incidental to and included in the Lump Sum item for “Bridge Deck (Totem Lake Connector)”.
8-12 Chain Link Fence and Wire Fence

8-12.1 Description
This section is supplemented with the following:

(******)
This Work shall include the furnishing, installing, maintaining and removing of temporary chain link construction fencing to secure the work area and along the temporary trail running along the east edge of the Cross Kirkland Corridor ROW as shown in the Plans.

8-12.2 Materials
This section is supplemented with the following:

(******)
Construction Fencing: Prefabricated portable galvanized chain link fence panels including fabric, posts, top and bottom rails, and driven posts with rolled fabric & wire ties for areas of uneven terrain.

Prefabricated portable fence panels shall be a minimum of 6 feet high by maximum 10 feet wide. Post bases shall be minimum 16 inches by 8 inches by 8 inches high concrete pier with sleeve for post, or as approved. Prefabricated portable temporary fence panels shall be constructed to industry standards for fixed chain link fencing.

- Posts - minimum 1-1/2" OD Schedule 40 galvanized steel pipe.
- Fabric - minimum 11 gauge galvanized two-inch diamond mesh steel wire interwoven. Knuckled or twisted selvage is acceptable.
- Bracing: Provide additional panels or outriggers as necessary to provide a rigid, stable run of fence.

Driven Post Fencing:
- Posts - Schedule 40 galvanized steel pipe.
- Fabric - minimum 11 gauge galvanized two-inch diamond mesh steel wire interwoven. Knuckled or twisted selvage is acceptable.
- Wire Ties – minimum 9-gauge aluminum wire.

Gates shall be 20 feet wide (two prefabricated panels) with double padlocks to allow Contractor and Owner forces entry. Hinged sides of each operating panel shall include double bracketing. Owner will provide one lock keyed for City personnel for each entry. Contractor shall provide one lock keyed for Contractor and Subcontractor for each entry.

8-12.5 Payment
This section is supplemented with the following:

The Work to install temporary construction fencing shall be incidental and costs incurred to perform the Work described in this Section shall be included in payment for other items of Work in the Contract.

8-14 Cement Concrete Sidewalks
8-14.3 Construction Requirements
This section is supplemented with the following:

(******)
Cement concrete sidewalks shall be constructed and finished in accordance with the details shown in the Plans.
8-15 Riprap

8-15.1 Description
This section is supplemented with the following:

(******)
This Work shall include furnishing and providing quarry spalls for infiltration pond overflows and to construct the temporary construction laydown work area south of NE 124th Street using a screened quarry spall material and the removal of quarry spalls and restoration of the existing drainage ditch upon removal of the construction laydown area.

Work also includes the furnishing and placing rock for erosion and scour protection as shown in the Plans surrounding the concrete box culvert.

8-15.2 Materials
This section is supplemented with the following:

(******)
Quarry spalls used to provide a level temporary work area south of NE 124th Street and for infiltration pond overflows shall be screened through a 4” sieve and washed prior to delivery to the site to facilitate removal of quarry spalls and restoration of the existing drainage ditches.

Rock for erosion and scour protection shall meet the requirements of Class A in accordance with Section 9-13.4(2).

8-15.3 Construction requirements
This section is supplemented with the following:

(******)
Excavation for rock for erosion and scour protection shall be in accordance with Section 8-15.3(1) and placement of rock shall be in accordance with Section 8-15.3(2) except only a 3-inch tolerance will be allowed from slope plane and grade line in the finished surface.

8-15.3(6) Quarry Spalls
This section is supplemented with the following:

(******)
Screened and washed quarry spalls for construction laydown shall be placed as needed to create a temporary work area.

Screened and washed quarry spalls shall also be placed for overflows at infiltration ponds as shown in details in the Plans.

8-15.4 Measurement
This section is supplemented with the following:

(******)
Rock for erosion and scour protection will be measured by the ton of rock actually placed.
Quarry spalls for infiltration pond overflows will be measured by ton of spalls actually placed.

No measurement will be made for quarry spalls for the temporary construction laydown.

8-15.5 Payment
This section is supplemented with the following:

(******)
"Quarry Spalls, 2 In.-4 In.", per ton
The unit Contract price for "Quarry Spalls, 2 In.-4 In." per ton shall be full pay for furnishing all Work required to construct the infiltration pond overflows.

No separate payment will be made for the Work to provide the quarry spalls for construction laydown or removal and disposal of construction laydown. This Work shall be incidental to construction.

"Rock for Erosion and Scour Protection, Class A", per ton.
The unit Contract price for "Rock for Erosion and Scour Protection, Class A" per ton shall be full pay for furnishing all Work required to construct the rock protection, except for excavation.

8-19 (Vacant)
(******)

Delete Section 8-19 and replace with the following:

The Contractor shall provide a field office on or adjacent to the Project Site for the use of the Engineer's staff within five (5) Working Days from the Notice to Proceed Date. The field office, its location, and an alternate date if necessary, shall be subject to the approval of the Engineer and shall be established at the pre-construction meeting. The field office shall meet the following requirements:

The field office shall be a weather-tight building; either portable or permanent structure a minimum of eight (8) feet wide with not less than 360 square feet of clear floor space, having at least one door, and a window area of not less than 40 square feet. Windows shall open to allow ventilation. Doors and windows shall be provided with bug screens. The interior walls shall be covered with material suitable for displaying Contract Plans and progress charts, etc. To deter break-in and theft, window and door glass shall be protected with heavy security screens on metal frames bolted to the walls and doors. All doors shall have 2 locks each: one doorknob keyhole lock and 1 deadbolt cylinder lock, each with its own distinct key. The Contractor shall provide 6 sets of keys for each lock.

The field office shall be level and, if portable, the structure shall be supported on blocks. If more than three (3) steps are required to enter the office, a floor-level landing of at least 12 square feet with railing shall be provided. Steps and landing shall be stable and slip resistant. A 3 sided boot brush shall be provided at each field office entrance.

The Contractor shall be responsible for maintaining and cleaning the field office; repairing any damage to the structure, equipment and appurtenances; providing weekly janitorial services including supplying appropriate toilet room paper products; refilling applicable dispensers with
drinking water cups, waterless hand cleaner with pumice, and paper towels; cleaning windows and sweeping floors; and emptying trash receptacles and recyclables, disposing trash, and relining trash receptacles and recyclables.

The office shall be furnished with the following furniture, equipment and appurtenances reasonably presentable, in good working order, and acceptable to the Engineer:

Drafting table, 6 foot x 4 foot minimum, a “D size” plan drawer, soft pad covering entire top, locking tilt feature, and stool with back support (one set);

Office desk, 30” x 60” minimum size, with at least 4 drawers which can be locked with key & one of which is set up for file folders, 2 sets of keys each desk (two);

Office table 36” x 72” (two), 1 Conference table 4’ x 10’;

Office chairs with seat & back cushion (eight);

Four (4) drawer legal file steel cabinet (one) w/100 legal size folders and hanging folders, locking feature with 2 sets keys, and frame in each drawer to hold folders;

Trash receptacles and recycle bins for paper, plastics and glass.

Color Photocopy/Color Printer/Color Scanner/Fax multifunction machine with multiple tray frontload including 3 paper trays (8-1/2 x 11-inch, 8-1/2 x 14-inch, and 11 x 17 inch) with the following:

- Understorage cabinet, floor wheels to accommodate service technician.
- Preset reduction to 50% and enlarge to 200% plus zoom in 1% increments.
- Bypass tray
- Replacement toner cartridge (1 cartridge for each color)
- Capability to scan directly to PDF color at 300 dpi
- Plain paper fax capable

Direct phone line connection and programmable capable to directly send scanned documents and faxes by e-mail.

