CONTRACT SPECIFICATIONS

For The Construction Of:

BARKES ROAD IMPROVEMENT PROJECT
(Fort Road to Branch Road)
C 3204

Yakima County Public Services Project
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C 3204 – Barkes Road
CERTIFICATE

I HEREBY CERTIFY THAT THE ATTACHED DOCUMENTS, PLANS AND SPECIFICATIONS CONFORM TO ORIGINALS WHICH ARE ON FILE IN THE OFFICE OF THE COUNTY ENGINEER OF YAKIMA COUNTY, WASHINGTON.

GARY N. EKSTEDT, P.E.
COUNTY ENGINEER
INFORMATIONAL BID DOCUMENTS
INSTRUCTIONS TO BIDDERS

DELIVERY OF PROPOSALS

Sealed bids will be received at the following location before the specified time:

Yakima County Public Services, fourth floor, Yakima County Courthouse, Yakima, Washington 98901 until 2:00 p.m. of the bid opening date.

Each proposal, or bid shall be completely sealed in a separate package, addressed to the Engineer of Yakima County with the name of the improvements for which the bid is submitted plainly written on the outside of the package.

No oral, telephonic, facsimile, or telegraphic Bids or modifications shall be accepted.

DATE OF OPENING BIDS

The bid opening date for this project shall be February 19, 2008.

The bids shall be publicly opened and read after 2:00 p.m. on that date at the following location:

Yakima County Public Services, fourth floor, Yakima County Courthouse, 128 N. 2nd Street, Yakima, Washington 98901.

RIGHT TO REJECT BIDS:

The right is reserved to reject any and all proposals, to accept the proposal or proposals deemed best for the County or to advertise for new proposals when in the opinion of the Board the best interest of the County shall be promoted thereby.

PROPOSAL GUARANTY:

A certified check, cashiers check, cash or bid bond made payable to the Treasurer of the County of Yakima for an amount equal to at least five percent (5%) of the total amount bid must accompany each bid as evidence of good faith and as a guarantee that if awarded the Contract the bidder shall execute the Contract and give Bond as required.

FORM FURNISHED:

Each bid must be made on the form attached to these Specifications.

YAKIMA COUNTY IS AN EQUAL OPPORTUNITY EMPLOYER
PROPOSAL

C 3204; BARKES ROAD IMPROVEMENT PROJECT
(Fort Road To Branch Road)

BIDDER SHALL BID ONLY ONE OF THE TWO ALTERNATIVES AVAILABLE, EITHER ALTERNATE “A”, OR ALTERNATE “B”

☐ ALTERNATE “A”
COUNTY SUPPLIED CRUSHED SURFACING MATERIALS

BID AMOUNT

$______.

PRICE ADJUSTMENT
16,500 TONS CSBC @ $5.00 PER TON= $82,500.00
6,400 TONS CSTC @ $5.50 PER TON= $35,200.00

TOTAL BID (FOR COMPARATIVE PURPOSES)

$______.

☐ ALTERNATE “B”
CONTRACTOR SUPPLIED CRUSHED SURFACING MATERIALS

BID AMOUNT

$______.

TOTAL BID

$______.

Note: The total bid for either alternate “A” or alternate “B” shall be used for the contract and bond amount.
This certifies that the undersigned has examined the location of the noted project:

C 3204 – BARKES ROAD IMPROVEMENT PROJECT

And that the Plans, Specifications and Contract governing the work embraced in these improvements, and the method by which payment will be made for said work, is understood. The undersigned hereby proposes to undertake and complete the work embraced in these improvements, or as much as can be completed with the money available, in accordance with the said Plans, Specifications, and Contract, and the following schedule of rates and prices:

**NOTE:** Unit Prices for all items, all extensions, and total amount of bid shall be shown. Sales Tax shall be included in Unit Prices. No oral, telephonic, facsimile, or telegraphic Bids or modifications shall be considered or accepted.

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<th>Item No.</th>
<th>Description</th>
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PROPOSAL - Continued

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<td>43 RAILROAD SIGNALIZATION COMPLETE</td>
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BID AMOUNT

NOTE: BIDDER MUST COMPLETE PAGE 2 OF BID DOCUMENTS TO CALCULATE THE TOTAL BID.
The bidder is hereby advised that by signature of this proposal he/she is deemed to have acknowledged all requirements and signed all certificates contained herein.

A proposal guaranty in an amount of five percent (5%) of the total bid, based upon the approximate estimate of quantities at the above prices and in the form as indicated below, is attached hereto:

CASH [ ] IN THE AMOUNT OF __________________________

CASHIER’S CHECK [ ] _______________________________ DOLLARS

CERTIFIED CHECK [ ] ($__________) PAYABLE TO THE COUNTY TREASURER

PROPOSAL BOND [ ] IN THE AMOUNT OF 5 PERCENT (5%) OF THE BID

Bidder acknowledges receipt of the following Addendums:

No. Date

The undersigned has telephoned the Office of the Yakima County Engineer for verification of the number of Addendums issued.

SIGNATURE OF AUTHORIZED OFFICIAL(S)

Title: ____________________________

Firm Name: ____________________________

Address: ____________________________

Phone No.: ____________________________

Washington Registration No.: ____________________________

Federal ID Tax No.: ____________________________

UBI No.: ____________________________

E-Mail: ____________________________

Signed and sworn (or affirmed) before me on ____________________________

Date ____________________________

______________________________
NOTARY PUBLIC

My appointment expires ____________________________

(Seal and Stamp)

NOTE: (1) This proposal is not transferable and any alteration of the firm’s name entered hereon without prior permission from the County Engineer shall be cause for considering the proposal irregular and subsequent rejection of the bid.

(2) Please refer to Section 1-02.6 of the Standard Specifications, re: “Preparation of Proposal”

(3) Should it be necessary to modify this proposal either in writing or by electronic means, please make reference to the following proposal number in your communications C.3204.

C 3204 – Barkes Road Page 6 Informational Bid Documents
LETTER OF RESPONSIBILITY

Date: 
County Road Project No.: C 3204

TO: 
BOARD OF COUNTY COMMISSIONERS OF YAKIMA COUNTY, WASHINGTON 
(Party awarding principal contract)

Dear Sirs:

I hereby maintain that I am a responsible bidder as contemplated by the policies of the State of Washington (Chapter 157, Laws of Washington of 1937).

a. My permanent place of business is ___________________________, which I have maintained for _________ years.

b. I have adequate plant equipment to do expeditiously and properly the work contemplated for Yakima County, Washington.

DESCRIPTION OF WORK:

C 3204 - Barkes Road, (Fort Road to Branch Road)

I have the following equipment available for this work:

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

c. I have adequate funds to promptly meet obligations incident to this work.
Bank reference: ____________________________

____________________________________________________________________

____________________________________________________________________

d. I have had experience in this class of work, having constructed the following improvements.

I hereby certify that the above is a true and accurate statement.

Very truly yours,

___________________________________________
Contractor

NOTE: This sheet need not be submitted, unless so requested by the Engineer subsequent to opening of bid. This “letter of responsibility” shall not be construed to be a request for Prequalification of bidder.
DEFINITION OF TERMS

In interpreting these specifications, the following definitions shall prevail:


SECRETARY OF TRANSPORTATION: Secretary of Transportation of the State of Washington.

BOARD: The Board of County Commissioners of Yakima County.

ENGINEER: County, or construction engineer, or his duly authorized assistants by whom all explanations and directions necessary for the satisfactory prosecution and completion of the work described in these specifications will be given.

CONTRACTOR: The person, firm, co-partnership, or corporation, or any lawful agent of such person, firm, partnership or corporation constituting one of the principals to the contract and undertaking to perform the work herein specified.

CONTRACT: The Agreement between the Contractor and the County of Yakima acting through the Board of County Commissioners. The contract shall include the accepted “Proposal”, “Plans”, “Specifications” and “Contract Bond”, also any and all supplemental agreements which reasonably could be required to complete the construction of the work in a substantial and acceptable manner.

PROPOSAL: The written offer, or copy thereof of the bidder to perform the work proposed.

PLANS: The officially approved drawings, or reproductions thereof attached to this contract.

SPECIFICATIONS: The directions, provisions and requirements contained herein, together with all written agreements made, or to be made pertaining to the method and manner of performing the work, or to the quantities and qualities of materials to be furnished under the contract.

CONTRACT BOND: The approved form of security furnished by the Contractor and his surety as a guarantee of good faith on the part of the Contractor to execute the work in accordance with the terms of the contract.

LABORATORY: The laboratories of the Department of Transportation, or other laboratories designated by the engineer.

AMOUNT OF THE CONTRACT: For the purpose of awarding the contract and determining the amount of the bond, the lump sum bid, or the summation of the products of the approximate quantities shown on the plans or otherwise stated by the unit prices will be considered the total amount of the bid and the full amount of the contract price.
NON-COLLUSION DECLARATION

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

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

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

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., eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the “hotline” to report such activities.

The “hotline” is part of USDOT’s continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the USDOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.
SUBCONTRACTOR LIST

C 3204 - BARKES ROAD IMPROVEMENT PROJECT

Failure to list subcontractors who are proposed to perform the work of heating, ventilation and air conditioning, plumbing, as described in Chapter 18.106 RCW, and electrical as described in Chapter 19.28 RCW will result in your bid being non-responsive and therefore void.

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

If no subcontractor is listed below, the bidder acknowledges that is does not intend to use any subcontractor to perform those items of work.

Subcontractor Name: ___________________________________________
Item Numbers: ________________________________________________

Subcontractor Name: ___________________________________________
Item Numbers: ________________________________________________

Subcontractor Name: ___________________________________________
Item Numbers: ________________________________________________

Subcontractor Name: ___________________________________________
Item Numbers: ________________________________________________
Certification Regarding
Debarment, Suspension, Ineligibility and Voluntary Exclusion
Lower Tier Covered Transactions

This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, 29 CFR Part 98, Section 98.510, Participant’s responsibilities. The regulations were published as Part VII of the May 26, 1998 Federal Register (pages 19160-19211).

(BEFORE COMPLETING CERTIFICATION, READ ATTACHED INSTRUCTIONS WHICH ARE AN INTEGRAL PART OF THE CERTIFICATION)

(1) The prospective recipient of federal assistance funds certifies, by submission of this proposal, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any federal department or agency.

(2) Where the prospective recipient of federal assistance funds is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

________________________________________
Name and Title of Authorized Representative

________________________________________
Signature

________________________________________
Date
CONTRACT

THIS AGREEMENT, made and entered into between Yakima County acting under and by virtue of Titles 36 and 39 RCW, hereinafter called the "COUNTY" and ________________________________, hereinafter called the "CONTRACTOR".

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

I. The CONTRACTOR shall do all work and furnish all tools, materials and equipment for C 3204 – Barkes Road Improvement Project and shall perform any changes in the work in accordance with the Contract Documents. "Contract Documents" are this Contract, the attached Plans and Specifications and the current edition of the Standard Specifications of the Washington State Department of Transportation and American Public Works Association which are by this reference incorporated herein and made a part hereof. In using said Standard Specifications and Amendments thereto, "Secretary of Transportation", "Engineer" and like terms used therein will be construed to mean Yakima County Engineer and "State" or "Thurston County" shall mean Yakima County.

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

III. The COUNTY hereby promises and agrees to pay the CONTRACTOR according to the attached Specifications and the schedule of unit or itemized prices at the time and in the manner and upon the conditions provided for in the Contract Documents.

IV. The CONTRACTOR for itself, and for its heirs, executors, administrators, successors and assigns does hereby agree to the full performance of all the covenants herein contained upon the part of the CONTRACTOR.

V. It is further provided that no liability shall attach to the COUNTY by reason of entering into this Contract, except as expressly provided herein.

IN WITNESS WHEREOF, the CONTRACTOR has executed this instrument, on the date indicated below and Yakima County has caused this instrument to be executed in the name of said COUNTY by and through the Board of Yakima County Commissioners on the date indicated below.

Executed by the CONTRACTOR __________, 20___.

BOARD OF YAKIMA COUNTY COMMISSIONERS

______________________________
Chair

______________________________
Commissioner

______________________________
Commissioner

ATTEST: Clerk of the Board

______________________________
Christina Steiner

Approved as to form:

______________________________
Deputy Prosecuting Attorney

C 3204 – Barkes Road  Page 12  Informational Bid Documents
PERFORMANCE BOND
(RCW 39.08)

KNOW ALL MEN BY THESE PRESENTS, That _________________________, as "PRINCIPAL", and _________________________, a corporation authorized to do business in the State of Washington, as "SURETY", are jointly and severally held and bound unto Yakima County, Washington in the penal sum _________________________ Dollars ($________________) for the payment of which by these presents we jointly and severally bind ourselves, our heirs, executors, administrators, assigns, and successors.

THE CONDITION of this bond is such that WHEREAS, on ______________, 20___, the PRINCIPAL executed a certain Contract with the County, by the terms of which PRINCIPAL agrees to furnish all material and labor and will undertake and complete the construction of for C 3204 – Barkes Road Improvement Project according to the maps, plans and specifications made a part of said Contract, which Contract is attached hereto and by this reference is incorporated herein and made a part hereof. FURTHER, the SURETY agrees to be bound by the laws of the State of Washington and subjected to the jurisdiction of the State of Washington.

NOW, THEREFORE, if the PRINCIPAL shall faithfully perform all the provisions of such contract and pay all laborers, mechanics, subcontractors and materialmen, and all persons who supply such persons or subcontractors with provisions or supplies for the carrying on of such work, then this obligation to be void, otherwise to remain in full force and effect.

Dated this _______ day of _________________________, 20_____.

PRINCIPAL

By: ________________________________

Title: ________________________________

SURETY

By: ________________________________

Attorney-in-Fact

APPROVED: YAKIMA COUNTY

Chair of the Board of Yakima County Commissioners

Date: ________________________________ 20___

Approved as to form:

Deputy Prosecuting Attorney

Name of Local Office of Agent

Address of Local Office Agent

BOND NUMBER

YAKIMA COUNTY CONTRACT NUMBER

C 3204 – Barkes Road

Page 13

Informational Bid Documents
AMENDMENTS TO THE STANDARD SPECIFICATIONS
AMENDMENTS TO THE STANDARD SPECIFICATIONS

C 3204 – BARKES ROAD IMPROVEMENT PROJECT
(Fort Road to Branch Road)

YAKIMA COUNTY, WASHINGTON

INTRODUCTION

The following Amendments and Special Provisions shall be used in conjunction with the 2008 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.

SECTION 1-03, AWARD AND EXECUTION OF CONTRACT

January 7, 2008

1-03.1 Consideration of Bids
This section is supplemented with the following new sub-section.

1-03.1(l) Tied Bids
After opening Bids, if two or more lowest responsive Bid totals are tied, then the tie-breaker will be determined by drawing as described in this Section. Two or more slips of paper will be marked as follows: one marked “Winner” and the other(s) marked “unsuccessful”. The slips will be folded to make the marking unseen. The slips will be placed inside a box. One authorized representative of each Bidder shall draw a slip from the box. Bidders shall draw in alphabetic order by the name of the firm as registered with the Washington State Department of Licensing. The slips shall be unfolded and the firm with the slip marked “Winner” will be determined to be the successful Bidder and eligible for Award of the Contract. Only those Bidders that submitted a Bid total that is tied as the lowest responsive Bid are eligible to draw.

SECTION 1-04, SCOPE OF THE WORK

January 7, 2008

1-04.5 Procedure and Protest by the Contractor
In the second paragraph, number 2, the reference to 7 calendar days is revised to 14 calendar days.

The second sentence in the fifth paragraph is revised to read:
The determination will be provided within 14-calendar days after receipt of the Contractor’s supplemental written statement (including any additional information requested by the Project Engineer to support a continuing protest) described in item 2 above.

SECTION 1-05, CONTROL OF WORK
January 7, 2008

1-05.1 Authority of the Engineer
The fourth paragraph is revised to read:

At the Contractor’s risk, the Project Engineer may suspend all or part of the Work according to Section 1-08.6.

SECTION 1-08, PROSECUTION AND PROGRESS
January 7, 2008

1-08.3(2)A Type A Progress Schedule
This section is revised to read:

The Contractor shall submit five copies of a Type A Progress Schedule no later than 10 days after the date the contract is executed, 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.

1-08.5 Time for Completion
The third sentence in the first paragraph is revised to read:

A nonworking day is defined as a Saturday, a Sunday, a whole or half day on which the Contract specifically prohibits Work on the critical path of the Contractor’s approved progress schedule, or one of these holidays: January 1, the third Monday of January, the third Monday of February, Memorial Day, July 4, Labor Day, November 11, Thanksgiving Day, the day after Thanksgiving, and Christmas Day.

1-08.6 Suspension of Work
The first paragraph is revised to read:

The Engineer may order suspension of all or any part of the Work if:

1. Unsuitable weather that prevents satisfactory and timely performance of the Work; or

2. The Contractor does not comply with the Contract; or

3. It is in the public interest.
SECTION 1-09, MEASUREMENT AND PAYMENT
January 7, 2008

1-09.9 Payments
The first paragraph is supplemented with the following:

For items Bid as lump sum, the Contractor shall submit a breakdown of their lump sum price in sufficient detail for the Project Engineer to determine the value of the Work performed on a monthly basis. Lump sum breakdowns shall be provided to the Project Engineer no later than the date of the preconstruction meeting.