400 sheets of each size 20 lb. bright paper with no more than 30% recycle post-consumer content.

Repair and maintenance service contract with 4 hour service response on-site parts and labor; The Contractor shall provide a commercial grade broadband internet access with a static IP address (Cable or DSL at a minimum speed of 2.0 Mbps upload & 6.0 Mbps download) between the field office and an Internet Service Provider (ISP). The Contractor shall provide for 24 hour technical support and a local or 1-800 phone number to troubleshoot and maintain the broadband connectivity. The Contractor shall provide inside wiring to support a Local Area Network inside the field office and shall include a 4-plex jack to at least 5 workstations (desk or table locations to be addressed at the pre-construction meeting per Section 1-08.1(2)). The Contractor shall provide necessary equipment to allow internet connectivity and shall be configured to allow VPN access from individual machines to the City of Kirkland. Color Printer/Color Copier/Scanner/Fax multifunction machine shall be connected to the office network and programmed to send scanned documents by e-mail.
The Contractor shall contact City of Kirkland IT Department at least 5 Working Days in advance for access to the City of Kirkland internal network;

White board (3'H x 4'W) with eight (8) dry erase markers and 1 white board eraser.

Electric power of sufficient capacity to operate an electric heater, air conditioner, FAX machine, internet access, 5 computers with monitors, calculator, and lights. Field office shall be provided with a minimum of eight (8) duplex convenience electrical outlets. The office shall be illuminated at the tables and desks. An outdoor light fixture with a 150 watt bulb or approved equal shall be installed to effectively light the area around the office facility.

After obtaining inspection and approval of the field office electrical system and the proposed temporary power connection hook-up from City, the Contractor shall provide a minimum 15 Working Days advance notice to the local power utility requesting a temporary power drop and connection. Generators (gas and diesel) for producing electrical power will not be allowed unless the Engineer permits such in writing.

Contractor shall provide drinking water with disposable cup dispenser filled with cups;

The Contractor shall provide heating and air-conditioning of sufficient capacity to heat the office to 70°F within 1 hour, and to cool the office 15°F within 1 hour.

If the Contractor fails to provide a field office at the location on the date agreed to at the pre-construction meeting, the Engineer will provide Written Notice of such and shall have the right to withhold progress payments in accordance with Section 1-09.9(3). If within 5 Working Days of the Engineer sending this Written Notice the Contractor has not provided the field office, then the Engineer will have the option to provide the field office. If the Engineer elects to provide the field office, the Engineer will give the Contractor a second Written Notice of such; will within three (3) Working Days of giving the second Written Notice provide the field office meeting the requirements specified in Section 1-07.29; and will charge the Contractor by deducting from monies due or to become due the Contractor on progress payments, all costs associated with the field office as specified in Section 1-07.29. Upon deliverance of the second Written Notice, the Contractor’s right to provide the field office shall be forfeited.

The field office, equipment, and appurtenances supplied by the Contractor shall revert to and be removed by the Contractor when the Engineer, via the Written Notice of Physical Completion to the Contractor, establishes the Physical Completion Date. If the Contractor removes, closes, or discontinues the services specified in Section 1-07.29 prior to receiving the Written Notice of Physical Completion without first obtaining approval from the Engineer, the Contractor will be charged Liquidated Damages in accordance with Section 1-08.9.

All costs for the work required to provide and maintain the field office including regular expenses for telephone, internet, electricity, etc.; incidental constructions to accommodate; and to procure all permits and licenses required for the field office to meet the requirements of Section 1-07.29, shall be included in the lump sum Contract Price Bid for “Mobilization.” All costs for the work required to relocate the field office, if required, shall be considered incidental to the Bid item “Mobilization.”
8-24 Rock and Gravity Block Wall and Cribbing

8-24.2 Materials
Insert the following text at the end of this section:

(******)
Materials for rockery shall be as defined in the City of Kirkland Standard Plan CK-R.52 and as noted in the plans. Rocks type and color to be approved by Engineer.

8-24.3 Construction Requirements
This section is supplemented with the following:

(******)
Construct rockery in accordance with City of Kirkland Standard Plan CK-R.5. Submit description and image rocks to Engineer for approval prior to start of Work.

8-24.4 Measurement
This section is supplemented with the following:

(******)
“Rockery” will be measured per square foot of completed in place front face of wall. The vertical (bottom and top of wall) limits and horizontal limits for measurement are as shown in the Plans.

No separate measurement will be made for excavation and haul or any of the materials listed in City of Kirkland Standard Plan CK-R.52.

8-24.5 Payment
This section is supplemented with the following:

(******)
“Rockery” will be paid per square foot. The unit contract price per square foot for Rockery shall be full pay for Work required to complete the installation as shown in the Plans and detailed in the City of Kirkland Standard Plans.
8-26 Snags and Large Woody Debris

8-26.1 Description
This section is supplemented with the following:

(******)
This Work shall include installing the salvaged snags as described in the Plans and in coordination with the Engineer and dispersal of large woody debris that was stockpiled during clearing and grubbing.

8-26.2 Materials
This section is supplemented with the following:

(******)
Snags and large woody debris shall be salvaged from the site and be stockpiled as described in Section 2-01.

8-26.3 Construction Requirements
This section is supplemented with the following:

(******)
Snags - Bury one third of the total snag vertically as described in the Plans and in coordination with the Engineer.

Large woody debris – Evenly disperse large woody debris throughout wetland and wetland buffer area at the time of restoration planting. Final placement shall be reviewed and approved by the Engineer prior to planting.

8-26.4 Measurement
This section is supplemented with the following:

(******)
Measurement of snags will be by each.
Large woody debris will be lump sum.

8-26.5 Payment
This section is supplemented with the following:

“Snags”, per each
The unit Contract price per each for “Snags” shall be full pay for all Work to install the snags.

“Large Woody Debris”, per lump sum.
The unit Contract price for “Large Woody Debris” shall be full pay for all Work to disperse the large woody debris and coordinate and review approval from the Engineer.
8-27 Seating
8-27.1 Description
This work consists of fabricating and installing steel seating and associated fasteners and anchors as specified herein and as shown in the Plans.

8-27.2 Material
Steel Plate, Bars, and Pipe Shapes: Provide sizes and shapes as required to meet project design conditions specified and indicated in the Plans.

Provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.

Fasteners: Type 316 stainless-steel fasteners for exterior use.

Cast-in-Place Anchors in Concrete: Type 316 stainless steel. Provide bolts, washers, and shims as needed, all stainless steel.

Perforated metal sheet:

Metal: Hot-rolled carbon steel type B sheets, pickled and oiled for removal of oxides

Seating sides:
1/4 inch gauge (.2500 inch thick), with 3/8 inch round holes on 9/16 inch centers, 40% open area

Seating tops:
3/8 inch gauge (.3750 inch thick), with ½ inch round holes on 11/16 inch staggered centers, 48% open area

Materials above conforming to the following standards:
ASTM A53/A53M-12 - Pipe, Steel, Black and Hot-Dipped Zinc Coated, Welded and Seamless.
ASTM A 1011 hot rolled pickled and oiled commercial steel type B.
ASTM A29/A29 M-16 – steel bars, carbon and alloy, hot wrought.
ASTM A 276 –stainless steel plate, bars and shapes

8-27.3 Construction Requirements

8-27.3(1) Sampling and Testing

Mock-Up: Provide a full scale mock-up of a Type L Seating, for evaluation of preparation techniques and installation workmanship.