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

Unless otherwise provided in the payment clause of the applicable Specifications, partial payment for lump sum Bid items will be a percentage of the price in the Proposal based on the Project Engineer’s determination of the amount of Work performed, with consideration given to but not exclusively based on the Contractors lump sum breakdown.

The third paragraph is supplemented with the following:

The determination of payments under the contract will be final in accordance with Section 1-05.1.

SECTION 1-10, TEMPORARY TRAFFIC CONTROL
January 7, 2008

1-10.5(1) Lump Sum Bid for Project (No Unit Items)
This section is revised to read:

“Project Temporary Traffic Control”, lump sum.

The lump sum Contract payment shall be full compensation for all costs incurred by the Contractor in performing the Contract Work defined in Section 1-10, except for costs compensated by Bid Proposal items inserted through Contract Provisions as described in Section 1-10.4(3).

SECTION 2-03, ROADWAY EXCAVATION AND EMBANKMENT
January 7, 2008

2-03.1 Description
The first sentence in the first paragraph is revised to read:

The Work described in this section, regardless of the nature or type of the materials encountered, includes excavating and grading the Roadway, excavating in borrow pits,
excavating below grade, excavating channels and ditches, removing slide material, and disposing of all excavated material.

2-03.3(3) Excavation Below Grade
The section title is revised to read:

2-03.3(3) Excavation Below Subgrade
The first sentence in the fifth paragraph is revised to read:

Compaction. If the density of the natural earth under any area of the Roadway is less than that required in Section 2-03.3(14)C, Method B, the Engineer may order the Contractor to perform any or all of the following:

2-03.3(14)M Excavation of Channels
This section including title is revised to read:

2-03.3(14)M Excavation of Channels and Ditches
Channel Excavation: Open excavations 8-feet or more wide at the bottom, but excludes channels that are part of the Roadway.

Ditch Excavation: Open excavations less than 8-feet wide at the bottom, but excludes ditches that are part of the Roadway.

Before excavating channels or ditches, the Contractor shall clear and grub the area in accordance with Section 2-01.

2-03.4 Measurement
The first sentence in the first paragraph is revised to read:

Roadway excavation, channel excavation, ditch excavation, unsuitable foundation excavation, and common borrow items will be measured by the cubic yard.

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

For Roadway excavation, channel excavation and ditch excavation items, the original ground will be compared with the planned finished section shown in the Plans.

2-03.5 Payment
The paragraph is supplemented with the following:

“Channel Excavation”, per cubic yard.
“Channel Excavation Incl. Haul”, per cubic yard.
“Ditch Excavation”, per cubic yard.
"Ditch Excavation Incl. Haul", per cubic yard.

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

The second paragraph is supplemented with the following:

When a bid item is not included in the proposal for channel excavation or ditch excavation all costs shall be included in roadway excavation.

The third paragraph is revised to read:

When the Engineer orders Work according to Section 2-03.3(3), unit Contract prices shall apply, unless the Work differs materially from the excavation above Subgrade, then payment will be in accordance with Section 1-04.4.

SECTION 5-04, HOT MIX ASPHALT
January 7, 2008

5-04.3(12)B Longitudinal Joints
The first two paragraphs are revised to read:

The longitudinal joint in any 1 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.

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

1. The ramp must remain open to traffic, or

2. The ramp is closed to traffic and a hot-lap joint is constructed.

   a. If a hot-lap joint is allowed at the center of the traffic lane, 2 paving machines shall be used; a minimum compacted density in accordance with Section 5-04.3(10)B shall be achieved throughout the traffic lane; and construction equipment other than rollers shall not operate on any uncompacted mix.

SECTION 8-15, RIPRAP
January 7, 2008

8-15.3(1) Excavation for Riprap
The second sentence of the first paragraph is revised to read:
Excavation below the level of the intersection of the slope to be protected and the adjacent original ground or the channel floor or slope shall be classified, measured, and paid for as channel excavation or ditch excavation in accordance with Section 2-03.

8-15.4 Measurement
The following new paragraph is inserted to follow the fifth paragraph.

Channel excavation will be measured by the cubic yard as specified in Section 2-03.

The sixth paragraph is revised to read:

Ditch excavation will be measured by the cubic yard as specified in Section 2-03.

8-15.5 Payment
The bid item “Filter Blanket” is supplemented with the following:

The unit price for “Filter Blanket” shall be full payment for all costs incurred to perform the work in Section 8-15.3(7).

This section is supplemented with the following:

“Channel Excavation”, per cubic yard.
“Channel Excavation Incl. Haul”, per cubic yard.
Payment for “Channel Excavation”, “Channel Excavation Incl. Haul”, “Ditch Excavation” and “Ditch Excavation Incl. Haul” is described in Section 2-03.5.

SECTION 8-21, PERMANENT SIGNING
January 7, 2008

8-21.3(9)F Bases
This section including title is revised to read:

8-21.3(9)F Foundations
The excavation and backfill shall be in conformance with the requirements of Section 2-09.3(1)E. Where obstructions prevent construction of planned foundations, the Contractor shall construct an effective foundation satisfactory to the Engineer.

The bottom of concrete foundations shall rest on firm ground. If the portion of the foundation beneath the existing ground line is formed or cased instead of being cast against the existing soil forming the sides of the excavation, then all gaps between the existing soil and the completed foundation shall be backfilled and compacted in accordance with Section 2-09.3(1)E.

Foundations shall be cast in one operation where practicable. The exposed portions shall be formed to present a neat appearance. Class 2 surface finish shall be applied to exposed surfaces of concrete in accordance with the requirements of Section 6-02.3(14)B.
The foundations shown in the Plans shall be extended if conditions require additional depth, and such additional work, if ordered by the Engineer, will be paid for as extra work as provided in Section 1-04.4.

Forms shall be true to line and grade. Tops of foundations for roadside sign structures shall be finished to ground line, unless otherwise shown in the Plans or directed by the Engineer. Tops of foundations for sign bridges and cantilever sign structures shall be finished to the elevation shown in the Plans.

Both forms and ground which will be in contact with the concrete shall be thoroughly moistened before placing concrete; however, excess water in the foundation excavation will not be permitted. Forms shall not be removed until the concrete has set at least three days. All forms shall be removed, except when the Plans or Special Provisions specifically allow or require the forms or casing to remain.

Foundation concrete shall conform to the requirements for the specified class, be cast-in-place concrete and be constructed in accordance with Section 6-02.2 and 6-02.3.

Sign structures shall not be erected on concrete foundations until foundations have attained a compressive strength of 2,400 psi.

In addition to the basic requirements, sign bridges and cantilever sign structures shall be installed in accordance with the following:

1. Tops of foundations for sign bridges and cantilever sign structures shall be finished to the elevation shown in the Plans.

2. Steel reinforcing bars shall conform to Section 9-07.

3. Concrete shall be Class 4000, except as otherwise specified. Where water is present in the shaft excavations for Type 1 foundations for sign bridges and cantilever sign structures, the shaft concrete shall be Class 4000P placed in accordance with Section 6-02.3(6B).

4. All bolts and anchor bolts shall be installed so that two class full threads extend beyond the top of the top heavy-hex nut. Anchor bolts shall be installed plumb, plus or minus 1 degree.

5. Plumbing of sign bridges and cantilever sign structures shall be accomplished by adjusting leveling nuts. Shims or other similar devices for plumbing or raking will not be permitted.

6. The top heavy-hex nuts of sign bridges and cantilever sign structures shall be tightened in accordance with Section 6-03.3(33), and by the Turn-Of-Nut Method to a minimum rotation of 1/4 turn and a maximum of 1/3 turn past snug tight. Permanent marks shall be set on the base plate and nuts to indicate nut rotation past snug tight.
In addition to the basic requirements, roadside sign structures shall be installed in accordance with the following:

1. Tops of foundations shall be finished to final ground line, unless otherwise shown in the Plans or staked by the Engineer.

2. Spiral reinforcing shall conform to AASHTO M32. All other steel reinforcement shall conform to the requirements of Section 9-07.

3. Concrete shall be Class 3000.

4. The assembly and installation of all Type TP – A or B bases for roadside sign structures shall be supervised at all times by either a manufacturer’s representative or an installer who has been trained and certified by the manufacturer of the system. If the supervision is provided by a trained installer, a copy of the installer certification shall be provided to the Engineer prior to installation.

5. For all Type – A or B bases the Contractor shall attach four female anchors to a flat rigid template following the manufacturer’s recommendations. The Contractor shall lower the anchor assembly into fresh concrete foundation and vibrate into position such that the tops of the anchor washers are flush with the finished top surface of the foundation. The Contractor shall support the template such that all anchors are level and in their proper position.

   Slip base and hinge connection nuts of roadside sign structures shall be tightened using a torque wrench to the torque, and following the procedure, specified in the Standard Plans.

**8-21.3(12) Steel Sign Posts**

This section is revised to read:

For roadside sign structures on Type – A or B bases, the Contractor shall use the following procedures and manufacturer’s recommendations:

1. The couplings, special bolts, bracket bolts, and hinge connection nuts on all Type – A or B bases shall be tightened using the Turn-Of-Nut Tightening Method to a maximum rotation of 1/2 turn past snug tight.

2. The Contractor shall shim as necessary to plumb the steel sign posts.

For roadside sign structures on all Type PL and SB slip bases, the Contractor shall use the following procedures:

1. The Contractor shall assemble the steel sign post to stub post with bolts and flat washers as shown in the Standard Plans.

2. Each bolt be tightened using a torque wrench to the torque, and following the procedures specified in the Standard Plans.
SECTION 9-09, TIMBER AND LUMBER
January 7, 2008

9-09.1 General Requirements
This section is revised to read:

All timber and lumber shall be sized as indicated in the Plans.

All timber and lumber to be painted shall be surfaced on all sides. All timber and lumber to be painted shall be thoroughly air or kiln dried to an equilibrium moisture content and shall be stored in such a manner as to remain in a thoroughly dry condition until placed into the work.

9-09.2 Grade Requirements
This section is revised to read:

Timber and lumber shall conform to the grades and usage listed below.

Timber and lumber shall be marked with a certified lumber grade stamp provided by one of the following agencies:

- West Coast Lumber Inspection Bureau (WCLIB)
- Western Wood Products Association (WWPA)
- Pacific Lumber Inspection Bureau (PLIB)
- Any lumber grading bureau certified by the American Lumber Standards Committee

For structures, all material delivered to the project shall bear a grade stamp and have a grading certificate. The grade stamp and grading certificate will not constitute final acceptance of the material. The Engineer may reject any or all of the timber or lumber that does not comply with the specifications or has been damaged during shipping or upon delivery. The grading certificate shall be issued by either the grading bureau whose stamp is shown on the material, or by the lumber mill, which shall be under the supervision of one of the grading bureaus listed above. The certificate shall include the following:

- Name of the mill performing the grading
- The grading rules being used
- Name of the person doing the grading with current certification
- Signature of a responsible mill official
- Date the lumber was graded at the mill
- Grade, dimensions, and quantity of the timber or lumber

For Guardrail Posts and Blocks, Sign Posts, Mileposts, Sawed Fence Posts, and Mailbox Posts, the material delivered to the project shall either bear a grade stamp on each piece or have a grading certificate as defined above. The grade stamp or grading certificate shall not constitute final acceptance of the material. The Engineer may reject any or all of the timber or lumber that does not comply with the specifications or has been damaged during shipping or upon delivery.
9-09.2(1) Surfacing and Seasoning

This section including title is revised to read:

9-09.2(1) Structures

All timber and lumber for structures shall be Douglas Fir-Larch unless specified otherwise in the contract, and shall conform to the following:

<table>
<thead>
<tr>
<th>Materials 2” to 4” nominal thick, 5” nominal and wider (Structural Joists and Planks)</th>
<th>No. 1 and better, grade (Section 123-b of WCLIB) or (Section 62.11 of WWPA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials 5” nominal and thicker (Beams and Stringers)</td>
<td>No. 1 and better, grade (Section 130-b of WCLIB) or (Section 70.11 of WWPA)</td>
</tr>
</tbody>
</table>

Timber lagging for soldier pile walls shall be Douglas Fir-Larch, grade No. 2 or better or Hem-Fir No. 1.

When the material is delivered to the project, the Engineer will check the order for the appropriate grade stamp. The invoice and grading certificate accompanying the order must be accurate and complete with the information listed above. The grading certificate and grade markings shall not constitute final acceptance of the material. The Engineer may reject any or all of the timber or lumber that does not comply with the specifications or has been damaged during shipping or upon delivery.

9-09.2(2) Vacant

This section including title is revised to read:

9-09.2(2) Guardrail Posts and Blocks

Timber and lumber for guardrail posts and blocks (classified as Posts and Timbers) shall conform to the species and grades listed below.

<table>
<thead>
<tr>
<th>Douglas Fir</th>
<th>No. 1 and better, grade (Section 131-b WCLIB) or (Section 80.11 WWPA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hem Fir</td>
<td>Select Structural, grade (Section 131-a WCLIB) or (Section 80.10 WWPA)</td>
</tr>
<tr>
<td>Southern Yellow Pine</td>
<td>No. 1 and better, grade (Southern Pine Inspection Bureau)</td>
</tr>
</tbody>
</table>

When the material is delivered to the project, the Engineer will check the order for the appropriate grade stamp. The grade markings shall not constitute final acceptance of the material. The Engineer may reject any or all of the timber or lumber that does not comply with the specifications or has been damaged during shipping or upon delivery.
9-09.2(3) Inspection
This section including title is revised to read:

9-09.2(3) Sign Posts, Mileposts, Sawed Fence Posts, and Mailbox Posts
The allowable species of timber and lumber for signposts, and mileposts shall be Douglas Fir-Larch or Hem Fir. Timber and lumber for sawed fence posts and mailbox posts shall be Western Red Cedar, Douglas Fir-Larch, or Hem Fir.

Sign posts, mileposts, sawed fence posts, and mailbox posts shall conform to the grades shown below.

<table>
<thead>
<tr>
<th>Size</th>
<th>Grade Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4” × 4”</td>
<td>Construction grade (Light Framing, Section 122-b WCLIB) or (Section 40.11 WWPA)</td>
</tr>
<tr>
<td>4” × 6”</td>
<td>No. 1 and better, grade (Structural Joists and Planks, Section 123-b WCLIB) or (Section 62.11 WWPA)</td>
</tr>
<tr>
<td>6” × 6”, 6” × 8”, 8” × 10”</td>
<td>No. 1 and better, grade (Posts and Timbers, Section 131-b WCLIB) or (Section 80.11 WWPA)</td>
</tr>
<tr>
<td>6” × 10”, 6” × 12”</td>
<td>No. 1 and better, grade (Beams and Stringers, Section 130-b WCLIB) or (Section 70.11 WWPA)</td>
</tr>
</tbody>
</table>

SECTION 9-16, FENCE AND GUARDRAIL
January 7, 2008

9-16.1(1)A Post Material for Chain Link Fence
The first paragraph is supplemented with the following:

- **Round Post Material**
  Round post material shall be Grade 1 or 2.

- **Roll Form Material**
  Roll-formed post material shall be Grade 1.
  Roll-formed end, corner, and pull posts shall have integral fastening loops to connect to the fabric for the full length of each post. Top rails and brace rails shall be open rectangular sections with internal flanges as shown in ASTM F1043.

The **Round Post Material** and **Roll Form Material** information following the third paragraph is deleted.

9-16.1(1)B Chain Link Fence Fabric
The first paragraph is revised to read:

Chain link fabric shall consist of 11 gage wire for chain link fence Types 3, 4, and 6, and 9 gage wire for chain link fence Type 1. The fabric shall be zinc-coated steel wire conforming to AASHTO M 181, Class C. Zinc 5-percent Aluminum-Mischmetal alloy meeting the
requirements of ASTM B 750 may be substituted for zinc coating (hot-dipped) at the
application rate specified by ASSHTO M 181 for hot-dip zinc coating. Coating for chain
link fence fabric shall meet the requirements of ASTM A 817 with minimum weight of
coating of uncoated wire surface 1.0 oz/sq ft (305 g/m2).

9-16.1(1)C Tension Wire
This section including title is revised to read:

9-16.1(1)C Tension Wire and Tension Cable
Tension wire shall meet the requirements of ASSHTO M 181. Tension wire galvanizing
shall be Class 1.

Tension cable shall meet the requirements of Section 9-16.6(5).

9-16.1(1)D Fittings and Hardware
This section is supplemented with the following:

Fabric bands and stretcher bars shall meet the requirements of Section 9-16.6(9).

Thimbles, wire rope clips, anchor shackles, and seizing shall meet the requirements of
Section 9-16.6(6).