• Do not proceed with remaining work until workmanship is approved by Engineer.
• Rework mock-up as required to produce acceptable work.
• Retain mock-up during construction as quality standard.
• The mock-up may be incorporated into the final product.

8-27.3(2)  Submittals

Shop Drawings: Show fabrication and installation details. Include the following:

Plans, elevations, sections, and details of metal fabrications and their connections.

Show anchorage and accessory items.

Provide setting diagrams and templates for anchorages, sleeves, and bolts to be installed by others.

Where materials or fabrications are indicated to comply with design loadings, include material and safety factor properties, and other information needed for structural analysis.

Product Data: Provide manufacturer’s standard catalog data for specified products demonstrating compliance with referenced standards. Provide list of fittings being provided with descriptions, load capabilities, and either photographs or drawings for each type.

8-27.3(3)  Quality Assurance

Manufacturer Qualifications: Company specializing in fabrication of steel components with five years minimum successful experience.

Installer Qualifications: Experienced in performing work of this section that has specialized in installation of work similar to that required for this project.

8-27.3(4)  Protection

The Contractor shall shop fabricate and paint the seating and wrap them with protective material prior to delivery to the site to prevent damage to the finish during delivery, storage and construction. Prior to delivery of seating materials, the Contractor shall review and be thoroughly knowledgeable with the fabricator’s care and handling recommendations.

The Contractor shall protect the surfaces from organic solvents such as acetone, benzene, and paint thinner; petroleum based solvents such as gasoline and diesel fuel; and open flames.

Seating with damage to structure or surface finish shall be replaced or touched up with approval of the Engineer.

8-27.3(5)  Fabrication and Placement

Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges
and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.

Fit exposed connections accurately together to form clean joints free of sharp edges.

Painting: Prepare and coat steel in accordance with Section 6-07.

Anchor Installation: Provide stainless steel embeds, anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction.

Installing bearing and levelling plates (to compensate for bridge deck grade and crossfall):

Clean concrete and bearing surfaces of bond-reducing materials and roughen to improve bond to surfaces. Clean bottom surface of plates.

Set bearing and leveling plates on wedges, shims, or leveling nuts. After bearing members have been positioned and plumbed, tighten anchor bolts.

Touchup painted steel in accordance with Section 6-07.

8-27.4 Measurement

The benches will be lump sum.

8-27.5 Payment

“Seating”, per lump sum, shall include all costs in connection with constructing the finished seating. This includes all costs for providing and installing the seating in accordance with the Plans, the Standard Specifications, these Special Provisions and the manufacturer’s installation instructions, including but not limited to, the seating and all fittings and embedded weld plates and connection fittings.
8-28 Pedestrian Handrail

8-28.1 Description

This Work consists of furnishing and constructing metal pedestrian railing, including foundations, of the type specified in accordance with the Plans, and these Specifications, at the locations shown in the Plans.

8-28.2 Material

Railing infill panels shall be Opus10 10-V-ST-D by Coda Architectural, or approved equal. Top rails, posts, and post sleeves shall be per pedestrian handrail supplier requirements. Foundations shall be as specified in the Plans.

8-28.3 Construction Requirements

8-28.3(1) Fabrication

Before fabricating the railing, the Contractor shall submit Type 2 Working Drawings for the Engineer’s acceptance showing dimensions and details of fabrication and including an erection diagram. Material being used shall be specified in the Working Drawings.

Cutting shall be done by sawing or milling and all cuts shall be true and smooth. Flame cutting will not be permitted.

Welding shall conform to the requirements of the "Structural Welding Code" AWS D1. for structural steel. All exposed welds shall be ground flush with adjacent surfaces.

All exposed components (including top rails, panels, posts, post sleeves, tab plates and hardware) shall be powdercoated black.

8-28.3(2) Installation

The handrailing shall be adequately wrapped to insure surface protection during handling and transportation to the job site.

The handrailing shall be erected in accordance with details in the Plans. The railing shall be carefully erected, true to line and grade. Posts shall be vertical with the direction from the vertical for the full height of the panel not exceeding 1/8 inch.

8-28.4 Measurement

Pedestrian railing will be measured by the linear foot along the line and slope at the base of the completed railing.

8-28.5 Payment

"Pedestrian Handrail", per linear foot.
8-30 LED Illumination System

8-30.1 Description

8-30.1(1) Linear LED Rail Lighting Description

The work consists of the supply and installation of exterior LED strips to light the bridge deck as shown in the Plans and as specified herein. This lighting shall apply to railings and glass panel lighting as shown in the Plans.

8-30.1(2) LED Accent Flood and Grazer Lights Description

The work consists of supply and installation of LED accent floodlights and grazer lights, controls and IT components, fibre cables, splicing and connections, managed switches including testing, set-up, commissioning, testing and training.

8-30.1(3) LED Lighting Description

The work consists of the supply and installation for exterior LED walkway lighting off the bridge and, under bridge flood and street lighting

8-30.1(4) Electrical

This work consists of the supply and installation of electrical work including but not limited to:

- Conduit, junction boxes and hand holes,
- Conductors and wiring,
- Mounting brackets,
- Lighting control cabinet,
- Grounding and bonding.

8-30.2 Materials

8-30.2(1) Linear LED Rail Lighting Materials

Linear LED lighting strip, aluminum mounting channel with wireway and lens, connectors and drivers.. Drivers shall be sized to take the required load with 20% additional load capacity. Each driver shall have a field adjustable dimmer included with a minimum of 5 dim settings.

Reference Standard: Organic Lighting Systems LiniLED Top Power (OLS Part #011600), Connector Set, and Cast Joint, Channel with Lens and Drivers. Mocked up samples shall be provided for the 011600 and 011741 Side Mount unit also to compare.

Luminaires shall be:
- UV resistant PVC
- Designed for continuous connection and illumination with no loss of illumination at connectors
- Outdoor - IP67 rated
- 24V DC
- Minimum 104 lumens per
• Maximum - 1.4 W/ft
• 0.5’ x 0.25 for top and 0.5’ x 0.5’ for side units, Max length – 33ft
• Bend radius – 1.2”
• Minimum 11 LED’s per ft
• Rated life – 50,000 hours
• Operating temperature -40° C to +40° C
• Correlated Color Temperature (CCT): 3000K
• CRI ≥80
• UL listed
• Warranty – Minimum 5 years

LED drivers shall meet the following requirements:
• Rated life – 100,000 hours
• UL Listed - outdoor wet location rated
• Drivers shall have a minimum efficiency of 85%.
• Drivers shall be dimmable
• Starting Temperature: -40 degrees C
• Input Voltage: 100 to 270 (±10%) VAC.
• Power Factor (PF): ≥ 0.90.
• Surge Protection: ≥10KA
• Total Harmonic Distortion (THD): ≤ 20%.
• Comply with FCC Title 47 CFR Part 18 Non-consumer RFI/EMI Standards
• Driver Current ≤500mA
• Dimmings switch with 5 settings
• Warranty – Minimum 5 years

8-30.2(2)  LED Accent Flood and Grazer Lights Materials

LED RGB Floodlights and grazer lights, power / DMX boxes, whip cables, connectors and controls. Alternative Lumen pulse product and lighting controls will also be considered provided it meets all requirements listed.

Reference Standard:
• RGB LED Floodlights – Philips Color Burst PowerCore Gen 2 #123-000156-21(grey) with half glare shield and 80 degree spread lens and safety cable
• RGB Grazer Lights – Philips MX Power Core #123-000079-10 (3ft long) and custom mounting brackets
• DMX/Power Box – Philips Data Enable Pro (DMX/Ethernet) #106-000004-00
• Controls – Philips Active Site – Lighting Systems Controller and Active Site Gateway
• Managed Ethernet Switch – Cisco Industrial Ethernet 4000 Series - switch - 12 ports managed #: IE-4000-8GS4G-E, Cisco AC-DC Power Module for POE solution - power supply - 170 Watt #: PWR-IE170W-PCAC-RF, Cisco Rugged SFP - SFP (mini-GBIC) transceiver modules (2) – GigE #: GLC-LX-SM-RGD
• Fibre – Corning Altos Loose Tube, Gel-Free, All-Dielectric Cable, 12 fibre, Single Mode (OS2), Corning Single-Panel Fibre Housing #LAN6787, Corning Closet Connector Housing #CCH-CP12-A9, and buffer tube fan out kit, type LC connectors and Tyco SMOUV 1120 fusion splice protector sleeves.

Floodlight luminaires shall be:
• Input Voltage - 100 to 277 V
• Power Consumption - 33W
• Power Factor > 0.9
• Lumen Output – 963 (LM-79)
• Lumen Maintenance - L70 @ 25 °C - 48,300
• Weight - ≤8 lbs
• Effective Projected Area (EPA) - 26053 mm²
• Housing Material - Die-cast aluminum, powder-coated finish in grey
• Lens - Clear tempered glass with 80 degree diffuser
• Beam angle – 80 degrees
• Temperature Ranges – minus 40 to 50 °C (-40 to 122 °F)
• 3G Vibration Resistance - ANSI C136.31, 3G
• Mechanical Impact - IK08
• Corrosion Resistance - ASTM B117 standard for > 1,500 hours
• Humidity - 0 to 95%, non-condensing
• UL listed for wet locations
• Outdoor - IP66 rated
• Warranty – Minimum 10 years

Grazer luminaires shall be:
• Input Voltage - 100 to 277 V
• Power Consumption - 60W
• Power Factor > 0.9
• Lumen Output – 1509 (LM-79)
• Lumen Maintenance - L70 @ 25 °C – 80,000
• Weight - ≤8 lbs
• Housing Material - Extruded anodized aluminum
• Dimensions - 2.7” high x 36” long x 2.8” deep
• Lens - Clear polycarbonate
• Beam angle – 9 x 9 degrees
• Temperature Ranges – minus 40 to 50 °C (-40 to 122 °F)
• 3G Vibration Resistance - ANSI C136.31, 3G
• Mechanical Impact – IK10
• Corrosion Resistance - ASTM B117 standard for > 1,500 hours
• Humidity - 0 to 95%, non-condensing
• UL listed for wet locations
• Outdoor - IP66 rated
• Warranty – Minimum 10 years

DMX / Power boxes shall be:
• Integrated data and power to intelligent color and tunable RGB LED lighting
• Power DMX box shall merge line voltage and control data and delivers them to floodlights over a single cable
• Input Voltage -100 - 277VAC
• Maximum Input Current - 16.5 A maximum
• Power Consumption - 20 W maximum
• Power Input - 3-wire PC terminal block connector
• Power / Data Output - 4-wire PC terminal block connector
• and 4-wire IDC terminal block connector
• DMX Input/Output - Double-pair, double-entry IDC connectors
• Ethernet Input/Output - Double-pair, double-entry IDC connectors
• Size - 3.4" x 10.5" x 5.4"
• Weight - 6 lbs
• Cast aluminum enclosure with slots for surface mounting and hubs of 3/4" conduit entry
• Finish - Powder-coated grey
• Temperature Range: -40° to 50° C
• Humidity 0-95%, non-condensing
• Certification - UL, FCC Class A, CE
• Environment - Wet Location, IP66 rated
• Warranty – Minimum 10 years

Active Site Gateway controls shall be:
• Input Voltage - 100 - 240VAC
• Power Consumption - 40 W maximum
• Data Network - KiNET Ethernet protocol
• Size – 6.5" x 6.2" x 1"
• Weight - 6 lbs
• Temperature Range: 0° to 40° C
• Humidity 0-90%, non-condensing
• Expansion slots – Full size mini x 1, half size mini x 1, sim slot x 1
• Front Panel I/O – Power button x 1, USB port x 2, com port x 1, eSATA port x 1, SD slot x 1
• Rear Panel I/O – DC 19V jack x 1, HDMI x 2, RJ45 jack x 2, HD audio ports x 2
• UL listed
• CPU – Intel Bay Trail series quad core
• Memory – 8 GB
• Graphics – Intel HD graphics
• Storage – Support mSATA
• LAN – Realtek RTL8111G x 2
• Warranty – Minimum 10 years including software updates at no cost

Lighting System Controller shall be:
• Input Voltage -100 - 240VAC
• Power Consumption 180 W maximum
• Control - Up to 15,000 nodes
• Network Data KiNET Ethernet* protocol via standard Ethernet switch
• Dimensions - 9.5" x 12" x 3")
• Weight - 9.3 lbs
• Housing - Aluminum enclosure
• Connector/Cable (2) RJ45 ports, shielded Cat. 5e or better data cable
• Operating Temperature 0° – 35° C
• Humidity 0 – 90%, relative humidity, non-condensing
• Certification and Safety - CE, FCC, CCC, C-Tick
• Environment Dry indoor location
• Warranty – Minimum 10 years including software updates at no cost
8-30.2(3) **LED Lighting Materials**

Reference Standard:
- 31W Walkway luminaires - Lumec Candela Series CAND2 on 12 ft high pole as per City Standard drawings CK-R.47N and CK-R.47M
- 50W Underbridge street lights - American Electric ATBS-G-MVOLT-R2-3K-Grey-20-NL-DM-P7-SH
- LED Underbridge floodlights – RAB Lighting FFLED18N

Walkway and Under Bridge luminaires shall be:
- Rated life – 100,000 hours at 25 degree C.
- Input voltage 100-277VAC
- Operating temperature -40°C to +40°C
- Correlated Color Temperature (CCT): 3000K
- CRI ≥70
- UL listed
- Warranty – Minimum 10 years
- Surge – 10kA/20kV
- Optical system – IP66
- EPA – 0.3 sq ft
- Total Harmonic Distortion (THD): ≤ 20%.

8-30.2(4) **Electrical Materials**

Materials are defined in the Plans and noted below.

Conductors:
- All feeder circuit conductors shall be stranded copper 600-volt with THWN-2 insulation rated at 90 degrees C.
- Equipment Grounding Conductors: Insulated with green color insulation
- Grounding-Electrode Conductors: Stranded copper.
- Underground Grounding Conductors: Bare, tinned, stranded, except as otherwise indicated.
- DMX Cables and Connectors – Refer to Plans and supplier's recommendations

Grounding and bonding:
- Governing Requirements: Where types, sizes, ratings, and quantities indicated are in excess of National Electrical Code (NEC) requirements, the more stringent requirements and the greater size, rating, and quantity indications govern.
- Grounding Rods: Copper-clad steel.
- Size: 3/4 inch by 120 inches.
- Ground Clamps: Bolted heavy-duty type.
- Bonding Jumpers: Braided steel type with bolted compression connections.
- Bond all FMC and rigid steel conduit

Connectors and Splices:
• UL-listed factory-fabricated wiring connectors of size, ampacity rating, material, and type and class for application and for service indicated. Splices will only be allowed where noted in the Plans.