9-16.1(1)E Chain Link Gates
The first sentence in the first paragraph is revised to read:

Gate frames shall be constructed of not less that 1 1/2-inch (I.D.) galvanized pipe
conforming to ASSHTO M 181 Type I, Grade 1 or 2 as specified in Section 9-16.1(1)A.

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

All welds shall be ground smooth and painted with an A-9-73 galvanizing repair paint or A-
11-99 primer meeting the requirements of Section 9-08.2.

9-16.2(1)A Steel Post Material
The reference to “hot dip galvanized” in the first sentence in the second paragraph is revised to
“galvanized”.

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

Posts shall not be less than 7-feet in length.

9-16.3(2) Posts and Blocks
The first sentence in the second paragraph is revised to read:

Timber posts and blocks shall conform to the grade specified in Section 9-09.2(2).

9-16.3(3) Galvanizing
The first sentence in the first paragraph is revised to read:
W-beam or thrie beam rail elements and terminal sections shall be galvanized in accordance
with AASHTO M-180, Class A, Type 2, except that the rail shall be galvanized after
fabrication, with fabrication to include forming, cutting, shearing, punching, drilling,
bending, welding, and riveting.

9-16.3(4) Hardware
This section is revised to read:

Unfinished Bolts (ordinary machine bolts), nuts, and washers for High Unfinished Bolts,
shall conform to 9-06.5(1). High Strength bolts, nuts, and washers for High Strength Bolts
shall conform to 9-06.5(3).

Unfinished bolts will be accepted by field verification and documentation that bolt heads are
stamped 307A. The Contractor shall submit a manufacturer’s certificate of compliance per
1-06.3 for high strength bolts, nuts, and washers prior to installing any of the hardware.

9-16.3(5) Anchors
The reference to “hot dip galvanized” in the tenth paragraph is revised to “galvanized”.

9-16.4(2) Wire Mesh
The reference to “hot dip galvanized” in the second sentence in the third paragraph is revised to
“galvanized”.

9-16.6(2) Glare Screen Fabric
The reference to “A 491” in the second sentence in the first paragraph is revised to “ASTM A
491”.

9-16.6(3) Posts
The first paragraph is revised to read:

Line posts for Type 1 glare screen shall be 1 1/2-inches by 1 7/8-inches galvanized steel H
column with a minimum weight of 2.8 pounds per linear foot. Line posts for Type 2 glare
screen shall be 1 5/8-inches by 2 1/4-inches galvanized steel H column with a minimum
weight of 4.0 pounds per linear foot, or 2-inch inside diameter galvanized steel pipe with a
nominal weight of 3.65 pounds per linear foot provided only one type shall be used on any
one project.

The first paragraph is supplemented with the following:

End, corner, brace, and pull posts for Type 1 Design A shall be 1 1/2-inches by 1 7/8-inches
steel H column with a minimum weight of 2.8 pounds per linear foot.

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

End, corner, brace, and pull posts for Type 1 Design B and Type 2 shall be 2-inch inside
diameter galvanized steel pipe with nominal weight of 3.65 pounds per linear foot.

The reference to “hot dip galvanized” in the third sentence in the second paragraph is revised to
“galvanized”.

C 3204 - Barkes Road
The first two sentences in the fifth paragraph are revised to read:

All posts shall be galvanized in accordance with AASHTO M 181, Section 32. The minimum average zinc coating is per square foot of surface area.

9-16.6(5) Cable
The reference to “hot dip galvanized” is revised to “galvanized”.

9-16.6(6) Cable and Tension Wire Attachments
The reference to “hot dip galvanized” in the first sentence in the first paragraph is revised to “galvanized”.

The third sentence in the first paragraph is deleted.

9-16.6(9) Fabric Bands and Stretcher Bars
The reference to “hot dip galvanized” is revised to “galvanized”.

9-16.6(10) Tie Wire
This section including title is revised to read:

9-16.6(10) Tie Wire and Hog Rings
Tie wire shall be 9 gage aluminum wire complying with the ASTM B 211 for alloy 1100 H14 or 9 gage galvanized wire meeting the requirements of AASHTO M 279. Galvanizing shall be Class 1.

Hog rings shall be 12 gage galvanized steel wire.

9-16.8(1) Rail and Hardware
The word “Composition” following the first paragraph is deleted.
SPECIAL PROVISIONS
SPECIAL PROVISIONS

C 3204 – BARKES ROAD IMPROVEMENT PROJECT
(Fort Road to Branch Road)

YAKIMA COUNTY, WASHINGTON

SPECIAL PROVISIONS

The following Special Provisions are made a part of this contract and supersede any conflicting provisions of the 2008 Standard Specifications for Road, Bridge and Municipal Construction, and the foregoing Amendments to the Standard Specifications.

Several types of Special Provisions are included in this contract; General, Region, Bridges and Structures, and Project Specific. Special Provisions types are differentiated as follows:

(date) General Special Provision
(******) Notes a revision to a General Special Provision
and also notes a Project Specific Special
Provision.
(Regions¹ date) Region Special Provision
(BSP date) Bridges and Structures Special Provision

General Special Provisions are similar to Standard Specifications in that they typically apply to many projects, usually in more than one Region. Usually, the only difference from one project to another is the inclusion of variable project data, inserted as a “fill-in”.

Region Special Provisions are commonly applicable within the designated Region. Region designations are as follows:

Regions¹
ER Eastern Region
NCR North Central Region
NWR Northwest Region
OR Olympic Region
SCR South Central Region
SWR Southwest Region

WSF Washington State Ferries Division

Bridges and Structures Special Provisions are similar to Standard Specifications in that they typically apply to many projects, usually in more than one Region. Usually, the only difference from one project to another is the inclusion of variable project data, inserted as a “fill-in”.

¹ Regions refer to specific geographic areas within Yakima County.
Project Specific Special Provisions normally appear only in the contract for which they were developed.

DIVISION 1
GENERAL REQUIREMENTS

DESCRIPTION OF WORK

(March 13, 1995)
The work to be performed under this Contract consists of the improvement of approximately 2.00 miles of Barkes Road from Fort Road to Branch Road. These improvements consist of grading, drainage, placing and compacting base course and top course, placement of geotextiles, installation of guardrail and other work, in accordance with the attached Plans, these Special Provisions and the 2008 Standard Specifications and Amendments thereto.

The portion of Barkes Road to be improved is located in Sections 01 and 02, Township 10 North, Range 17 East, Willamette Meridian and Sections 35 and 36, Township 11 North, Range 17 East, Willamette Meridian.

The quantities of work indicated in the proposal are to be considered as estimates and are for comparative bidding purposes only. All payments shall be made on the basis of actual field measurement of Contract work completed.

Funds

(Yakima County Road funds are involved in the construction of these improvements.

1-01 Definitions and Terms

1-01.3 Definitions

1-01.3 Definitions
(May 25, 2006 APWA GSP)

This Section is supplemented with the following:

All references in the Standard Specifications to the terms “State”, “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 “State Materials Laboratory” shall be revised to read “Contracting Agency designated location”.

C 3204 - Barkes Road
Page 29
Special Provisions
The venue of all causes of action arising from the advertisement, award, execution, and performance of the contract shall be in the Superior Court of the County where the Contracting Agency’s headquarters are located.

**Additive**
A supplemental unit of work or group of bid items, identified separately in the 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 proposal, from which the Contracting Agency may make a choice between different methods or material of construction for performing the same work.

**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.

**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, and only minor incidental work, replacement of temporary substitute facilities, 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.

Notice of Award
The written notice from the Contracting Agency to the successful bidder signifying the Contracting Agency’s acceptance of the bid.

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.

SECTION 1-02 BID PROCEDURES AND CONDITIONS

1-02.1 Prequalification of Bidders
Delete this Section and replace it with the following:

1-02.1 Qualifications of Bidder
(October 1, 2005 APWA GSP)

Bidders shall be qualified by experience, financing, equipment, and organization to do the work called for in the Contract Documents. The Contracting Agency reserves the right to take whatever action it deems necessary to ascertain the ability of the bidder to perform the work satisfactorily.

1-02.2 Plans and Specifications
(October 1, 2005 APWA GSP)

Delete this section and replace it with the following:

Information as to where Bid Documents can be obtained or reviewed will be found in the Call for Bids (Advertisement for Bids) for the work.

After award of the contract, plans and specifications will be issued to the Contractor at no cost as detailed below:

<table>
<thead>
<tr>
<th>To Prime Contractor</th>
<th>No. of Sets</th>
<th>Basis of Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced plans (11&quot; x 17&quot;) and Contract Provisions</td>
<td>10</td>
<td>Furnished automatically upon award.</td>
</tr>
<tr>
<td>Large plans (22&quot; x 34&quot;)</td>
<td>0</td>
<td>Furnished only upon</td>
</tr>
</tbody>
</table>
and Contract Provisions request.

Additional plans and Contract Provisions may be purchased by the Contractor by payment of the cost stated in the Call for Bids.

1-02.5 Proposal Forms
(October 1, 2005 APWA GSP)

Delete this section and replace it with the following:

At the request of a bidder, the Contracting Agency will provide a proposal form for any project on which the bidder is eligible to bid.

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 D/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 forms unless otherwise specified.

Any correction to a bid made by interlineation, alteration, or erasure, shall be initialed by the signer of the bid. 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 D/M/WBE 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 D/W/MBE requirements are to be satisfied through such an agreement.
1-02.7 Bid Deposit

October 1, 2005 APWA GSP

Supplement this section with the following:

Bid bonds shall contain the following:
1. Contracting Agency-assigned number for the project;
2. Name of the project;
3. The Contracting Agency named as obligee;
4. The amount of the bid bond stated either as a dollar figure or as a percentage which
   represents five percent of the maximum bid amount that could be awarded;
5. Signature of the bidder's officer empowered to sign official statements. The signature of
   the person authorized to submit the bid should agree with the signature on the bond, and the
   title of the person must accompany the said signature;
6. The signature of the surety's officer empowered to sign the bond and the power of
   attorney.

If so stated in the Contract Provisions, bidder must use the bond form included in the

1-02.9 Delivery of Proposal

(October 1, 2005 APWA GSP)

Revise the first paragraph to read:

Each proposal shall be submitted in a sealed envelope, with the Project Name and Project
Number as stated in the Advertisement for Bids clearly marked on the outside of the
envelope, or as otherwise stated in the Bid Documents, to ensure proper handling and
delivery.

1-02.12 Public Opening of Proposal

Section 1-02.12 is supplemented with the following:

*****

Date of Opening Bids
Sealed bids are to be received at the following location prior to the time specified:

Yakima County Public Services, 4th floor, Yakima County Courthouse, Yakima
Washington, 98901, until 2:00 P.M. of the bid opening date.

The bid opening date for this project is February 19, 2008. Bids received will be publicly
opened and read after 2:00 P.M. on this date.
1-02.13 Irregular Proposals
(October 1, 2005 APWA GSP)

Revise item 1 to read:

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 a Disadvantaged, Minority or Women’s Business Enterprise Certification, if applicable, as required in Section 1-02.6; or
   i. The bid proposal does not constitute a definite and unqualified offer to meet the material terms of the bid invitation.

1-02.14 Disqualification of Bidders
(September 12, 2007 APWA GSP)

Revise this section to read:

1. A bidder will be deemed not responsible and the proposal rejected if the bidder does not meet the responsibility criteria in RCW 39.04.

2. A bidder may be deemed not responsible and the proposal rejected if:
   a. More than one proposal is submitted for the same project from a bidder under the same or different names;
   b. Evidence of collusion exists with any other bidder or potential bidder. Participants in collusion will be restricted from submitting further bids;
   c. The bidder, in the opinion of the Contracting Agency, is not qualified for the work or to the full extent of the bid, or to the extent that the bid exceeds the authorized prequalification amount as may have been determined by a prequalification of the bidder;
   d. An unsatisfactory performance record exists based on past or current Contracting Agency work or for work done for others, as judged from the standpoint of conduct of the work; workmanship; progress; affirmative action; equal employment opportunity practices; or Disadvantaged Business Enterprise, Minority Business Enterprise, or Women’s Business Enterprise utilization;
e. There is uncompleted work (Contracting Agency or otherwise) which might hinder or
prevent the prompt completion of the work bid upon;
f. The bidder failed to settle bills for labor or materials on past or current contracts;
g. The bidder has failed to complete a written public contract or has been convicted of a
crime arising from a previous public contract;
h. The bidder is unable, financially or otherwise, to perform the work; or
i. There are any other reasons deemed proper by the Contracting Agency.

SECTION 1-03 AWARD AND EXECUTION OF CONTRACT

1-03.1 Consideration of Bids
(January 23, 2006 APWA GSP)

Revise the first paragraph to read:

After opening and reading proposals, the Contracting Agency will check them for correctness
of extensions of the prices per unit and the total price. If a discrepancy exists between the
price per unit and the extended amount of any bid item, the price per unit will control. **If a
minimum bid amount has been established for any item and the bidder’s unit or lump sum
price is less than the minimum specified amount, the Contracting Agency will unilaterally
revise the unit or lump sum price, to the minimum specified amount and recalculate the
extension.** The total of extensions, corrected where necessary, including sales taxes where
applicable and such additives and/or alternates as selected by the Contracting Agency, will be
used by the Contracting Agency for award purposes and to fix the **Awarded Contract Price
amount and the amount of the contract bond.**

1-03.3 Execution of Contract
(October 1, 2005 APWA GSP)

Revise this section to read:

Copies of the Contract Provisions, including the unsigned Form of Contract, will be available
for signature by the successful bidder on the first business day following award. The number
of copies to be executed by the Contractor will be determined by the Contracting Agency.

Within _10_ calendar days after the award date, the successful bidder shall return the signed
Contracting Agency-prepared contract, an insurance certification as required by Section 1-07.18, and a satisfactory bond as required by law and Section 1-03.4. Before execution of the
contract by the Contracting Agency, the successful bidder shall provide any pre-award
information the Contracting Agency may require under Section 1-02.15.

Until the Contracting Agency executes a contract, no proposal shall bind the Contracting
Agency nor shall any work begin within the project limits or within Contracting Agency-
furnished sites. The Contractor shall bear all risks for any work begun outside such areas and
for any materials ordered before the contract is executed by the Contracting Agency.

If the bidder experiences circumstances beyond their control that prevents return of the
contract documents within the calendar days after the award date stated above, the
Contracting Agency may grant up to a maximum of 10 additional calendar days for return
of the documents, provided the Contracting Agency deems the circumstances warrant it.

1-03.4 Contract Bond
(October 1, 2005 APWA GSP)

Revise the first paragraph to read:

The successful bidder shall provide an executed contract bond for the full contract amount.
This contract bond shall:
1. Be on a Contracting Agency-furnished form;
2. Be signed by an approved surety (or sureties) that:
   a. Is registered with the Washington State Insurance Commissioner, and
   b. Appears on the current Authorized Insurance List in the State of Washington
      published by the Office of the Insurance Commissioner,
3. Be conditioned upon the faithful performance of the contract by the Contractor within the
   prescribed time;
4. Guarantee that the surety shall indemnify, defend, and protect the Contracting Agency
   against any claim of direct or indirect loss resulting from the failure:
   a. Of the Contractor (or any of the employees, subcontractors, or lower tier
      subcontractors of the Contractor) to faithfully perform the contract, or
   b. Of the Contractor (or the subcontractors or lower tier subcontractors of the
      Contractor) to pay all laborers, mechanics, subcontractors, lower tier subcontractors,
      materialperson, or any other person who provides supplies or provisions for carrying
      out the work;
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 must be signed by the
   president or vice-president, unless accompanied by written proof of the authority of the
   individual signing the bond to bind the corporation (i.e., corporate resolution, power of
   attorney or a letter to such effect by the president or vice-president).
SECTION 1-04 SCOPE OF THE WORK

1-04.2 Coordination of Contract Documents, Plans, Special Provisions, Specifications, and Addenda

(October 1, 2005 APWA GSP)

Revise the second paragraph to read:

Any inconsistency in the parts of the contract shall be resolved by following this order of precedence (e.g., 1 presiding over 2, 2 over 3, 3 over 4, and so forth):

1. Addenda,
2. Proposal Form,
3. Special Provisions, including APWA General Special Provisions, if they are included,
4. Contract Plans,
5. Amendments to the Standard Specifications,
6. WSDOT/APWA Standard Specifications for Road, Bridge and Municipal Construction,
7. Contracting Agency’s Standard Plans (if any), and
8. WSDOT/APWA Standard Plans for Road, Bridge, and Municipal Construction.

SECTION 1-05 CONTROL OF WORK

1-05.7 Removal of Defective and Unauthorized Work

(October 1, 2005 APWA GSP)

Supplement this section with the following:

If the Contractor fails to remedy defective or unauthorized work within the time specified in a written notice from the Engineer, or fails to perform any part of the work required by the Contract Documents, the Engineer may correct and remedy such work as may be identified in the written notice, with Contracting Agency forces or by such other means as the Contracting Agency may deem necessary.

If the Contractor fails to comply with a written order to remedy what the Engineer determines to be an emergency situation, the Engineer may have the defective and unauthorized work corrected immediately, have the rejected work removed and replaced, or have work the Contractor refuses to perform completed by using Contracting Agency or other forces. An emergency situation is any situation when, in the opinion of the Engineer, a delay in its remedy could be potentially unsafe, or might cause serious risk of loss or damage to the public.