Conductor Tags and Labeling:
• Sleeve type labels shall be used at all conductor terminations and splices in pole hand holes. Labels shall indicate conductor panel circuit
• Conductor tags shall be used in all pull boxes, cabinet and hand holes. Conductor tags shall be T&B TY553M or equal. Tags shall be marked with a marker with black indelible ink.
• All tags and labels shall be waterproof

Conduit:
• Conduit materials shall be as detailed in the Plans.
• Metallic Conduit: Use above ground only. Transition from PVC to Metallic conduit shall be made at grade with a suitable threaded connector and RPVC to steel conduit adaptor.
• Rigid Metal Conduit (RMC): ANSI C80.1, galvanized.
• Non Metallic (RPVC) Conduit: Schedule 80 (NSF Certified to UL651, rated for use with 90°C conductors, NEMA TC2 rated). Solvent and Primer: Use product specifically designed for RPVC conduit
• All underground conduits shall be a minimum of two-inch standard trade size unless otherwise noted.
• Expansion joints: Shall be IPEX Expansion Deflection Fitting (SE-J-35).

Lighting Cabinet:
• As shown in the Plans.
• The lighting cabinet shall have climate control system to maintain the operating temperature ratings of the equipment being installed. Cabinet shall have internal insulation
• Cabinet shall meet all UL and NEC requirements and bear a UL label
• Cabinet shall have internal LED lighting
• Cabinet shall be aluminum with NEMA 3R rating and powder coat finish
• Surge suppression device shall be separate from panel board. Type 2, 20kA I-n for use in Type 2 locations. Surge Capacity (per phase and per mode): 50kA with a Short-Circuit Current Rating of 200kA, Shall be approved to: ANSI/UL 1449 4th Edition, Type 2 SPD ANSI/IEEE C62.41.1, 62.41.2 and 62.45 and UL96A Lightning protection. The surge protection shall be installed within 150mm of the breakers which in the panel and wiring shall run in straight path with minimal bends.

Mounting Brackets
• As shown in the Plans. Shall be corrosion resistant

Hand Holes:
• The Contractor shall provide all in-ground electrical hand holes where required to connect conduits and where specifically noted.
• Shall be concrete pre-cast products or approved alternate.
• A hand hole shall consist of the box (body) and lid. All hand holes shall be UL Listed. All lids shall be slip resistant lid with embossed “electric” cast in and locking bolt.
• All hand holes (box and lid) shall meet the requirement of the National Electrical Code.
• Hand holes are required to conform to all test provisions of the most current ANSI/SCTE 77 “Specification for Underground Enclosure Integrity” for minimum Tier 15 applications.
• All covers are required to have the Tier level rating embossed on the surface. In no assembly can the cover design load exceed the design load of the box.
• All components in an assembly (box & cover) are manufactured using matched surface tooling.
• Size of boxes is noted in the Plans.

Junction Boxes:
• Shall be as shown in the Plans
• Product – Valid Manufacturing Ltd or approved equal

8-30.3 Construction Requirements

8-30.3(1) Sampling and Testing

Complete one section of Linear LED Rail lighting 132’ long mounted and wired and review with Engineer prior to proceeding to other sections.

Complete one group (5-6 luminaires) of flood and grazer lighting and review with Engineer prior to proceeding.

Define wiring and connections of LED Lighting and review with Engineer prior to construction.

8-30.3(2) Submittals

Product Data Provide manufacturer’s standard catalog data for specified products demonstrating compliance with referenced standards. Provide list of fittings being provided with descriptions, load capabilities, and either photographs or drawings for each type.

Products samples for Linear LED Rail Lighting as follows:
Sections of LED light strip and channel for Top and Side Units
Typical fittings and connectors.

Mock-up: Provide working mock-up of railing lighting to review lighting effects. Mock-up shall include a working 6’ sample of lighting and channel and wiring mounted in railing channel to reflect the final installation during hours of darkness.

Products samples for LED Flood and Grazer Lights as follows:
Grazer and flood light luminaires
DMX Power Box Cabling and wiring
Mounting brackets

Mock-up: Provide working mock-up of grazer and flood lights (2) showing surfaces being illuminated during hours of darkness. Mock-up shall reflect final installation.

Verification Samples for electrical: Samples representing actual products and finishes as
follows:
Sample junction boxes with components mounted

8-30.3(3)  *Linear LED Rail Lighting Installation*

Install lighting in accordance with the NEC, as shown in the Plans, and in accordance with manufacturer’s recommendations. Coordinate with bridge railing fabricator to ensure proper fit of luminaire channel to railing channel. Railing channel shown diagrammatically in the Plans. Railing C channel shall be designed to allow the railing to be aimed 20 degrees downward from horizontal.

Where railing channel is not straight (curved) cut luminaire channel and mount every 6” or less to accommodate curve in the railing.

Luminaire channel shall be sized to accommodate wiring and inset into railing channel to prevent vandalism.

Secure luminaire channel to railing with the mounting tape that is attached to the extrusion and add an epoxy sealant rated for the materials (3M 4000 Marine Adhesive Sealant) for additional adhesion. Use caulking compound on extrusion joints with direct exposure to the weather.

Coordinate installation of light strip with the fabrication railing system.

Acceptance checks and tests - Verify operation after installing luminaires and energizing circuits.

8-31.3(4)  *LED Accent Flood & Grazer Lights Installation*

Install lighting in accordance with the NEC, as shown in the Plans, and in accordance with manufacturer’s instructions. Use connectors defined by suppliers.

Contractor shall aim luminaires as directed by the engineer and allow for adjustment and re-aiming and adjustment of glare shields during hours of darkness.

System set-up shall be undertaken by the supplier’s technical specialist. In addition the supplier’s technical specialist shall provide a half day training on lighting controls with the City Operations Staff.

Fibre installation, splices and testing shall be undertaken by the Cities IT Contractor - Jessie Berry of Integrity Networks (JessieB@Integrity-net.net). The Contractor shall retain Integrity Networks to undertake all fibre installation, splicing, connections and OTDR and Power meter testing. The City will undertake the set-up and programming of the managed Ethernet switch which shall be supplied by the Contractor.

The supplier shall work with City staff to develop up to 5 lighting shows. The supplier shall set-up these shows and gain approval of the City prior to project completion.

Acceptance checks and tests - Verify operation after installing luminaires and energizing circuits.
8-30.3(5)  LED Lighting Installation

Install lighting in accordance with the NEC, as shown in the Plans, and in accordance with manufacturer’s recommendations.

Luminaires shall be securely attached. Install walkway and under bridge luminaire with bottom of luminaire optical system level. Use level and check in two directions.

Install shorting caps on walkway and under bridge luminaires.

All mounting hardware shall be corrosion resistant.

Acceptance checks and tests - Verify operation after installing luminaires and energizing circuits.

8-30.3(6)  Electrical Sampling and Testing

Verification Samples: Contractor shall provide sample junction box (cast in curb type) with driver, terminal block and wiring reflecting the final installation. This shall be reviewed by engineer prior to construction.

The Contractor shall measure and document the voltage and amperage at each branch circuit breakers located in the Lighting Control Cabinet. Contractor shall also measure and document the voltage and amperage at main circuit breakers when the maximum load is turned on. This information shall be submitted to the Engineer for review.

The Contractor shall:

- Measure and record resistance to ground at the main breaker
- Inspect wire and cable for physical damage and proper connection.
- Torque test conductor connections and terminations to manufacturers recommended values.
- Perform continuity test on all power and equipment branch circuit conductors. Verify proper phasing connections.
- Comply with manufacturer’s product data, including product technical bulletins, product catalog installation instructions and product carton instructions for installation.

8-30.3(7)  Electrical Submittals

Product Data  Provide manufacturer’s standard catalog data for specified products demonstrating compliance with referenced standards. Provide list of fittings being provided with descriptions, load capabilities, and either photographs or drawings for each type.

Shop Drawings:

- Mounting brackets
- Poles and anchor bolts
- Luminaires
- Conduit
- Hand holes
• Junction boxes
• Lighting cabinet

Shop drawings for poles, anchor and mounting brackets shall be designed, signed and sealed by a Structural Engineer registered in the state of Washington. Poles shall be designed in accordance with AASHTO standards.

Mock-ups – Provide mock-up of junction box with terminal blocks, drivers and wiring for engineer review.

8-30.3(8)  Electrical Quality Assurance

Installer Qualifications: Experienced in performing work of this section that has specialized in installation of work similar to that required for this project. Specific requirements:

NFPA 70 "National Electrical Code" for components and installation and NFPA 780.
UL 467
UL: Provide products which are UL-classified and labeled for the location and environment in which they are installed.

8-30.3(9)  Electrical Installation

Installation shall meet electrical requirements listed in the WSDot Standard Specifications for Road, Bridge, and Municipal Construction 2018 MS-41-10. Where conflicts arise between the WSDot specification and what is listed in this specification, contact the Engineer.

Conduit Installation: Conduit in earth shall be installed minimum 2 ft below grade. Conduit shall run as straight as possible. Install conduit and duct as indicated according to manufacturer's written instructions. Use manufactured elbows for stub-ups in poles, concrete bases and hand holes / boxes. Use non-manufactured long sweep bends with a minimum radius of 25 feet both horizontally and vertically at other locations. Do not exceed 20 degrees for field bends. Make joints in ducts and fittings watertight according to manufacturer's instructions. Stagger couplings so those of adjacent ducts do not lie in the same plane. After installation and prior to installing pull string: Pull a brush through the full length of ducts. Use round bristle brush with a diameter 1/2 inch greater than internal diameter of duct. Install 100-pound-test nylon cord in ducts, including spares. Install conduit expansion joints where noted in the Plans.

Trench: Excavate to bottom elevation of conduit (s), and correct points of over excavation by returning trench to grade with mechanically compacted backfill to form a smooth trench bottom (compact to at least 98% standard proctor density in paved areas and 95% in sod areas). Provide a minimum 24 inches of cover over the top of the conduits. Excavate to minimum width consistent with stability of sides. Where soft and wet or unstable material determined by frost condition is encountered, over excavate as required and backfill to attain proper grade with coarse sand, gravel, or other slurry. Where rock pad is used for conduit trench, over excavate six inches below the conduit, and refill and compact with selected backfill material of same composition. Materials suitable for backfilling to be piled in an orderly manner. The entire bottom of the excavation is to be firm, stable, and at a uniform density. Remove rocks larger than 2 inches in diameter. No trenches shall be left open after the Contractor has left the site.
Routing: Trenches shall be routed as shown in the Plans. As noted in the Plans special addition and equipment is required when excavating within tree drip lines as defined in the Plans.

Asphalt and Concrete: Areas of trenching in concrete or asphalt shall be done to the minimum width possible to reduce impacts. Asphalt or concrete shall be neatly saw cut in straight line, removed and disposed of off-site. Temporary backfill will be required if the restoration does not take place during the same day.

Backfilling: Backfill only after all necessary inspections and tests are performed and are in conformance with the requirements specified. Backfill with native material unless deemed unacceptable by the Engineer. Remove all debris, rocks, broken concrete, formwork, etc., from the trench prior to the start of backfilling operations. Deposit backfill in 6 inch lifts and compact to 98% standard proctor density. If trenches have not been properly filled, or if settlement occurs, refill, compact, smooth off, and make to conform to the surface of the ground.

Conductor Installation: Install wires and cables as indicated, according to manufacturer's written instructions and the NECA "Standard of Installation". Examine raceway to receive wires and cables for compliance with installation tolerances and other conditions. Do not proceed with installation until unsatisfactory conditions have been corrected. Pull conductors into raceway simultaneously where more than one is being installed in same raceway. Use pulling compound or lubricant where necessary; compound used must not deteriorate conduit and conductors or insulation. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips that will not damage cables or raceway. Neatly train and lace wiring inside boxes, equipment, and panel boards. Examine site to receive ducts for compliance with installation tolerances and other conditions affecting performance. Do not proceed with installation until unsatisfactory conditions have been corrected.

Wiring Connections and Terminations: Conductor Splices: Conductor splices shall only be made in boxes or handholes. Splices not allowed in DMX cables. Where required they shall be as follows:

Use twist on type connectors with insulating covers for copper wire splices. Wrap each conductor with self-holding tape, then wrap the entire splice with self-holding tape and finally cover the entire splice and connector with PVC tape and dip in 3M Scotchkote.

Where the size and number of conductors exceed the capacity of a solder-less pressure or spring wire connector then use split-bolt connectors. Wrap entire split-bolt with tape and then Duct Seal to form a ball over connector. Duct Seal shall be thick enough to prevent sharp edges of conductor or connector from protruding through the duct seal. After applying Duct Seal, then tape with self-holding and PVC tape.

Thoroughly clean wires before installing lugs and connectors. Make splices, taps and terminations to carry full ampacity of conductors without perceptible temperature rise.

Terminate spare conductors with solder less pressure connectors and electrical tape. Tighten screws and bolts according to manufacturer's published torque-tightening values. Where these requirements are not available, use those specified in UL 486A and UL 486B.
Group, bundle and tag set of conductor circuits in pull boxes, pole hand holes and the lighting control cabinet output terminal block. Tags shall indicate the type of circuits (Sports lighting, Security Lighting, etc), the panel circuit numbers and the pole number. Tags shall be waterproof and shall be sized to allow for neat easy to read labeling as indicated above. Tags shall attach around conductors with ty-raps.

**Grounding:** Ground electrical systems and equipment according to NEC requirements and local regulations, except where Plans or Specifications exceed NEC requirements. Equipment Grounding Conductors shall comply with NEC Article 250 for types, sizes, and quantities of equipment grounding conductors, except where specific types, larger sizes, or more conductors than required by NEC are indicated. The Contractor shall bond all metal parts and rebar and tie into electrical system ground. Bonding and grounding shall meet NEC requirements and require the approval of Seattle City Light and the Engineer. Use bonding jumpers where required.

Resistance to ground shall be no greater than 10 ohms to ground at the main breaker. The Contractor shall drive at least three ground rods in a delta configuration and measure the resistance to ground. If it is greater than 10 ohms additional rods shall be driven and resistance to ground retested until the requirement of 10 ohms or less is achieved.

**Grounding Rods:** Locate a minimum of 2-rod length from each other and at least the same distance from any other grounding electrode. Drive rods until tops are 2 inches above final grade, except as otherwise indicated.