Direct or indirect costs incurred by the Contracting Agency attributable to correcting and 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
1-05.13 Superintendent, Labor and Equipment of Contractor
(May 25, 2006 APWA GSP)

Revise the seventh paragraph to read:

Whenever the Contracting Agency evaluates the Contractor’s qualifications pursuant to Section 1-02.1, it will take these performance reports into account.

1-05.14 Cooperation With Other Contractors
(March 13, 1995)

Cooperation With Other Contractors
Section 1-05.14 is supplemented with the following:

Other Contracts Or Other Work
It is anticipated that the following work adjacent to or within the limits of this project will be performed by others during the course of this project and will require coordination of the work:

1. Utility Work.

No additional payment will be made for this utility coordination work and all costs shall be incidental to the unit contract prices and no further payment shall be made.

Add the following new section:

1-05.16 Water and Power
(October 1, 2005 APWA GSP)

The Contractor shall make necessary arrangements, and shall bear the costs for power and water necessary for the performance of the work, unless the contract includes power and water as a pay item.
Add the following new section:

**1-05.17 Oral Agreements**

*(October 1, 2005 AWPA GSP)*

No oral agreement or conversation with any officer, agent, or employee of the Contracting Agency, either before or after execution of the contract, shall affect or modify any of the terms or obligations contained in any of the documents comprising the contract. Such oral agreement or conversation shall be considered as unofficial information and in no way binding upon the Contracting Agency, unless subsequently put in writing and signed by the Contracting Agency.

**SECTION 1-06 CONTROL OF MATERIAL**

**1-06 Buy America**

Section 1-06 is supplemented with the following:

*(August 6, 2007)*

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.

The Contractor may utilize minor amounts of foreign steel and iron 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.

1-06.2(2) Statistical Evaluation of Materials for Acceptance

(*****)

Section 1-06.2(2) of the Standard Specifications is deleted.

SECTION 1-07 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC
1-07.2 State Sales Tax

Delete this section, including its sub-sections, in its entirety and replace it with the following:

1-07.2 State Sales Tax
(October 1, 2005 APWA GSP)

1-07.2(1) General

The Washington State Department of Revenue has issued special rules on the State sales tax. Sections 1-07.2(1) through 1-07.2(4) 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(3) describes this exception.

The Contracting Agency will pay the retained percentage 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 60.28.050). 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(2) 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(3) 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(4) 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).

1-07.6 Permits and Licenses

Section 1-07.6 is supplemented with the following:

(*****)
The Contractor must notify the Yakama Nation Water Code Administration of the project start date. Notification shall be received by the WCA at least three working days prior to the start of construction activities. The notification shall include the permittee’s name, project location, starting date for work, and the permit number for the Maintenance Hydraulic Project Approval. Yakama Nation Water Code Administration (509) 865-5121.

1-07.7 Load Limits

(March 13, 1995)
If the sources of materials provided by the Contractor necessitates hauling over roads other than State Highways, the Contractor shall, at the Contractor's expense, make all arrangements for the use of the haul routes.

1-07.9(1) General

(December 2, 2002)
Indian Preference And Tribal Ordinances

This project is located on the “Yakama Indian Reservation”. It is the Contractor’s responsibility to contact the person and/or office listed in this special provision to determine whether any
tribal laws or taxes apply. If the tribal laws and taxes do apply, the Contractor shall comply with them in accordance with Section 1-07.1.

Tribal Employment Rights Ordinances (TEROs), may utilize a variety of tools to encourage Indian employment. These tools may include, but are not limited to, TERO fees, Indian hiring preference, Indian-owned business subcontracting preference and/or an Indian training requirement. Other requirements may be a Tribal business license, a required compliance plan and/or employee registration requirements. Every tribe is different and each may be willing to work cooperatively with the Contractor to develop a strategy that works for both parties. For specific details, the Contractor should contact

Tero
Yakama Indian Tribes Tero Program
P.O. Box 151
Toppenish, WA 98948
(509) 865-5121

The state recognizes the sovereign authority of the tribe, supports the tribe's efforts to enforce its rightful and legal ordinances and expects the Contractor to comply and cooperate with the tribe. The costs related to such compliance shall be borne solely by the Contractor, who is advised to contact the tribal representative listed above, prior to submitting a bid, to assess the impact of compliance on the project.

Although Indian preference cannot be compelled or mandated by the Contracting Agency, there is no limitation whereby voluntary Contractor or subcontractor initiated preferences are given, if otherwise lawful. 41 CFR 60-1.5(a)6 provides as follows:

Work on or near Indian reservations --- It shall not be a violation of the equal opportunity clause for a construction or non-construction Contractor to extend a publicly announced preference in employment to Indians living on or near an Indian reservation in connection with employment opportunities on or near an Indian reservation. The use of the word near would include all that area where a person seeking employment could reasonably be expected to commute to and from in the course of a work day. Contractors or subcontractors extending such a preference shall not, however, discriminate among Indians on the basis of religion, sex, or tribal affiliation, and the use of such a preference shall not excuse a Contractor from complying with the other requirements as contained in the August 25, 1981 Department of Labor, Office of Federal Contract Compliance Programs, Government Contractors Affirmative Actions Requirements.

1-07.13 Contractor's Responsibility For Work
1-07.13(4) Repair of Damage

(August 6, 2001)

Repair of Damage
Section 1-07.13(4) is revised to read:
The Contractor shall promptly repair all damage to either temporary or permanent work as directed by the Engineer. For damage qualifying for relief under Sections 1-07.13(1), 1-07.13(2) or 1-07.13(3), payment will be made in accordance with Section 1-04.4. Payment will be limited to repair of damaged work only. No payment will be made for delay or disruption of work.

1-07.17 Utilities and Similar Facilities

(April 2, 2007)
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.

Public and private utilities, or their Contractors, will furnish all work necessary to adjust, relocate, replace, or construct their facilities unless otherwise provided for in the Plans or these Special Provisions. Such adjustment, relocation, replacement, or construction will be done during the prosecution of the work for this project. It is anticipated that utility adjustment, relocation, replacement or construction within the project limits will be completed as follows:

Most of the utility relocation has been completed, however minor relocations may be necessary due to conflicts during construction.

The Contractor shall attend a mandatory utility preconstruction meeting with the Engineer, all affected subcontractors, and all utility owners and their contractors prior to beginning onsite work.

The following addresses and telephone numbers of utility companies or their Contractors that will be adjusting, relocating, replacing or constructing utilities within the project limits are supplied for the Contractor's use:

| Call Before You Dig One Call Center | 1-800-424-5555 |
| Benton REA | Rich Legerski | (509) 786-4940 |
| Embarq | Phil Hill | (509) 839-6660 |
| Wapato Irrigation Project | Virgil Lallashute | (509) 872-3155 |

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

(May 10, 2006 APWA GSP)
I-07.18(1) General Requirements

A. The Contractor shall obtain the insurance described in this section from insurers approved by the State Insurance Commissioner pursuant to RCW Title 48. The insurance must be provided by an insurer with a rating of A-: VII or higher in the A.M. Best’s Key Rating Guide, which is licensed to do business in the state of Washington (or issued as a surplus line by a Washington Surplus Lines broker). The Contracting Agency reserves the right to approve or reject the insurance provided, based on the insurer (including financial condition), terms and coverage, the Certificate of Insurance, and/or endorsements.

B. The Contractor shall keep this insurance in force during the term of the contract and for thirty (30) days after the Physical Completion date, unless otherwise indicated (see C. 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 Final Completion 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 insurance policies shall contain a “cross liability” provision.

E. The Contractor’s and all subcontractors’ insurance coverage shall be primary and non-contributory insurance as respects the Contracting Agency’s insurance, self-insurance, or insurance pool coverage.

F. All insurance policies and Certificates of Insurance shall include a requirement providing for a minimum of 30 days prior written notice to the Contracting Agency of any cancellation in any insurance policy.

G. Upon request, the Contractor shall forward to the Contracting Agency a full and certified copy of the insurance policy(s).

H. The Contractor shall not begin work under the contract until the required insurance has been obtained and approved by the Contracting Agency.

I. 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.

J. 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 Professional Liability and Workers Compensation, shall name the following listed entities as additional insured(s):

Yakima County 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, whether primary, excess, contingent or otherwise, 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(3) describes limits lower than those maintained by the Contractor.

1-07.18(3) Subcontractors

Contractor shall ensure that each subcontractor of every tier obtains and maintains at a minimum the insurance coverage’s listed in 1-07.18(5)A and 1-07.18(5)B. Upon request of the Contracting Agency, the Contractor shall provide evidence of such insurance.

1-07.18(4) Evidence of Insurance

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. The certificate and endorsements must conform to the following requirements:

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. A statement of additional insured status on an ACORD Certificate of Insurance shall not satisfy this requirement.
3. Any other amendatory endorsements to show the coverage required herein.

1-07.18(5) Coverages and Limits

The insurance shall provide the minimum coverages and limits set forth below. Providing coverage in these stated minimum limits shall not be construed to relieve the Contractor from liability in excess of such limits. 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 shall be the responsibility of the Contractor.
1-07.18(5)A Commercial General Liability

A policy of Commercial General Liability Insurance, including:

- Per project aggregate
- Premises/Operations Liability
- Products/Completed Operations – for a period of one year following final acceptance of the work.
- Personal/Advertising Injury
- Contractual Liability
- Independent Contractors Liability
- Stop Gap / Employers' Liability
- Explosion, Collapse, or Underground Property Damage (XCU)
- Blasting (only required when the Contractor’s work under this Contract includes exposures to which this specified coverage responds)

Such policy must provide the following minimum limits:

- $1,000,000 Each Occurrence
- $2,000,000 General Aggregate
- $1,000,000 Products & Completed Operations Aggregate
- $1,000,000 Personal & Advertising Injury, each offence

1-07.18(5)B Automobile Liability

Automobile Liability for owned, non-owned, hired, and leased vehicles, with an MCS 90 endorsement and a CA 9948 endorsement attached if “pollutants” are to be transported. Such policy(ies) must provide the following minimum limit:

- $1,000,000 combined single limit

1-07.18(5)C Workers’ Compensation

The Contractor shall comply with Workers’ Compensation coverage as required by the Industrial Insurance laws of the state of Washington.

1-07.23 Public Convenience And Safety
(April 2, 2007)

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>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

1-07.23(2) Construction And Maintenance Of Detours

Section 1-07.23(2) is supplemented with the following:

(******)

Unless otherwise approved, the Contractor shall maintain two-way traffic during construction. Although brief road closures may be necessary to perform portions of this work, it is the intent of Yakima County to maintain two-way traffic at all times. The
Contractor shall request closure a minimum of 2 weeks prior to any proposed closure. If a road closure is authorized, the Contractor shall make provisions for emergency vehicle access on short notice.

When using a flagging operation, the Contractor shall limit delays to motorists passing through the construction site to a maximum of 10 minutes.

Any request by the Contractor for a change in the traffic control plans shall be submitted to the Engineer a minimum of two weeks prior to the desired change date and shall be subject to approval by the Engineer and the Board of County Commissioners. Yakima County will prepare the necessary resolutions and legal notices regarding the road closures at no cost to the Contractor.

1-07.24 Rights Of Way
(October 1, 2005 APWA GSP)

Delete this section in its entirety, 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.

SECTION 1-08 PROSECUTION AND PROGRESS

1-08 Prosecution and Progress
Add the following new section:

1-08.0 Preliminary Matters
(May 25, 2006 APWA GSP)

Add the following new section:

1-08.0(1) Preconstruction Conference
(May 25, 2006 APWA GSP)

Prior to the Contractor beginning the work, a preconstruction conference will be held between the Contractor, the Engineer and such other interested parties as may be invited. The purpose of the preconstruction conference will be:

1. To review the initial progress schedule;
2. To establish a working understanding among the various parties associated or affected by the work;
3. To establish and review procedures for progress payment, notifications, approvals, submittals, etc.;
4. To establish normal working hours for the work;
5. To review safety standards and traffic control; and
6. To discuss such other related items as may be pertinent to the work.

The Contractor shall prepare and submit at the preconstruction meeting the following:
1. A breakdown of all lump sum items;
2. A preliminary schedule of working drawing submittals; and
3. A list of material sources for approval if applicable.
1-08.1  Subcontracting – Responsible Subcontractor Requirements
(July 31, 2007 APWA GSP)

Revise the second paragraph to read:

The Contractor shall not subcontract work unless the Engineer approves in writing. Each
request to subcontract shall be on the form the Engineer provides. If the Engineer requests,
the Contractor shall provide proof that the subcontractor has the experience, ability, and
equipment the work requires. The Contractor shall require each subcontractor to comply
with Section 1-07.9 and to furnish all certificates and statements required by the contract.
The Contractor shall require each subcontractor of every tier to meet the responsibility
criteria stated in RCW 39.06, and these requirements shall be included in every subcontract
of every tier.

1-08.4 Notice to Proceed and Prosecution of the Work
(October 1, 2005 APWA GSP)

Revise this section to read:

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.

1-08.5 Time For Completion
(March 13, 1995)

Section 1-08.5 is supplemented with the following:

The project shall be physically completed in 70 working days. The first chargeable working
day shall be no later than March 17, 2008.

(******)
Yakima County intends to replace Fort Road Bridge No. 1354, located east of Barkes Road,
during the summer of 2008. It is anticipated that Fort Road will be closed on July 1, 2008
for that work. Barkes Road, from Fort Road to Branch Road, will be used as part of the
detour route for the Fort Road bridge replacement project.
Therefore, it is of utmost importance that all work on the Barkes Road improvement project be completed and ready for detour traffic no later than June 30, 2008.

The Engineer will be unable to grant extensions of time or working days past the June 30, 2008 date, and the Contractor is encouraged to commence work as soon as possible to meet the June 30, 2008 deadline.

(October 1, 2005 APWA GSP)

Revise the fourth and fifth paragraphs to read:

Contract time shall begin on the first working day following the Notice to Proceed Date. The contract provisions may specify another starting date for contract time, in which case, time will begin on the starting date specified.

Each working day shall be charged to the contract as it occurs, beginning on the day after the Notice to Proceed Date, unless otherwise provided in the Contract Provisions, 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 elects 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 seventh 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 (Federal-aid Projects)
   b. Material Acceptance Certification Documents
d. FHWA 47 (Federal-aid Projects)
e. Final Contract Voucher Certification
f. Property owner releases per Section 1-07.24

SECTION 1-09 MEASUREMENT AND PAYMENT

1-09.2 Weighing Equipment

(August 6, 2001)
General Requirements for Weighing Equipment
Section 1-09.2(1) is revised to read as follows:

Any highway or bridge construction materials to be proportioned or measured and paid for by weight, shall be weighed on scales. These materials include natural, manufactured or processed materials obtained from natural deposits, stockpiles, bunkers, or mixing plants. The Contractor shall provide, set up, and maintain the scales necessary to perform the weighing or shall designate permanently installed, certified commercial scales for the purpose. Each truck to be weighed shall bear a unique identification number. This number shall be legible and in plain view of both the scale operator and the person receiving the material at the jobsite. Scales provided or designated by the Contractor shall be accurate to within one-half of one percent throughout the range of use.

An agent of the scale manufacturer shall test and service any scale before its use at each new site and then at 6-month intervals. The Contractor shall provide the Engineer a copy of the final results after each test.

All initial weighing at the dispatch site or at another site approved by the Engineer shall be performed by a Contractor employee or by another person designated by the Contractor. The designated weigher shall prepare a weigh or load ticket to accompany each load. Each ticket shall contain the truck identification number, the date and time of weighing the load, a description of the material being weighed and the signature or initials of the weigher.

Each weigh or load ticket shall also contain a determination of the net weight of the load. This shall be a reading from any device which weights as material is loaded or a calculation including gross weight and tare weight when the method of loading does not include weighing. It shall also identify the weighed material. When used, tare weights shall be taken of each hauling vehicle at least twice a day. The ticket shall be provided to the inspector at the jobsite immediately after the material is delivered.

Except as noted below, all weighing shall be subject to confirmation testing through random checks made with a separate scale. The secondary scale shall be described in
the contract provisions, either as a designated independent commercial scale or as a
platform scale installed by the Contractor at a location named in the provisions. The
inspector will select loaded trucks at random and weigh them with the secondary scale.
The same trucks will be weighed empty when the tested load has been delivered. The
frequency of confirmation testing will be such that at least one test is performed for
each contract item paid by weight for each $50,000 of payment for that item and at least
one test weekly for each weighed contract item performed during that week.

Confirmation testing will not be routinely conducted for small quantities of weighed
material. A small quantity shall be defined as one whose estimated proposal quantity,
multiplied by its unit price, has a value of less than $20,000. The inspector may choose
to apply confirmation testing to a minor quantity item if, in the inspector’s judgment,
there is reason to suspect that the ticket weight might be incorrect.