**Grounding Conductors:** Route along the shortest and straightest paths possible, except as otherwise indicated. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage. Make connections so possibility of galvanic action or electrolysis is minimized. Select connectors, connection hardware, conductors, and connection methods so metals in direct contact will be galvanically compatible.

Use electroplated or hot-tin-coated materials to assure high conductivity and to make contact points closer in order of galvanic series.

Make connections with clean, bare metal at points of contact.

Tighten screws and bolts for grounding and bonding connectors and terminals according to manufacturer’s published torque-tightening values. Where these requirements are not available, use those specified in UL 486A and UL 486B.

**Colour Coding:** Insulation of wire sizes #8 AWG and smaller shall be colored. #6 AWG and larger may be colored with plastic tape or sleeves of the appropriate color at all junction boxes and terminations that comprise the circuit. Color coding shall be:

A Phase - Black  
B Phase - Red  
Neutral - White  
Ground - Green

**Restoration:** Restore surface features at areas disturbed by excavation, and re-establish original grades except as otherwise indicated. Neatly cut, remove and replace removed sod as soon as possible after backfilling is completed (same day). The Contractor shall be responsible
for fertilizing and irrigating excavated sod areas until back to original condition. If existing sod does not take then new sod shall be supplied. Restore all areas disturbed by trenching, storing of dirt, cable laying, and other work. Restore vegetation and include necessary topsoil, fertilizing, liming, sodding, or mulching. Soil restoration details shall be discussed with and agreed upon by the owner in advance of restoration activities.

Asphalt and concrete surfaces shall be restored with new concrete or asphalt to match existing. Concrete and asphalt shall match existing and meet all City requirements. Concrete and asphalt shall match existing surface with areas with no low or high points or seams where one could trip. Restore disturbed paving or concrete to original condition or better.

8-30.4 Measurement And Payment

No separate measurement and payment will be made for the work in this section. All work, including materials and installation, shall be incidental to the work in Section 8-20, Illumination System.
8-31 Thermoplastic Pavement Marking

8-31.1 Description

This work consists of installing thermoplastic pavement markings for pedestrian and bicycle traffic visual and tactile wayfinding and warnings as shown in the Plans and as specified herein.

8-31.2 Material

A durable, high skid and slip resistant, pavement marking material suitable for use as markings to delineate pedestrian and bike lane, intersection, changes of direction, and speed control. For use on Portland cement concrete pavement surfaces.

Resilient preformed thermoplastic product which contains a minimum of thirty percent (30%) intermixed anti-skid/anti-slip elements uniformly distributed throughout the material.

Shall be composed of an ester-modified resin impervious to degradation by motor fuels, lubricants, etc., in conjunction with aggregates, pigments, binders, and anti-skid/anti-slip elements uniformly distributed throughout the material. The thermoplastic material shall conform to AASHTO designation M249, with the exception of the relevant differences due to the material being supplied in a preformed state, being non-reflective, and being of a color different from white or yellow.

Skid/Slip Resistance: The surface of the preformed thermoplastic material shall contain factory applied anti-skid elements with a minimum hardness of 9 (Mohs scale). Upon application, the material shall provide a minimum static coefficient of friction of 0.6 when tested according to ASTM C 1028 (wet and dry), and a minimum static coefficient of friction of 0.6 when tested according to ASTM D 2047.

Thickness: The material must be supplied at a minimum thickness of 90 mils (2.29 mm) or 125 mils (3.15 mm).

Environmental Resistance: The material shall be resistant to deterioration due to exposure to sunlight, water, salt or adverse weather conditions and impervious to oil and gasoline and concrete cleaning solvents.

The material shall be capable of being applied on bituminous and/or Portland cement concrete pavements by the use of a handheld heat torch, and/or infrared heater.

The material shall be capable of being applied to asphalt and Portland cement concrete surfaces without preheating the application surface to a specific temperature.

The material shall be capable of being applied in temperatures down to 45°F (7.2°C) without any special storage, preheating or treatment of the material before application.

The material shall contain heating indicators evenly distributed on the surface that shall act as visual cues during both the application process and post-application.

8-31.3 Construction Requirements
8-31.3(1) **Sampling and Testing**

Verification Samples: Two samples representing actual products and finishes as follows:

A 2-foot x 4-foot sample board with a section of the architectural pattern of the specified material and finish.

8-31.3(2) **Submittals**

Product Data: Provide manufacturer’s standard catalog data for specified products demonstrating compliance with referenced standards. Provide list of fittings being provided with descriptions, load capabilities, and either photographs or drawings for each type.

Shop Drawings: Provide layout geometry drawings. Include the following:

Provide setting out geometry diagrams showing the location and layout geometry and width dimensions of all pavement markings.

8-31.3(3) **Quality Assurance**

Manufacturer Qualifications: Company specializing in manufacture of thermoplastic paving products with five years minimum successful experience.

Installer Qualifications: Experienced in performing work of this section that has specialized in installation of work similar to that required for this project.

Mock-Up: Provide a mock-up for evaluation of preparation techniques and installation workmanship.
Locate in areas designated by the Engineer.
Size: Minimum area of 4 ft by 8 ft
Utilize the same installation methods proposed for the application of the full extents of the pattern on the bridge deck.
Do not proceed with remaining work until workmanship is approved by the Engineer.
Rework mock-up as required to produce acceptable work.
Retain mock-up during construction as quality standard.
Incorporation: Incorporate mock-up into final construction upon approval by the Engineer.

8-31.3(4) **Protection**

The preformed thermoplastic marking product shall be packaged in cardboard cartons. The cartons in which packed shall be non-returnable, shall contain a minimum of 35% post-consumer recycled materials, and shall not exceed 40 in. (1.02 m) in length and 25 in. (.64 m) in width. The cartons shall be labeled for ease of identification. The weight of the individual carton must not exceed 70 lb. (32 kg). A protective film around the carton must be applied in order to protect the material from rain or premature aging.

8-31.3(5) **Fabrication and Placement**

**Preparation:**
General: Comply with manufacturer’s product data, including product technical bulletins, product catalog installation instructions and product carton instructions for installation.
Examination: Site Verification of Conditions: Verify condition of the concrete paving which has been previously installed under other sections, to ensure it is acceptable for product installation in accordance with manufacturer’s instructions. Do not begin installation until concrete paving surfaces are in satisfactory condition.

Layout preparation: Apply layout markings in accordance with approved shop drawings for the Engineer’s review prior to application

**Application:**
The material shall be capable of being applied using the propane torch method, and/or infrared heater recommended by the manufacturer. The material shall be capable of being applied at ambient and road temperatures down to 45°F (7.2°C) without any preheating of the pavement to a specific temperature. A sealer specified by the manufacturer shall be applied to the pavement surface prior to material application to ensure proper adhesion. The sealer must be supplied by the material manufacturer in 300/600ml cartridges along with sealer application supplies. A thermometer shall not be required during the application process. The pavement shall be clean, dry and free of debris. Supplier must enclose application instructions in English and Spanish with each box/package only pertaining to an application method that does not require preheating of the pavement to a specific temperature before application.

8-31.4 Measurement
The Thermoplastic Paving Markings will be measured per Lump Sum.

8-31.5 Payment
“Thermoplastic Paving Markings”, per lump sum, shall include all costs in connection with supplying and applying the pavement markings
8-32 Glass Panel

8-32.1 Description

This work consists of structural glass guards as shown in the Plans. Provide glass, glazing and accessories for a complete system as indicated and specified herein and as shown in the Plans.