1-09.6 Force Account

(October 1, 2005 APWA GSP; may be used on FHWA-funded projects)

Supplement this Section with the following:

Owner 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, Owner 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 the
Engineer.

1-09.8 Payment For Material On Hand

(April 28, 1997)
The last paragraph of Section 1-09.8 is revised to read:

The Contracting Agency will not pay for any individual item on hand with a cost of less than
$2,000. As materials are used in the work, credits equaling the partial payments for them
will be taken on future estimates. Each month, no later than the estimate due date, the
Contractor shall submit a letter to the Project Engineer that clearly states: 1) the amount
originally paid on the invoice (or other record of production cost) for the items on hand, 2)
the dollar amount of the material incorporated into each of the various work items for the
month, and 3) the amount that should be retained in material on hand items. If work is
performed on the items and the Contractor does not submit a letter, all of the previous
material on hand payment will be deducted on the estimate. Partial payment for materials
on hand shall not constitute acceptance. Any material will be rejected if found to be faulty
even if partial payment for it has been made.

1-09.13(3) Claims $250,000 or Less

(October 1, 2005 APWA GSP; may be used on FHWA-funded projects)
Delete this Section and replace it with the following:

The Contractor and the Contracting Agency mutually agree that those claims that total $250,000 or less, submitted in accordance with Section 1-09.11 and not resolved by nonbinding ADR processes, shall be resolved through litigation unless the parties mutually agree in writing to resolve the claim through binding arbitration.

1-09.13(3)A Administration of Arbitration
(October 1, 2005 APWA GSP)

Revise the third paragraph to read:

The Contracting Agency and the Contractor mutually agree to be bound by the decision of the arbitrator, and judgment upon the award rendered by the arbitrator may be entered in the Superior Court of the county in which the Contracting Agency’s headquarters are located. 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.

SECTION 1-10 TEMPORARY TRAFFIC CONTROL

1-10.2 Traffic Control Management

1-10.2(1) General

(August 2, 2004)
Section 1-10.2(1) is supplemented with the following:

The Traffic Control Supervisor shall be certified by one of the following:

The Northwest Laborers-Employers Training Trust
27055 Ohio Ave.
Kingston, WA 98346
(360) 297-3035

Evergreen Safety Council
401 Pontius Ave. N.
Seattle, WA 98109
1-800-521-0778 or
(206) 382-4090

1-10.4 Measurement

Paragraph three of Section 1-10.4(2), supplemented with the following:

(******)
Flaggers and Spotters will be by the hour for each person actually performing the work described in Section 1-10.3(1)A. Portions of an hour will be rounded up to the one half hour.

DIVISION 2
EARTHWORK

SECTION 2-01 CLEARING, GRUBBING, AND ROADSIDE CLEANUP

2-01.1 Description

Section 2-01.1 is supplemented with the following:

(March 13, 1995)
Clearing and grubbing on this project shall be performed within the following limits:
The Contractor shall clear and grub as staked unless otherwise directed by the Engineer.
The Contractor shall remove and dispose of all existing shrubs, trees, etc, whether or not they are shown on the plans. Those areas identified on the Plans as having construction easements shall only be cleared as needed for improvements.

2-01.2(1) Disposal Method No. 1 –Open Burning

Section 2-01.2(1) is deleted and replaced with the following:
(*****)
No open burning will be allowed on this project.

2-01.2(3) Disposal Method No. 3 –Chipping

Section 2-01.2(3) is deleted and replaced with the following:
(*****)
Chipping shall be done by machines that can grind debris into wood chips. Wood chips to be sold or disposed of outside of this project may be any size. Wood chips to be used within the project site shall be no larger than 6 square inches and no thicker than 1/2-inch. The Contractor may spread the unsold chips evenly on the fill slopes only, and tractor walk them into the ground to the satisfaction of the Engineer.

2-01.5 Payment

Section 2-01.5 is revised as follows:
(*****)
There shall be no payment for roadside cleanup. Any work performed for roadside cleanup shall be incidental to the Bid Item "Clearing and Grubbing" per Lump Sum, and no further payment shall be made.
The Lump Sum payment for Clearing and Grubbing shall include all costs to clear and grub to the limits staked by the Engineer.

SECTION 2-02 REMOVAL OF STRUCTURES AND OBSTRUCTIONS

2-02.3 Construction Requirements

Section 2-02.3 of the Standard Specifications is supplemented with the following:

(February 17, 1998) 
Removal of Obstructions

The following items shall be removed, disposed of or reset as directed by the Engineer in accordance with the requirements of Section 2-02 of the Standard Specifications:

1. Remove existing conc. cross culvert Sta. 39+80.
3. Remove existing field entrance culvert Sta. 53+97, Lt.

All other items encountered, which are not covered by Section 2-01 of the Standard Specifications (Clearing, Grubbing, and Roadside Cleanup) shall be considered incidental to the bid item “Removal of Structures and Obstructions”.

SECTION 2-03 ROADWAY EXCAVATION AND EMBANKMENT

2-03.1 Description

Section 2-03.1 of the Standard Specifications is deleted and replaced with the following:

(******)

Any material hauled from the project will be subject to the requirements of the Yakima County Excavation and Grading Ordinance. All sites shall be approved by the Engineer prior to use to ensure compliance with the Excavation and Grading Ordinance and SEPA compliance. All costs incurred by the Contractor to obtain a Grading Permit shall be included in the various Unit Bid Prices, and no further Payment shall be made.

The Yakima County Excavation and Grading Ordinance may be reviewed in the County Engineer's Office, 4th Floor, Yakima County Courthouse.

2-03.3(14) Embankment Construction

2-03.3(14)C Compacting Earth Embankments

Compacting embankments and excavations shall be by Method "C" as specified under Section 2-03.3(14)C of the Standard Specifications.
2-03.4 Measurement

Section 2-03.4 of the Standard Specifications is deleted and replaced with the following:

(******)

Only one determination of the original ground elevations shall be made on this project. Measurement for roadway excavation and embankment shall be based on the original ground elevations recorded previous to the award of this Contract and the alignment, profile, grade, and roadway section as shown on the plans and as staked by the Engineer. Control stakes shall be set during construction to provide the Contractor with all essential information for the construction of excavation and embankments.

If discrepancies are discovered in the ground elevations which will materially effect the quantities of earthwork, the original computations of earthwork shall be adjusted accordingly.

Earthwork quantities shall be computed either manually or by means of electronic data processing equipment, by use of the average end area method.

Copies of the ground cross-section notes shall be available for the bidder's inspection, before the opening of bids, at the office of the County Engineer. Upon award of the Contract, copies of the original ground cross-sections shall be furnished to the successful bidder on request to the County Engineer.

2-03.5 Payment

Section 2-03.5 of the Standard Specifications is deleted and replaced with the following:

(******)

The Contract Unit Price for "Roadway Excavation Incl. Haul," per Cubic Yard, shall be full compensation for all labor, equipment, tools, and materials necessary to excavate, load, haul, place, compact, shape, or otherwise dispose of the materials including existing hot mix asphalt pavements, and any other work required to complete this item as specified and no further payment shall be made.

No separate payment shall be made for embankment compaction and all costs to perform this work as required shall be included in the Unit Bid Price per Cubic Yard for "Roadway Excavation Incl. Haul."

SECTION 2-07 WATERING

Section 2-07 is deleted and replaced with the following:

(******)

The Contractor shall be solely responsible for dust control on this project and shall protect the motoring public, adjacent homes, orchards and crops from damage due to dust, by whatever means necessary. The Contractor shall be responsible for any claims for damages and shall protect the County from any and all such claims.
When directed by the Engineer, the Contractor shall provide water for dust control within two hours of such order and have equipment and manpower available at all times including weekends and holidays to respond to orders for dust control measures.

If County forces are required to respond to a dust control problem, the Contractor shall be charged liquidated damages to offset County expenditures. For each time that the County is required to provide dust control measures, the Contractor shall be assessed damages in the amount of $500.00, which shall be deducted from any moneys due the Contractor under this contract.

Payment for water used for dust control, compaction, processing of base course and top course, and other work shall be included in the other Bid Items involved, and no further payment shall be made.

SECTION 2-09 STRUCTURE EXCAVATION

2-09.3(1)D Disposal of Excavated Material

Section 2-09.3(1)D of the Standard Specification shall be supplemented with the following:

(******)
All unsuitable foundation excavation shall be removed from the site and hauled to Yakima County’s Branch Pit located in the W ¼ of the SE ¼ of the SW ¼ in Section 30, Township 11 N., Range 19 E., W.M., approximately 7 miles east of Barkes Road.

2-09.4 Measurement

Section 2-09.4 the second sentence of the second paragraph is revised to read:

(******)
Measurement will be made from the existing ground line to the bottom of the excavation and for the length of the Shoring or Extra Excavation Work actually performed.

Section 2-09.4 of the Standard Specification shall be supplemented with the following:

(******)
Structure Excavation Class B for storm sewers and culverts shall not be measured for payment.

2-09.5 Payment

Section 2-09.5 of the Standard Specification shall be supplemented with the following:

(******)
There shall be no separate payment for Structure Excavation Class B. All costs associated with excavation, backfill and compaction of new storm sewer, and culvert trenches shall be included in the lineal foot price of the pipe or concrete box culvert.
DIVISION 3
PRODUCTION FROM QUARRY AND
PIT SITES AND STOCKPILING

3-01 PRODUCTION FROM QUARRY AND PIT SITES

3-01.3 County Furnished Material Sources,

Section 3-01.3 of the Standard Specifications shall be supplemented with the following:

(******)

Alternate A

If the Contractor bids the contract using Alternate A, County Supplied Crushed Surfacing Materials, then the following shall apply.

If County-owned Crushed Rock is used on this project, then the provisions of WAC 458-20-178 shall apply.

(******)
The following source of stockpiled materials is made available at no cost to the Contractor:

Yakima County shall make available to the Contractor, Aggregate From Stockpile for Crushed Surfacing Top Course and Crushed Surfacing Base Course located at Yakima County's George Pit, for this project. George Pit is located in the E 1/2 of the SW 1/4 of Section 28, Township 12 North, Range 19 East, W.M., approximately 17 road miles northeast of the Barkes Road project.

If the Contractor elects to use Yakima County’s Crushed Surfacing Base Course and/or Crushed Surfacing Top Course materials, he shall provide, set up, and maintain scales as per Section 1-09.2(3) of the Standard Specifications, otherwise the Contractor shall bear full responsibility for furnishing all materials. Any source other than George Pit shall be approved, in writing, by the Engineer prior to beginning of operations.

No source is being provided for any of the other materials necessary for the construction of this project. The Contractor shall make arrangements to obtain the necessary materials and all costs of acquiring, producing, and placing these materials in the finished work shall be included in the Unit Contract Prices for the various items involved.

3-01.4 Contractor Furnished Material Sources, Alternate B

Section 3-01.4 of the Standard Specifications is supplemented with the following:

If the Contractor bids the contract using Contractor Supplied Crushed Surfacing Materials, then the following shall apply.

If the sources of materials provided by the Contractor necessitate hauling over roads other than County roads, the Contractor shall, at his own expense, make all arrangements for the use of the haul routes.
DIVISION 6
STRUCTURES

SECTION 6-02 CONCRETE STRUCTURES

6-02.3(2)A Contractor Mix Design

Section 6-02.3(2)A of the Standard Specifications shall be amended as follows:

The first sentence of the first paragraph of Section 6-02.3(2)A is revised to read as follows:

(********)
The Contractor shall provide a mix design in writing for all classes of concrete.

6-02.3(2)B Commercial Concrete

Section 6-02.3(2)B of the Standard Specifications shall be amended as follows:

(********)
The third sentence of the first paragraph is deleted and replaced with the following:

Commercial concrete requires plant approval, mix design, source approvals for cement, aggregate, and other admixtures.

(********)
In the first sentence of the second paragraph, the terms “luminaire bases, sidewalks, curbs, and gutters,” shall be deleted.

6-02.3(4) Ready-Mix Concrete

Section 6-02.3(4) of the Standard Specifications shall be amended as follows:

(******)
The first sentence of Section 6-02.3(4) is revised to read as follows:

All concrete, including commercial concrete and 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)B Jobsite Mixing

Section 6-02.3(4)B of the Standard Specifications shall be amended as follows:

(******)
The first sentence of Section 6-02.3(4) is revised to read as follows:

For small quantities of concrete, less than ½ cubic yard, the Contractor may mix concrete on the job site, provided the Contractor has requested in writing and received written permission from the Engineer.
6-02.3(5) Acceptance of Concrete

6-02.3(5)A General

The first sentence of Section 6-02.3(5)A is hereby deleted and replaced with the following:

("*****")

***Lean concrete will be accepted based on a Certificate of Compliance to be provided by the Supplier as described in Section 6-02.3(5)B.***

DIVISION 7
DRAINAGE STRUCTURES, STORM SEWERS, SANITARY SEWERS, WATER MAINS, AND CONDUITS

SECTION 7-02 CULVERTS

7-02.2 Materials

Section 7-02.2 is supplemented with the following:

("*****")

Solid Wall PVC Culvert Pipe, Profile Wall PVC Culvert Pipe, and Corrugated Polyethylene Culvert Pipe shall not be allowed for use on driveway approaches or road crossings with exposed ends.

The "Gravel Backfill for Pipe Bedding" shall conform to Crushed Surfacing Top Course meeting the requirements of Section 9-03.9(3) of the Standard Specifications.

7-02.3 Construction Requirements

Section 7-02.3 is supplemented with the following:

("*****")

All pipes, which extend into the slope shall have beveled ends to match the ground slope. On field cuts, the cut surface shall be painted with two coats of paint. The steel pipe to be painted shall be cleaned with solvent to remove contaminants. After cleaning, the pipe shall be painted with two coats of paint conforming to Federal Specifications TT-P-645 (Primer, Paint, Zinc Chromate, Alkyd Vehicle).

The cost of cutting, cleaning and painting the steel pipe surfaces as specified shall be included in the unit contract price per linear foot for steel pipe.

7-02.5 Payment

Section 7-02.5 of the Standard Specifications shall be supplemented with the following:

("*****")
When the Engineer directs the Contractor to backfill trenches with "Crushed Surfacing Top Course", payment shall be made by the Contract Bid Item "Crushed Surfacing Top Course" per Ton, which shall include all costs associated with labor, equipment, materials, etc, and no further payment shall be made.

SECTION 7-08 GENERAL PIPE INSTALLATION REQUIREMENTS

7-08.2 Materials

Section 7-08.2 is supplemented with the following:

(******)
Gravel Backfill for Pipe Bedding 9-03.9(3).

7-08.3(3) Backfilling

Section 7-08.3(3) is supplemented with the following:

(******)
Where directed by the Engineer, trenches shall be backfilled to the depth specified by the Engineer with "Crushed Surfacing Top Course".

7-08.4 Measurement

Section 7-08.4 is supplemented with the following:

(******)
"Gravel Backfill for Pipe Bedding and Trench" shall be measured by the Ton.

The first sentence of paragraph 4 is deleted and replaced with the following:

Structure Excavation Class B, and Structure Excavation Class B, including haul shall not be measured.

7-08.5 Payment

Section 7-08.5 is supplemented with the following:

(******)
When the Engineer directs the Contractor to backfill trenches with "Gravel Backfill for Pipe Bedding and Trench" payment shall be made by the Contract Bid Item "Gravel Backfill for Pipe Bedding and Trench" per Ton, which shall include all costs associated with labor, equipment, materials, etc., and no further payment shall be made.
All costs associated with Structure Excavation Class B, and Structure Excavation Class B, Including Haul for the various drainage items shall be included in the unit contract price for the type and size of pipe or catch basin installed.

DIVISION 8
MISCELLANEOUS CONSTRUCTION

SECTION 8-02 ROADSIDE RESTORATION

8-02.3(15)B Seeding and Fertilizing
Section 8-03.3(15) B of the Standard Specifications is supplemented with the following:

Grass seed, of the following composition, proportion, and quality, shall be applied at the rate of 52 pounds per acre on all areas requiring seeding within the project:

<table>
<thead>
<tr>
<th>Grass Species</th>
<th>Scientific Name</th>
<th>Pounds per Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sandburg Bluegrass</td>
<td>Poa sandbergii</td>
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</tr>
<tr>
<td>Bluebunch Wheatgrass</td>
<td>Agropyron spicatum</td>
<td>10</td>
</tr>
<tr>
<td>Indian Ricegrass</td>
<td>Oryzopsis hyagnoides</td>
<td>10</td>
</tr>
<tr>
<td>Basin Wild Rye</td>
<td>Elymus cinereus</td>
<td>10</td>
</tr>
<tr>
<td>Annual Rye</td>
<td>Lolium multiforum</td>
<td>40</td>
</tr>
</tbody>
</table>

Total Pounds per Acre 74

010304B1.FR8
(January 5, 1998)

Sufficient quantities of fertilizer shall be applied to supply the following amounts of nutrients:

Total Nitrogen as N - 80 pounds per acre
Available Phosphoric Acid as P2O5 - 40 pounds per acre
Soluble Potash as K2O - 40 pounds per acre

Ninety percent of nitrogen applied per acre shall be derived from isobutyldene diurea (IBDU), cyclo-di-urea (CDU), or sulfur-coated urea (SCU). The remainder may be derived from any source.

The fertilizer formulation and application rate shall be approved by the Engineer before use.
8-02.3(15)D Mulching

Section 8-01.3(5) of the Standard Specifications is supplemented with the following:

(******)
Wood cellulose fiber mulch shall be applied at a rate of 2,000 pounds per acre.

8-02.3(15)F Soil Binder or Tacking Agent

Section 8-01.3(6)B of the Standard Specifications is supplemented with the following:

(******)
Tacking agent shall be Type A in accordance with Section 9-14.4(7) of the Standard Specifications. Application rate shall be per manufacturer’s written recommendations.

8-02.5 Payment

Section 8-02.5 of the Standard Specifications is supplemented with the following:

(******)
The per-acre price for “Seeding, Fertilizing, and Mulching” shall also include providing tacking agent.

The following new section is added to Division 8.

SECTION 8-05 DRIVEWAY APPROACHES

8-05.1 Description

(******)
The Contractor shall excavate gravel driveway approaches and field entrances adjacent to the roadway, place and compact Crushed Surfacing Top Course as directed by the Engineer. Unless shown otherwise on the attached Plans or directed otherwise by the Engineer, driveway approaches shall be excavated at a constant slope from the finished roadway surface to the right of way line. The Contractor shall place 0.3 Feet compacted depth Crushed Surfacing Top Course on gravel driveway approaches.

All costs associated with removing and disposing of hard surfacing shall be considered incidental to the other Bid Items of the Contract, and no further payment shall be made.

8-05.3 Construction Requirements

(******)
Where necessary, the Contractor shall excavate the existing driveway approaches to a neat line. Crushed surfacing materials shall be placed in accordance with Section 4-04 of the Standard Specifications.

8-05.5 Payment
The Contract Unit Price for "Roadway Excavation Incl. Haul" per Cubic Yard, shall be full compensation for all materials, labor, equipment, tools, excavating and hauling to complete the work as specified, and no further payment shall be made.

The Contract Unit Price for "Crushed Surfacing Top Course" per Ton, shall be full compensation for furnishing all materials, labor, tools, and equipment necessary to complete the work as specified and no further payment shall be made.

SECTION 8-11 GUARDRAIL

8-11.3(1)A Erection of Posts

Section 8-11.3(1)A is supplemented with the following:

(*****)
The new guardrail posts on Culvert No. 0282 shall be located at the existing holes in the timbers. Drill holes in guardrail post to match these existing locations.

DIVISION 9
MATERIALS

SECTION 9-03 AGGREGATES

9-03.8(6) Proportions of Materials

Section 9-03.8(6) is supplemented with the following:

(*****)
For the determination of a project mix design, the Contractor shall submit to the Engineer’s representative, samples of the various aggregates to be used, along with the gradation data showing stockpile averages and variation of the aggregate produced, along with proposed combining ratios and average gradation of the completed mix. The initial asphalt content shall be determined by the Engineer from the aggregates and data provided.

9-03.8(6)A Basis of Acceptance

(*****)
Section 9-03.8(6)A is deleted.

SECTION 9-06 STRUCTURAL STEEL AND RELATED MATERIALS
9-16.16 Roadside Sign Structures
Section 9-06.16 is supplemented with the following:

(August 2, 2004)
Perforated Steel Square Sign Post System
Where noted in the Plans, steel sign post systems shall be square, pre-punched galvanized
steel tubing, that are NCHRP 350 Test Level 3 Certified and FHWA approved.

The steel sign post system shall include all anchor sleeves, and other hardware required for a
complete sign installation.

System Acceptance
Systems listed in the current QPL will be accepted per the QPL approval code. Systems
not listed in the QPL will be accepted based on a Supplier’s Certificate of Compliance.
The Supplier’s Certificate of Compliance will be a contract specific letter from the
supplier stating the system is NCHRP 350 Test Level 3 compliant. A Certificate of
Material Origin (WSDOT Form 350-109) will be required for contracts containing the
“Foreign Made Materials” clause and will include a dollar value for any foreign steel
used in the system being supplied.

SECTION 9-28 SIGNING MATERIALS AND FABRICATION
April 10, 2006

Sign Support Structures
Section 9-28.14 is supplemented with the following:

Manufacturers for Steel Sign Supports
The Standard Plans lists several steel sign support types. These supports are patented
devices and many are sole-source. All of the sign support types listed below are acceptable
when shown in the plans.

<table>
<thead>
<tr>
<th>Steel Sign Support Type</th>
<th>Manufacturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type TP-A &amp; TP-B</td>
<td>TransPo Industries</td>
</tr>
<tr>
<td>Type PL, PL-T &amp; PL-U</td>
<td>Poz Lock, Northwest Pipe</td>
</tr>
<tr>
<td>Type AS</td>
<td>TransPo Industries</td>
</tr>
<tr>
<td>Type AP</td>
<td>TransPo Industries</td>
</tr>
<tr>
<td>Type ST 1, ST 2, ST 3, &amp; ST 4</td>
<td>UltiMate, S-Square, Telespar</td>
</tr>
<tr>
<td>Type SB-1 &amp; SB-2</td>
<td>UltiMate, Telespar</td>
</tr>
</tbody>
</table>

SECTION 9-33 CONSTRUCTION GEOSYNTHETIC

9-33.2 Geosynthetic Properties
Section 9-33.2 is supplemented with the following:
(*****)

As shown on the plans, and directed by the Engineer, the Contractor shall install geotextile for separation and geotextile grid for stabilization.

Construction Geotextile for separation shall meet the requirements for Geotextile for Separation as listed in Table 3.

“Construction Geotextile for Stabilization” grid shall be BX1200, as manufactured by Tensar Earth Technologies, or approved equal, and shall be installed per the manufacturer’s recommendations.

“Construction Geotextile for Separation” shall be BX1100, as manufactured by Tensar Earth Technologies or approved equal, and shall be installed per the manufacturer’s recommendations.

The Contractor shall submit to the Engineer, for review and approval prior to installation, a plan showing the proposed layout for the geotextile materials, including roll widths, overlaps, etc.

9-33.5 Payment

Section 9-33.5 is supplemented with the following:

(*****)

Payment for “Construction Geotextile for Separation” and “Construction Geotextile for Stabilization”, shall be per square yard of material installed, and there shall be no deduction for manufacturer’s recommended overlaps.

SECTION 9-34 PAVEMENT MARKING MATERIAL

9-34.2(3) Low VOC Waterborne Paint

Section 9-34.2(3) is supplemented with the following:

(*****)

Pavement marking materials shall be Low VOC Waterborne Paint.

STANDARD PLANS

January 7, 2008

The State of Washington Standard Plans for Road, Bridge and Municipal Construction M21-01 transmitted under Publications Transmittal No. PT 08-001, effective January 7, 2008 is made a part of this contract.
The Standard Plans are revised as follows:

All Standard Plans

All references in the Standard Plans to "Asphalt Concrete Pavement" shall be revised to read "Hot Mix Asphalt".

All references in the Standard Plans to the abbreviation "ACP" shall be revised to read "HMA".

C-1 Sheet 1

In the TYPE 1 ALTERNATIVE, the title of the first section view is revised to INITIAL INSTALLATION

C-1a

In the TYPE 11, WOOD POST ASSEMBLY, the 18" long Button Head Bolts are revised to 25" long.

C-1b

In the ANCHOR POST ASSEMBLY, the above ground 7 1/2" long bolt connecting the Wood Breakaway Post to the Foundation Tube is revised to 10" long.

C-5

In the A CONNECTION, "Type 3 transition pay limit" is revised to “transition pay limit”.

C-11b Sheets 1 and 2

In the PRECAST FOOTING, ELEVATION view (Sheet 1) and in the CAST-IN-PLACE FOOTING, ELEVATION view (Sheet 2), COMMERCIAL CONCRETE is revised to CONCRETE CLASS 4000.

In the BREAKAWAY ANCHOR ANGLE, ELEVATION view (Sheet 2), the welding symbols are revised to indicate that the 1/4" Inside Gussets have 1/4" fillet weld joints, and the 1/2" End Gussets have 1/2" fillet weld joints.

C-12

Note 1 is revised to read:

Approved inertial barrier systems (sand barrel arrays) are listed in the Qualified Products List and shall be installed in accordance with the manufacturer’s recommendations. Products not listed on the Qualified Products List are considered when submitted with a Request of Approval of Materials (RAM) form.

D-1a Sheet 2 & D-1b Sheet 2

Reinforcing Steel Bar marked “R1” (see lower left corner): the dimension 1’ - 2 1/2” is revised to 1’ - 0 1/2”.

F-40.10 through F-40.18

The following note is added to these six plans:
Note 7. To the maximum extent feasible, the ramp cross slope shall not exceed 2%.

K-80.30-00
In the NARROW BASE, END view, the reference to Std. Plan C-8e is revised to Std. Plan K-80.35

The following are the Standard Plan numbers applicable at the time this project was advertised. The date shown with each plan number is the publication approval date shown in the lower right-hand corner of that plan. Standard Plans showing different dates shall not be used in this contract.

<table>
<thead>
<tr>
<th>Plan Number</th>
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<tbody>
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<td>A-10.10-00</td>
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RAILROAD CROSSING
SPECIAL PROVISIONS
CONCRETE CROSSING PANELS

PART 1 - GENERAL

1.1 DESCRIPTION

The Work of this Section consists of the demolition and removal of the existing grade crossing and track; grading and preparing crossing support surface; installing the Yakima County supplied concrete crossing pannels, drain pipe and geotextile fabric, as shown on the Contract Drawings, and as specified herein.

1.2 REFERENCES

AMERICAN RAILWAY ENGINEERING AND MAINTENANCE ASSOCIATION (AREMA)

"Manual for Railway Engineering" (AREMA Manual)

1.3 SUBMITTALS

The following shall be submitted to the Engineer for review and approval:

1.3.1 Manufacturer's description for Geotextile Fabric Material.

1.3.2 Manufacturer’s description for 6” diameter PVC drain pipe, both solid and perforated.

1.3.3 Traffic Control Plan

PART 2 - PRODUCTS

2.1 CONCRETE GRADE CROSSING SYSTEM

Yakima County will provide one (1) 40 foot concrete crossing manufactured by Premier.

2.2 BALLAST

Ballast shall conform to the requirements of Section 02725, BALLAST.

2.3 OTHER TRACK MATERIALS

2.3.1 Except where otherwise specified by the grade crossing manufacturer, other track materials used in connection with installation of grade crossings as specified in, OTHER TRACK MATERIALS.

2.3.2 Threaded fasteners for use in grade crossings shall be of the sizes and lengths as indicated in the Contract Drawings and the crossing manufacturer’s list of materials. Screw spikes shall have a minimum ultimate tensile strength of 60,000 psi and shall be galvanized for corrosion protection.
2.4 GEOTEXTILE FABRIC

Geotextile fabric shall be Non-woven Polypropylene, and shall have the following properties:

<table>
<thead>
<tr>
<th>Property</th>
<th>Acceptable Value</th>
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<tbody>
<tr>
<td>Water Permeability (k)</td>
<td>0.30 cm/sec min.</td>
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<tr>
<td>Equivalent Opening Size (U.S. Standard Sieve)</td>
<td>100-120</td>
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<tr>
<td>Grab Strength (ASTM D 1682)*</td>
<td>250 lbs. min.</td>
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<tr>
<td>Grab Elongation (ASTM D 1682)*</td>
<td>50% min.</td>
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<tr>
<td>Mullen Burst Strength (ASTM D 3786)</td>
<td>450 psi</td>
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<tr>
<td>Puncture Strength (ASTM D 4833)</td>
<td>120 lbs.</td>
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<tr>
<td>Tear Strength (ASTM S 2263)</td>
<td>100 lbs. min.</td>
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* Tests shall be run on wet samples soaked 24 hours in water at ambient temperature.

2.5 PVC TRACK DRAIN PIPE

Track drain pipe shall be 6 inch diameter Poly Vinyl Chloride (PVC) SDR-35 pipe, or approved equivalent, for both perforated and solid applications. Perforated and solid wall drain pipe shall conform to ASTM D 3034, M278 and F679. Perforations shall be 1/2" holes at 3" on center and 60 degrees on each side of bottom centerline.

PART 3 - EXECUTION

3.1 SEQUENCE OF WORK PLAN

The approved Sequence of Work Plan submitted under Section 05660, TRACK CONSTRUCTION shall be fully implemented prior to beginning any Work on the grade crossing.

3.2 LAYOUT OF THE CROSSINGS

The Contractor is responsible to provide all survey and measurements required to layout the grade crossing and associated Work in accordance with these Specifications and the crossing manufacturer’s requirements.

3.3 REMOVAL OF EXISTING CROSSINGS

The existing grade crossing shall be removed as shown on the Contract Drawings. Any existing pavement, track structure, ballast, and natural ground shall be completely removed.

3.4 TRACKBED PREPARATION

3.4.1 Existing ballast and other existing base material shall be excavated to a minimum of 24 inches beyond the ends of the new panels through the crossing and for 10 feet beyond each end of the crossing.
3.4.3 Surface ditches and other drainage facilities, including track drains, shall be installed, as indicated on the Contract Drawings, to provide positive drainage away from the grade crossing. All existing drainage ditches and channels adjacent to the grade crossing shall be cleaned and sloped to provide drainage away from the grade crossing.

3.4.4 The geotextile fabric shall be installed as indicated on the Contract Drawings.

3.5 TRACK CONSTRUCTION

The track shall be reconstructed though the entire length of the crossing.

3.5.1 Track Gauge
Within the limits of the crossing, the gauge of the track shall be 56 1/2", +/- 1/8". If the track gauge is discovered to be outside of this tolerance, the Contractor shall regauge the track to fall within the specified tolerance, at the Contractor's expense.

3.6 INSTALLATION OF THE GRADE CROSSING

The Contractor shall be familiar with the type of installation to be performed and shall follow the manufacturer’s recommended installation procedures.

3.6.1 Concrete Crossing Panels
3.6.1.1 The concrete crossing panels are to be installed according to the manufacturer's instructions. The Contractor shall take care not to drop or strike the panels. Any damage to the concrete panels resulting from handling and installation by the Contractor shall be repaired, or the materials replaced, to the satisfaction of the Engineer, at the Contractor's expense.

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

4.1.1 Concrete crossing panels shall be measured for payment per Lump Sum and installed in accordance with the Contract Drawings and Specifications.

4.2 PAYMENT

4.2.1 Payment for complete installation of concrete crossing panels will be made at the Contract unit price for "Concrete Crossing Panels, Complete" listed in the Bid Form, which will be payment in full for furnishing all labor, materials, tools, equipment and incidentals necessary to complete the Work as specified. Geotextile and subdrain placement is considered incidental to this item.

OTHER TRACK MATERIALS
PART 1 - GENERAL

1.1 DESCRIPTION

The Work of this Section consists of furnishing and installing miscellaneous Other Track Materials (OTM), including but not limited to, rail spikes; track bolts, nuts, and spring washers.

1.2 REFERENCES

AMERICAN RAILWAY ENGINEERING AND MAINTENANCE ASSOCIATION (AREMA)

Manual for Railway Engineering (AREMA Manual): Chapter 4, Rail and Chapter 5, Track

Portfolio of Trackwork Plans (AREMA Portfolio)

1.3 SUBMITTALS

1.3.1 The Contractor shall submit Certificates of Compliance for all track materials furnished under this Contract.

1.3.2 If requested by the Engineer, the Contractor shall submit samples of new and/or used track materials that are proposed for use on this Project.

PART 2 - PRODUCTS

2.1 RAIL SPIKES

The Contractor shall furnish new rail spikes conforming to the requirements of the AREMA Manual, Chapter 5, Part 2, Section 2.1, "Specifications for Soft Steel Track Spikes" or Section 2.2, "Specifications for High Carbon Steel Track Spikes". Spikes shall be 6 inch by 5/8 inch and conform to the dimensions specified in the AREMA Manual, Chapter 5, Part 2, Section 2.3, "Design of Cut Track Spike". Rail spikes shall be delivered to the Job Site in Engineer-approved containers (kegs).

2.2 TRACK BOLTS, NUTS, AND SPRING WASHERS

The Contractor shall furnish, if required, track bolts, nuts, and spring washers conforming to the following requirements:

2.2.1 Track Bolts and Nuts

Track bolts and nuts shall be new and shall conform to the dimensions specified in the AREMA Manual, Chapter 4, Part 1, Section 1.3, "Rail Drilling, Bar Punching, and Track Bolts", and Section 1.4, "Design for Track Bolts and Nuts". Track bolts and nuts shall conform to the requirements of the AREMA Manual,
Chapter 4, Part 2, Section 2.9, "Specifications for Heat Treated Carbon Steel
Track Bolts and Carbon Steel Nuts".

2.2.2 Spring Washers
Spring Washers shall be new and shall conform to the requirements of the
AREMA Manual, Chapter 4, Part 2, Section 2.10, and Section M12, "Spring
Washers" of the AREMA Portfolio, Plan No. 100, "Specifications for Special
Trackwork".