Design stainless steel connection system to be attached to pre-drilled structural steel and to accept structural glass panels once attached to structure. Metal bracket glass clamps connecting structural glass guardrail panels to metal posts.

8-32.2 Material

Steel Plate And Shapes
Provide sizes and shapes as required to meet project design conditions specified and indicated in the Plans.

Provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.

Stainless Steel components and fasteners: Fabricate assembly from Grade 316 Stainless Steel conforming to ASTM 276. Directional satin finish No. 4, grind and polish surfaces to produce uniform finish, free of cross scratches.

Glass panel bottom channel and cap channel:
Type 316 stainless steel. Provide plate and angle sizes and shapes as required to meet project design conditions and as indicated in the Plans.

TEMPERED LAMINATED GLASS
- Tempered Safety glass: To ASTM C1048
- Laminated glass: To ASTM C1172 Two layers of heat strengthened glass with .090 inch thick polyvinyl butyral (PVB) interlayer laminated together.
- Glass and glazing standards:
  - ASTM C1048-12 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass
  - ASTM C1172 - Standard Specification for Laminated Architectural Flat Glass

GLAZING CLAMPS
C.R. Lawrence Company CRL brushed stainless Z-series square type flat surface glass clamps complete with gaskets or approved equal.

GLAZING GASKETS
Dense Compression Gaskets: Molded or extruded gaskets of material indicated below, complying with standards referenced with name of elastomer indicated below, and of profile and hardness required to maintain watertight seal:

- Neoprene, to ASTM C864.
- EPDM, to ASTM C864.

Soft Compression Gaskets: Extruded or molded, closed-cell, integral-skinned gaskets of material indicated below; complying with ASTM C509, Type II, black; and of profile and hardness required to maintain watertight seal:

- Neoprene.
- EPDM.

Fabrication of Structural Glass

- Squareness of each panel: Within 3 mm.
- Bow tolerance: 0.1%.
- Grind and polish exposed edges unless otherwise noted.
- Fabricate structural glass to thicknesses indicated on reviewed Shop Drawings.
- Grind and swipe butt glass edges.

8-32.3 Construction Requirements

8-32.3 (1) Sampling and Testing

Verification Samples: Two samples representing actual products and finishes (including etching) as follows:

- Submit two 4” x 4” size samples of each type of glass.
- Submit sample of Stainless Steel glass clamps.
- Product Data: For each glass product and glazing material indicated.
- Meet requirements of Building Code and By-law as recognized by authority having jurisdiction, as applicable, and as specified. Where there are conflicting requirements, inform City of Kirkland’s Representative for direction and resolution.
- General: Provide glazing systems capable of withstanding normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to: defective manufacture, fabrication, and installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.
- Glass Thicknesses: Select minimum glass thicknesses to comply with Building Code and By-laws. Confirm glass thicknesses by engineering analysis of Project loads and in-service conditions as follows:
  - Specified Design Wind Loads: As required by Code.
  - Specified Design Snow Loads: As required by Code.
  - Load Duration: 60 seconds or less.
  - Thermal Movements: Provide glazing that allows for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures acting on glass framing members and glazing components. Base engineering calculation on surface temperatures of materials due to both solar heat gain and night time-sky heat loss.
  - Temperature Change (Range): -20 to 40°C ambient; 75°C material surfaces.
8-32.3(2) Submittals

Shop Drawings:

Shop drawings to be prepared under supervision of, and signed and sealed by, a structural engineer registered to practice in the State of Washington. Field measure prior to shop drawing production.

Include structural analysis data prepared by engineer sealing shop drawings. Furnish complete shop and erection drawings for review prior to fabrication. Do not fabricate work until Shop Drawings and other related submittals and samples have been reviewed by City of Kirkland’s Representative.

Indicate sizes, quantities, thicknesses, materials, glass types, glazing compounds, sealants, anchorage and fastening details, hardware, glazing methods, and integration with adjacent systems.

Product Data: For each glass product and glazing material indicated. Submit maintenance instructions for glass for inclusion in maintenance manuals.

8-32.3(3) Quality Assurance

Installation in accordance with Glass Association of North America Laminated Glazing Reference Manual

Installation to meet or exceed minimum requirements of current edition of governing and local codes including latest revisions.

Provide one year written guarantee to cover defects in workmanship and installation of accessory materials to all glazing.

8-32.3(4) Protection

Deliver glass in crates; other components in original containers with manufacturer's labels intact and all materials undamaged.

Do not remove containers from Work Site prior to Substantial Performance. Store materials according to manufacturer’s instructions on dry floor in weatherproof enclosure. Coordinate delivery and arrange storage to keep handling to minimum.

Maintain responsibility for breakage regardless of location. Remove broken or otherwise damaged materials from Work Site and replace with acceptable materials at no added cost to the City of Kirkland.

8-32.3(5) Fabrication and Placement

- Examine conditions at all areas of installation for compliance with manufacturer's requirements for glass installation and joint sealant application, with Glazing Contractor
Installer present.
- Verify dimensions prior to manufacture or cutting of glass, and again before installation.
- Do not perform glazing operations when temperature is less than 5°C.
- Start of the Work indicates the Glazing Contractor's acceptance of conditions.
- Remove protective coatings, clean contact surfaces with solvent, and wipe dry.
- Apply primer to contact surfaces in accordance with manufacturer's recommendations.
- Use cleaning agent before sealant application to glass and metal surfaces as recommended by glass manufacturer.
- Perform glazing in accordance with reviewed Shop Drawings, manufacturer's written specifications, and Code requirements. Ensure perimeter clearance is sufficient to avoid point loading and provide for sufficient clearance of glass to metal.
- Install glass in clamps without bending or twisting. Material for protection markings on glass, such as adhesives for manufacturer's labels, to be either neutral or slightly acidic. Alkaline materials are not acceptable. Staining of glass or other surfaces by alkaline materials will be cause for rejection.
- Remove manufacturer's labels or grade marks on glass except as required by code for safety glass identification.
- At completion of glazing of each unit, remove surplus compounds from adjacent surfaces and glazing sections.
- Immediately clean off smears and other marks caused by own forces during erection of glass and glazing.
- Upon completion of work, remove protective coverings and paper labels from exposed surfaces, and make surfaces free of smears, marks, and discolouration.

8-32.4 Measurement

The glass panel will be measured per Each.

8-32.5 Payment

“Glass panels”, per Each, shall include all costs in connection with constructing the finished guardrails of Totem Lake Connector. This includes all costs for providing and erecting the glass panels in accordance with the Plans, the Standard Specifications, these Special Provisions and the manufacturer's installation instructions, including but not limited to, the guardrail stanchions and all fittings and embedded weld plates, and connection fittings.
8-33 Site Furnishings

8-33.1 Description

This Work consists of furnishing and installing garbage receptables in accordance with the Plans and these Specifications.

8-33.2 Material

Garbage Receptacles shall be Dispatch 36 gallon, single stream by Forms + Surfaces, model SLDIS-136, or approved equal. Receptacles shall have standard openings for litter only, with recessed access (screwdriver-operated) latch. Lid and Body colors shall be Aluminum Texture. Liner shall have drain holes and bag slots. Receptacle shall be surface mounted to the concrete pad.

8-33.3 Construction Requirements

Install per manufacturer recommendations.

8-33.4 Measurement

Garbage receptacles will be measured per each unit installed.

8-33.5 Payment

“Garbage Receptacle”, per each. The unit Contract price per each for “Garbage Receptacle” shall be full pay for all Work to furnish and install the receptacles.