2.3 TIE PLATES

The Contractor shall furnish, if required

2.3.1 Tie Plates used in cut spike track construction.

2.3.1.1 The Contractor shall furnish new double-shouldered, canted tie plates for
use with 115 RE, or new single-shouldered, canted tie plates for use with
90 RA-A. New tie plates shall conform to the requirements of the
AREMA Manual, Chapter 5, Part 1, Section 1.1, "Specifications for Steel
Tie Plates".

2.3.1.2 Tie plates shall be sized to match the rail section being used. Minimum
allowable tie plate size for 115 RE shall be 7¼"x 14", AREMA Plan No.8;
or for 90 RA-A 7½” x 11”, AREMA Plan No.2. Tie plate punching shall
provide six or eight spike holes.

2.4 RAIL ANCHORS

The Contractor shall furnish, if required, all rail anchors required for this Project. Rail
anchors shall be new Channeloc-type rail anchors manufactured by Chemtron True
Temper or approved equal. Rail anchors shall be sized to conform to the rail section
used. Rail anchors shall conform to the AREMA Manual, Chapter 5, Part 7, Section 7.1,
"Specifications for Rail Anchors".

2.5 JOINT BARS

Joint bars shall be furnished by the Contractor, if required. Joint bars shall be new and of
the size, shape, and punch necessary to fit the rail sizes and sections being joined. Joint
bars shall conform to the requirements of the AREMA Manual, Chapter 4, Part 2, Section
2.8, "Specifications for Quenched Carbon-Steel Joint Bars, Microalloyed Joint Bars, and
Forged Compromise Joint Bars". Only factory designed and produced joint bars shall be
used to join rails.

2.6 INSULATED RAIL JOINTS

Insulated rail joints shall be furnished by the Contractor, if required. Insulated joints for
use in jointed rail shall be six-bolt Allegheny Rail Products, Inc. Toughcoat Joint with 3M
end posts, or approved equal. Epoxy bonded insulated joints for use in welded rail shall
be six-bolt Allegheny Rail Products, Inc. Rib Reinforced Bars with A-490 bolts and 3M
end posts, or approved equal. Insulated rail joints shall conform to the requirements of
AREMA Manual, Chapter 4, Part 2, Section 2.11 "Specifications for Bonded Insulated Rail Joints" and Section 2.12 "Specifications for Non-Bonded Encapsulated Insulated Rail Joints". Contractor shall verify rail section and rail weight for each insulated joint prior to ordering material. Type of I.J. to be determined by the Engineer. When rail is cut for an insulated joint, the rail ends will be heat treated. Insulated joints will be installed in the presence of a qualified signal employee.

PART 3 - EXECUTION

3.1 TIE PLATES

Tie plates shall be installed as specified in Section 05660, TRACK CONSTRUCTION. Excess tie plates remaining at the conclusion of the Contract shall be removed from the Job Site.

3.2 RAIL SPIKES

Rail spikes shall be installed as specified in Section 05660, TRACK CONSTRUCTION. Excess spikes remaining at the conclusion of the Contract shall be placed in container(s) and removed from the Job Site.

3.3 RAIL ANCHORS

Rail anchors shall be installed in accordance with the requirements of Section 05660, TRACK CONSTRUCTION. Excess rail anchors remaining at the conclusion of the Contract shall be removed from the Job Site.

3.4 BOLTS, NUTS, AND SPRING WASHERS

3.4.1 The various rail, joint bars, and rail drillings require various lengths and diameters of bolt assemblies. The Contractor shall determine the number of bolt assemblies of each size required. In general, all bolt diameters shall be the largest possible for a given rail drilling and joint bar punching. Bolts shall be the proper length for the joint bar to allow at least one full bolt thread to extend past the outside of the nut. Spring washers and nuts shall be of a size sufficient to insure that the spring washer develops its full reactive force and does not jam into the joint bar hole.

3.4.2 Bolt assemblies, if required, shall be delivered in approved containers (kegs).

3.4.3 Bolt assemblies shall be installed as specified in Sections 05660, TRACK CONSTRUCTION.

3.5 JOINT BARS

Joint bars shall be installed in accordance with the requirements of Section 05660, TRACK CONSTRUCTION.

3.6 COMPROMISE JOINT BARS
Compromise joint bars shall be installed in accordance with the requirements of Section 05660, TRACK CONSTRUCTION.

3.7 INSULATED JOINTS

Insulated joints shall be installed in accordance with the requirements of Section 05660, TRACK CONSTRUCTION.

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT
4.1.1 Measurement will not be made for furnishing and installing the following Other Track Material.

4.2 PAYMENT
4.2.1 There will be no separate payment for the following furnished and installed Other Track Material. Payment for furnishing and installing these items of Other Track Materials will be considered as incidental to the pay item "Concrete Crossing Panels, Complete".

RAILROAD SIGNALS – PART 1

GENERAL

1.1 CONDITIONS AND REQUIREMENTS

The Work specified in this section consists of general procedures and requirements necessary and incidental to the planning, manufacturing, installation, removal, relocation, modification, testing, placing in service, and documenting as-built conditions of the various signal systems to be provided by the Contractor.

A. Yakima County will supply the following signal equipment for the installation at the crossing of Barkes Road and the White Swan Branch line:
- one Railroad signal cabinet, complete including Safetran 62590 motion sensor
- two Railroad crossing gate assemblies, including foundation, except gate arms
- four sets of 90 lb. insulated joint bars

The Contractor shall provide all other materials, programs and installation services required for complete working signaling systems, as described herein, and as shown on the Contract Drawings. The contractor shall be responsible for inspecting the existing equipment and ensuring that all the equipment is operable. Yakima County will make the equipment available for inspection at the request of the contractor.
B. All cables shall be installed in conduits from the grade crossing control equipment shelters to the grade crossing warning devices.

C. Contractor may provide equivalent systems, components, and materials subject to the approval of the Engineer. If equivalent systems, components and materials are provided, Contractor shall provide an alternate detailed final design, utilizing the symbology, nomenclature, and CADD standards depicted in the Contract Drawings. Contractor’s alternate final design drawings shall be submitted for approval of the Engineer no later than 20 days of Contractor receiving Notice To Proceed (NTP). The Engineer shall render a decision concerning alternative design within 14 days of submittal. No additional payment shall be made to the Contractor for the alternative design.

D. Contractor shall provide systems compliant with applicable rules and regulations of CFR 49, Parts 234 and 236, and all local ordinances. Contractor shall submit marked-up drawings to the Engineer for approval, indicating any corrections or modifications to the final design the Contractor may determine are required to conform to these rules and regulations. These revised drawings shall be submitted to the Engineer within 20 days of Contractor receiving NTP.

E. The Contractor shall be represented at all design meetings held with the Engineer by a Signal Engineer qualified in the design and application of the signaling equipment the Contractor proposes for use on this project.

F. No circuit is considered to have met the requirement of this Specification for function and safety until it has been properly tested and verified in the field. Any circuit changes made to meet the functional and safety requirements of this Specification shall be considered as a part of the Contractor’s responsibility and therefore no additional compensation will be paid for this work.

G. The Contractor shall be responsible for providing continuous train control and highway grade crossing warning protection during all phases of construction. At no time shall the work of the Contractor cause delay to train operation, cause an unsafe signaling condition to exist, or reduce the effectiveness or quality of the existing or new grade crossing warning systems. The Contractor shall submit, for approval by the Engineer, its proposed plan for providing alternate methods of crossing warning whenever the existing automatic crossing warning devices are deactivated, altered, or modified in order to accommodate construction work before any phase of construction can begin. Alternate methods shall conform to CFR 49, Part 234, and all local ordinances.

H. Contractor shall provide rail bonding for all non-insulated joints within the crossing as shown on the Contract Drawings. The Contractor shall provide rail bonding, as necessary, to maintain existing systems during construction. Bonding will consist of two new railhead bonds around each non-insulated joint within the crossing approaches.
I. Contractor shall protect existing signaling, cabling and, where necessary, relocate existing cabling in order to prevent damage to the cabling during track installation and profiling work.

J. Contractor shall be responsible for the coordination of the roadway work and the signal work.

K. Contractor shall be responsible for staging the construction activities as needed.

L. Contractor shall record the final as-built conditions of the signal systems.

M. Contractor shall perform and document all tests and inspections in accordance with CFR 49 regulations, the AREMA (formerly AAR) Communications and Signal Manuals, and these specifications.

1.2 CONTRACT DESCRIPTION

A. The major Signal aspects of the Work include, but are not restricted to the following:

1. Installation of a Grade Crossing Control Equipment shelter.
2. Installation of new underground cables in conduits to Crossing Gate Assemblies.
3. Installation of Crossing Gate assemblies.
4. Installation of Crossing Flashing Assemblies.
5. Installation of underground signal cable in conduit and at the grade crossing.
6. Installation of new conduit and cables as specified in the Contract Drawings and these Specifications.
7. Miscellaneous bonding and track work including installation of insulated joints where necessary.
8. Installing a new AC service for the Highway Grade Crossing, and providing all necessary inspections, licenses and permits.

B. The Contractor shall follow and use the Contract Drawings provided. Any modifications to the Contract Drawings will be done only with the approval of the Engineer. It shall be the Contractors responsibility for the correctness of the final wiring diagrams and circuit drawings. The Contractor shall prepare the detailed wiring assignments for the final design. Circuit drawings shall contain circuit nomenclature, terminal identification, fuse and resistor sizes, relays and their contacts identified by number.

C. As shown on the Contract Drawings, material and equipment will be relocated and reused at new locations within the project limits. Materials not designated for re-use or salvage shall be disposed of by the Contractor. The following is the general description of work done by location:

1. Install New Grade Crossing Warning Systems.
a. Supply, install and test equipment required to provide a complete and functional at grade crossing warning system as shown on the Contract Drawings.

b. The work involves protecting existing utilities located within the project limits.

c. Furnish, install, test and place in service, new conduits, cables, track wires, track connections, insulated joints, multifrequency narrow band shunts, foundations, crossing control equipment shelter, and other apparatus required to provide a functional at grade crossing warning system as shown on the Contract Drawings. Install a 100 Amp AC meter service.

d. The crossing control equipment shelters shall be connected with new cables to the Gate and Flasher light assemblies.

e. Make temporary modifications as required to install the new equipment.

f. Perform necessary excavations and grade changes around crossing control equipment shelter and signal foundations to allow adequate drainage and walkways.

g. Installation of underground signal cable in conduit at the grade crossing.

h. Provide a system to report status and malfunctions.

1.3 REFERENCE STANDARDS

A. All electrical equipment, unless specifically excluded herein, shall conform to the standards of the National Electrical Manufacturers Association (NEMA), The Underwriters' Laboratories Inc., (UL), the Electrical Testing Laboratories (ETL), and the National Electrical Testing Association, Inc. (NETA), or the Electronic Industries Association (EIA), wherever applicable. Unless specifically excluded herein, all materials and workmanship shall conform to the requirements of the National Electrical Code; Electrical Safety Orders; Standards of the American Society for Testing and Materials (ASTM); American National Standards Institute (ANSI); and any local ordinances which may apply.

B. Wherever reference is made to any of the standards mentioned above, the reference shall be construed to mean the code, order, or standard that is in effect on the day the NTP is dated.

C. The following parts of the Code of Federal Regulations, Title 49, Transportation shall apply:

1. Part 212: State Safety Participation Regulations

2. Part 219: Control of Alcohol and Drug Use

3. Part 218: Railroad Operating Practices

4. Part 228: Hours of Service of Railroad Employees

5. Part 234: Grade Crossing Signal System Safety
6. Part 235: Instructions Governing Application for Approval of a Discontinuance or Material.
Modification of a Signal System or Relief From the Requirements of Part 236
7. Part 236: Rules, Standards, and Instructions for Railroad Signal System
8. The Contractor shall be responsible for adherence to all of the above rules and reporting requirements, including those regulations which require pre-employment drug testing and random drug testing of employees engaged in the installation and testing of signal facilities, and the reporting and tracking of employees injured in the performance of work on a railroad.


E. In addition to the regulations and code requirements specified in this Section, materials and equipment for the signaling systems shall conform to the latest standards and recommendations of the AREMA (formerly AAR) Communication and Signal Manuals.

F. State of Washington, Department of Transportation Traffic and Highway Design Manuals.

G. Applicable requirements of the following standards regarding handicapped accessibility:
ANSI A117.1, "Buildings and Facilities - Providing Accessibility and Usability for Physically Handicapped People".

H. Referenced Codes and Standards: Requirements of industry, trade association, federal or other like organizations standards, codes, or specifications regarding materials and workmanship referred to in the Specifications by number, symbol, or title.

1.4 ABBREVIATIONS

AAR Association of American Railroads
AREMA American Railway Engineering and Maintenance-of-Way Association
CFR Code of Federal Regulations
GCOR General Code of Operating Rules
GRS General Railway Signal Co. (Alstom Signaling)
Harmon Harmon Industries, Inc (GE Transportation Services).
NEC National Electrical Code
NEMA National Electrical Manufacturers Association
WS DOT Washington State Department of Transportation
Safetrax Safetrax Systems Corporation
UBC Uniform Building Code
USS Union Switch and Signal Co.
WCH Western-Cullen-Hayes

1.5 FAIL-SAFE DESIGN REQUIREMENTS
A. As used in these Technical Provisions, the fail-safe principle shall mean that whenever an
equipment failure, human error or failure to act, or adverse environmental condition
affects the specified operation of a system involved with the safety of life or property,
that system shall revert to a state known to be safe.

B. Failure of a circuit or equipment that results in an indication of a dangerous or restrictive
condition, whether or not there is in fact actual danger, shall have met the fail-safe
requirements. Conversely, a failure that results in an indication of safe or nonrestrictive
condition when, in fact, a dangerous condition may exist shall not have met the fail-safe
requirements.

C. Vital applications, such as activation of highway crossing warning systems, shall be
based on the following principles that permit the attainment of fail-safe operation in all
known or discovered failure modes:

1. Closed Loops: Fail-safe circuits shall employ the closed loop principle and shall
   protect against open circuits, shorts, or any combination thereof.
2. Vital Circuits: All line circuits, which energize a vital relay, shall be two-wire,
   double-break circuits and shall be energized from an ungrounded direct current
   (DC) power supply.
3. Grounds: Components or wires becoming grounded shall not cause an unsafe
   condition.
4. Spurious Oscillations: Any amplifier, generator, or device element, active or
   passive, breaking into spurious oscillations shall not cause an unsafe condition.
5. Filters: Filters used in fail-safe circuits shall be designed to prevent undesired
   signals from appearing at the filter output at levels, which could cause an unsafe
   condition.

D. Equipment failures and conditions which shall be considered in producing a fail-safe
design shall include, but not be limited to:

1. Relays (non-vital): Open coil, fused contacts, high contact resistance, shorted
   coil, armature sticking, contacts sticking, or broken spring.
2. Relay (vital as defined by the AREMA): Open coil, shorted coil, or high contact
   resistance.
3. Transformers: Open primary, open secondary, shorted turns, primary-to-
   secondary shorts, or combinations thereof.
4. Capacitors: Short, open, or leakage.
5. Resistors: Increase or decrease in resistance.
6. Transistors: Short, open leakage, or loss of Beta.
7. Diodes: Short, open, or reverse leakage.
8. Coils: Open or shorted turns.
9. Loss or degradation of power sources.
10. Appearance of abnormal signal levels, electrical noise levels, frequencies, and
    delays.
11. Effects of electrical interference.
12. Absent or abnormal input signals.
13. Opens or shorts in internal circuitry at inputs and at outputs.
14. Mechanical vibration or shock.
15. Drift or instability of amplifiers, receivers, transmitters, oscillators, switching circuits, and power supplies.

E. Fail-safe equipment proposed for vital signaling applications under this Contract must have been proven with 5 years of successful rail service operation in the United States of America.

1.6 QUALIFICATIONS

A. Work of this Contract is specialized. To be considered skilled and experienced for this project, the Contractor and associated subcontractors shall demonstrate to the Engineer's satisfaction that they have the capacity, experience, and present ability to design, manufacture, and install complete highway crossing warning systems an active rail environment.

B. The apparent responsive, responsible low bidder, as a Prime Contractor, shall submit a description of successfully completed recent projects, similar in magnitude and character to this project, for which the Prime Contractor and associated subcontractors have designed, manufactured, and installed signal systems in order to demonstrate that this project can be completed satisfactorily.

C. The Contractor and associated subcontractors are required to provide to the Engineer, before the award of the Contract but within five working days after the bid opening date, the following information:

1. Comprehensive resumes of the proposed Signal Engineer and key personnel.
2. A preliminary proposed schedule for accomplishing the Signal work. This shall include all major work elements in a bar chart format.
3. Information on the Contractor's qualifications, experience, and resources. This will include a list of any instances of alleged violations of FRA regulations regarding the safe operations of trains along with the explanation for each occurrence.
4. The Contractor's last five projects and references.

D. Information submitted by the apparent responsive, responsible low bidder shall include documentation to prove to the satisfaction of the Engineer that in addition to the required skill and experience, both the manufacturer and installer have sufficiently large and competent engineering staff to perform the work; and that they have the necessary facilities and ample financial resources to do the work in a satisfactory manner and within the time specified.
E. Key employees of the Contractor engaged in the final adjustment and testing of the various signaling systems shall be qualified and have had experience on an operating railroad in the type and level of signal installation and testing work as required herein.

F. The Contractor's signaling construction forces shall work under the supervision and direction of an approved Signal Engineer. The Contractor's Signal Engineer shall oversee adjustment and testing of signal related work and shall coordinate signal work with related track construction work. The Contractor's Signal Engineer shall be on site whenever signal related work or whenever track construction work is in progress in the vicinity of highway grade crossing equipment, and/or cabling.

G. The Contractor's Signal Engineer shall direct and certify the successful completion of all tests on signaling equipment and systems prior to releasing the systems for service. The Contractor's Signal Engineer is responsible to ensure that all applicable test documentation is completed prior to, or immediately after, in-service testing is completed.

H. The Contractor's proposed Signal Engineer shall demonstrate experience in the philosophy, application, and testing requirements of the various highway crossing warning systems. The Contractor's proposed Signal Engineer should have a minimum of 3 years signal related experience on a railroad connected to the general railroad system of transportation and subject to FRA regulations. The proposed Signal Engineer shall also demonstrate knowledge of the governing General Code of Operating Rules, including WSDOT and FRA regulations and procedures. This demonstration shall be by interview of the proposed Signal Engineer by the Engineer prior to commencement of any signaling related work. The Engineer's decision concerning the candidate's qualifications shall be final. The Contractor shall propose alternate personnel if the original candidate is found to be unacceptable. No signaling related work shall begin prior to the Contractor's Signal Engineer having been approved by the Engineer.

I. All Contractor field personnel must receive safety training which shall include a thorough briefing in the rules of conduct in work areas where moving trains may be present.

J. Any Contractor personnel found to be acting in violation of rules and regulations will be barred from the work site.

1.7 INDIVIDUALS IN RESPONSIBLE CHARGE OF THE WORK:

These individuals shall be committed by the Contractor to the project for its entirety, and shall not be changed without the written acceptance of the Engineer.

1.8 COOPERATION WITH OTHER CONTRACTORS:
Confer with and coordinate through the Engineer, this Contract's work with that of any other contractors working in the project area. Subject to the Engineer's acceptance, the Contractor shall plan and execute construction operations in a manner that will afford
these contractors maximum freedom of movement. Any conflict arising between the Contractor's work and that of other contractors shall be brought immediately to the Engineer's attention for resolution.

1.9 CONTRACT WORKER SAFETY:

Contractor and associated subcontractors shall meet the requirements of the Roadway Worker Safety Act. Contractor personnel will not be permitted on the jobsite without proper evidence of completion of such requirement.

1.10 SITE ACCESS:

The project site is accessible from public streets.

1.11 TRACK AVAILABILITY REQUIREMENTS:

Railroad Service may not be interrupted by the Work of this Contract, except as specified herein.

A. Signal Cut-overs may be done under traffic. Contractor shall plan work to keep train delays and interruptions to an acceptable minimum.

B. Signal Cut-overs under traffic will require coordination between the Contractor and the Railroad to keep train delays at a minimum.

C. All Cut-overs of systems shall be well planned and pretested to the greatest possible extent before commencing cutover. All cutover planning will be submitted to the Engineer for acceptance.

D. Cutover plan must be submitted to the Engineer at least 21 calendar days prior to cutover.

E. Adequate personnel shall be provided by the Contractor to make all required tests operational verification.

1.12 PERMITS:

Contractor shall apply for and obtain all permits from local and state jurisdictions and affected utility agencies applicable to various construction activities required in connection with the Work under this Contract. The associated fees shall be included in the Contract Bid Price.

1.13 CONTRACTOR USE OF PRIVATE PROPERTY:

If private property is used for field offices, work and storage areas, disposal of waste and spoil materials, or any other purpose, file with the Engineer, prior to using the subject property, original or a certified copy of written permission from the property owner, that
includes a statement absolving the Project, the RAILROAD and the Engineer from any
and all responsibility in connection with the use of said property.

1.14 CITY, COUNTY, AND PRIVATE UTILITY REQUIREMENTS:

Work performed by the Contractor related to the facilities owned by these agencies will
be subject to their standards and specifications governing the particular work, as well as
their inspection and approval thereof.

1.15 DESIGN SUBMITTALS

A. No work shall be undertaken without the prior submittal to and approval by, the Engineer
of the relevant plans and procedures.

B. The Contractor shall submit to the Engineer for approval, proposed design changes,
plans, procedures, data sheets of proposed material, application logic, installation details,
shop drawings, mechanical drawings, proofs of compliance with applicable standards,
and any other pertinent data required to fully demonstrate the Contractors proposed plan
for the manufacture, installation, testing, and maintenance of the various signaling
systems. Submittal shall be made no later than 20 days after NTP.

C. The Contractor shall submit test procedures for all systems a minimum of 21 days in
advance of placing the systems in service. These procedures shall reflect the latest
revisions and changes approved by the Engineer and made as a result of field checks and
conditions. Contractor is not authorized to proceed with the cutover or in-service testing
until the Engineer approves these procedures.

D. Signal system shop drawings and design submittals shall include any CADD files
furnished to the Engineer on CD-ROM, or other approved media.

E. The Contractor shall prepare and submit a Signaling Construction Sequencing Plan for
each location where a portion of the signal system is to be installed. The Plan shall, as a
minimum, contain the following:

1. A narrative description of the work to be undertaken at the designated location.
2. A step-by-step sequence of work description which identifies those steps during
which the system will be installed, and a description of what steps will be taken to
assure that the signal system will be tested and placed in full operation without
causing a delay to any train movement, and what steps will be taken for the
control of highway vehicular traffic.
3. An estimate of time to complete the critical steps in the sequence specified in item
2 above.

F. Revisions to existing circuit plans shall use the "Xs" and "Os" convention to show
changes. Deletions shall be identified by encircling the change with "Xs". Additions shall
be identified by encircling the change with "Os".
G. A minimum of 21 days prior to placing any system service, the Contractor shall submit to the Engineer 5 sets of application, installation, operating, and maintenance manuals of all new equipment and systems utilized under this Contract.

H. Manufacturers' warranties and guarantees furnished for materials used in the work, instruction sheets, and part lists supplied with materials shall be delivered to the Engineer prior to acceptance of the project. All equipment, material warranties, and guarantees shall cover parts and labor for two years from the date the equipment is placed "in service".

I. After a location is placed "in service" and before Contract acceptance, the Contractor shall submit "as-built" documentation as follows:

1. Detailed circuit drawings within 3 days.
2. Application logic within 3 days, if applicable.
3. The Contractor shall submit 2 copies of "as-built" corrections to the Engineer.

1.16 "AS-BUILT" DOCUMENTATION

A. The "as-built" drawing sets shall be annotated to show all approved circuiting and wiring changes made during installation and testing of the location prior to placing it in service, and any approved changes made after placement in service. All changes shall be clearly identified on the drawings using the "Red In"/"Yellow Out" convention, and shall be dated and initialed by the Contractor's responsible Signal Engineer. The date that the location was tested and placed in service shall be identified in the revision block of the drawings.

B. The "as-built" drawings shall be bound as a set and shall be kept in the instrument shelter at a location and manner approved by the Engineer. "As-built" drawings shall be clean and legible. The "as-built" drawings shall not be removed from the field location after the location is placed in service without the prior written approval of the Engineer.

C. The final "as-built" drawings shall be 28cm (11 inches) by 43cm (17 inches), unless authorized by the Engineer to substitute another size.

D. Each circuit that continues on another drawing shall be annotated with drawing number and routing information for the continuation of the circuit.

E. The circuit drawings shall show all individual circuits. Typical circuits will not be accepted.

F. The location plans shall show all cable installed with the number of conductors, the size of conductors, the type of cable, termination points of conductors, and the circuit on each conductor. Separate cable plans shall be drawn if cable information cannot be shown in a neat and organized manner on the location plans.
G. The shop drawings shall be detailed equipment drawings for each type of equipment installed.

MATERIALS

2.1 SUBMITTALS

A. Contractor shall submit product information, references, and test data as detailed in the relevant Specifications and Contract Drawings for all equipment proposed.

B. The Contractor may choose to submit certification that they will provide the equipment shown on the Contract Drawings and identified in the Specifications. In this event the Engineer may waive specific submittal requirements upon request from the Contractor.

2.1 EQUIPMENT – GENERAL

A. All materials and equipment for installation and for interconnection of the various signaling systems shall be fabricated, furnished, and installed as indicated on the Contract Drawings and specified herein. Signaling materials and equipment shall be the products of manufacturers regularly engaged in the production of such material and equipment and shall be the manufacturer's latest design. The materials and equipment shall have shown proven performance in North America for a minimum of 5 years. Materials and equipment shall be delivered to the job site in unbroken packages, reels, or other forms of containers.

B. All materials and equipment provided by the Contractor shall be new. All materials and equipment shall conform to the recommendations of AREMA Signal Manual, except as modified in the Specifications and Contract Drawings.

C. Reference to specific equipment and/or manufacturers is intended to establish quality, overall design, and fit, subject to compliance with all criteria specifications. Equipment equal to, or exceeding the specifications and requirements may be used subject to the Engineer's written acceptance. Should alternate equipment be accepted, the Contractor shall perform all necessary work to fit the alternate equipment to these specifications and to revise the Contract Drawings at no additional cost to the Project.

2.3 EQUIPMENT - ENVIRONMENTAL PARAMETERS

A. All Contractor provided material and equipment shall be fully operable with no impairment resulting from the effect of the environment throughout the range of worst values indicated below. The general operating environment shall be considered to be in generally wet weather.

B. Ambient outdoor temperature range: from negative 32 degrees C to plus 71 degrees C.
C. Relative humidity range: from 0 to 100 percent.

D. Maximum rainfall: 10cm (4 inches) in 24 hours and 3.81cm (1.5 inches) in 1 hour.

E. Maximum wind velocity: 161KPH (100 miles per hour).

F. Provisions shall be made to assure equipment within the instrument shelters is securely anchored or otherwise fastened after the shelter has been delivered to the job site and installed by the Contractor.

G. Securing equipment shall not negate the requirements to maintain isolation between ground systems as otherwise called for in these Specifications.

2.4 ELECTRICAL AND ELECTRONIC COMPONENTS

A. This Section specifies the requirements for the various electrical and electronic components to be incorporated within the signaling systems.

CONSTRUCTION REQUIREMENTS

3.1 INSTALLATION

A. Contractor shall make all necessary modifications to the existing signal system, protect or relocate existing cabling, signals, switches, push button, and signal shelters; and modify associated signal and highway grade crossing systems to ensure existing signal system operates as intended during construction and installation of the new signal system. Contractor shall take all measures necessary to protect operating signal and highway grade crossing systems to ensure train operations are not interrupted and safety is maintained.

B. Contractor shall take no action which will violate any rule or regulation as specified by CFR 49, the General Code of Operating Rules, timetable instructions, general order, bulletin, or special instruction; which will reduce the integrity of the signal system; or endanger railroad personnel, the public, or employees.

C. Relocation of existing Assemblies include careful removal of the assemblies, reinstallation of the assembly at the location described in the Contract Drawings and all other work required to provide a complete railroad installation in accordance with the Contract Drawings and Specifications. Contractor shall be responsible for any damage incurred during relocation and installation.

D. An updated set of the approved signal system detail design drawings shall be kept at the field location for equipment placed in service.

8-31.4 MEASUREMENT
4.1 MEASUREMENT

There will be no measurement of grade crossing signal and wayside signal system installation. The supply and installation of grade crossing and wayside signal system components as required to construct the grade crossing and wayside signal systems complete at each location and in accordance with the plans shall be considered as single lump sum item for each crossing location.

8-31.5 PAYMENT

5.1 PAYMENT

A. There will be no separate payment for any bond installation, insulated gauge rod installation, special track work, wiring work at the various device locations, warehousing of equipment or material, or delivery of materials to the job site. These are considered incidental to the Work specified in this section.

B. The contract price will be payment in full for furnishing all labor, materials, tools, equipment and incidentals, and doing all work necessary to complete the Work specified.

C. Payment for the proper installation of grade crossing and wayside signal systems complete at each crossing location shall be made at the lump sum price for “Railroad Signalization Complete as shown on the plans.

RAILROAD SIGNALS - PART 2

SUBMITTALS

SUMMARY

A. This Section specifies the general requirements and procedures for preparing and transmitting data to the Engineer for information, review, and acceptance. Unless otherwise specified, submit all drawings, samples, and other deliverables sufficiently in advance of requirements to permit at least seven (7) calendar days for review and appropriate action by the Engineer. Other requirements for submittals are specified under applicable sections of these Specifications.

1.2 SUBMITTAL PROCEDURES

A. Review and Coordination: Prior to submission, carefully review and coordinate all aspects of each item being submitted and ensure each item in submittal conforms with requirements of Contract Documents.

B. Timing:
1. Make submittals early enough to account for the processing as described below and a minimum of seven (7) calendar days for review by the Engineer.

2. Delays caused by tardiness in making submittals or re-submittals will not be acceptable basis for extension of Contract completion time.

C. Transmittals: Use approved transmittal form with each submittal, identifying each item by reference to the Specification Section. Use a separate transmittal for each submittal.

1. Each submittal shall have a chronological submittal number. Identify the Project, Contractor, subcontractor, major supplier, pertinent Drawing sheet and detail number, and Specification Section.

2. Re-submittal shall have the original submittal number and a sequential suffix in numerical order for each re-submittal.

D. Submittal Requirements:

1. Grouping of submittals: Unless otherwise specified, make submittals in groups containing associated items to ensure that information is available for checking each item when it is received. Partial submittals may be rejected as not complying with requirements of Bid Documents. Contractor shall be liable for delays so occasioned.

2. Internal identification: On at least the first page of each copy of each submittal, and elsewhere as required for positive identification, clearly indicate the submittal number.


4. Deviations: Submit Contractor's proposals for deviations for consideration before submittals on affected items. Include in submittals only changes, substitutions, or other deviations from Contract Documents, which have been previously accepted in writing.

5. Certification: Certify that the submittals have been reviewed and coordinated by adding the following affidavit to each submittal:

"The undersigned certifies this submittal has been reviewed, approved, and coordinated in compliance with requirements of Section 8-32.1 of the Specifications."

Signature

Date

Printed

Name

Title
Contractor's stamp

Submittals not certified by being stamped and signed by Contractor will be returned without action, as will submittals which, in the Engineer's opinion, have not been adequately reviewed and coordinated by the Contractor.

6. Provide space for both Contractor and Engineer review stamps.

7. Revise and resubmit submittals as required. Identify all changes made since previous submittal. Re-submittals are subject to the same terms and conditions as the original submittal.

E. Engineer's Review: For conformance with the design concept expressed in Bid Documents only.

1. Engineer's review excludes, among other things, verification of:
   a. Dimensions
   b. Interface
   c. Constructibility
   d. Adequacy
   e. Safety of construction

2. Engineer's review of a separate item shall not indicate acceptance of assembly of which the item is part.

3. Engineer's review shall not relieve the Contractor from responsibility for errors or deviations from the requirements of the Contract Documents. Engineer's acceptance of submittals with deviations shall not relieve the Contractor from responsibility for additional costs of changes required to accommodate such deviations.

F. Contractor's Revisions: Make only those revisions required or accepted by the Engineer.

1. Identify each revision by number, date, and the subject in the revision block on the submittal.

2. If the Contractor considers the required revision to be a change, notify the Engineer, in writing, immediately.

G. Revision After Acceptance: When the submittal has been reviewed by the Engineer, resubmittals for substitution of materials or equipment will not be considered unless accompanied by an explanation acceptable to the Engineer.

1.3 CERTIFICATES OF COMPLIANCE AND MANUFACTURER'S CERTIFICATES:
A. Where Certificates are specified, show on each certification: Project name and location, Contractor's name and address, quantity and date or dates of shipment or delivery to which certificate applies, and manufacturer's name.

B. Format: In form of letter or company standard forms, signed by an officer of the manufacturer (not vendor, agent, etc.).

C. Certification: Certify that the materials or equipment meet or exceed specified requirements.

D. Test Reports: Show date of testing, specified requirements for which testing was performed, and results of tests.

1.4 PROJECT RECORD DOCUMENTS: Submit updated drawings, specifications, Shop Drawings and other material as specified under Section 8-32.4.

SIGNAL MATERIAL AND EQUIPMENT

3.1 SUMMARY

A. Section Includes:

1. Products
2. Transportation and handling
3. Storage and protection
4. Product options
5. Substitutions

3.2 PRODUCTS: Products include new material, machinery, components, equipment, fixtures, and systems forming Work.

A. Comply with Specifications and referenced standards as minimum requirements.

B. Components supplied in quantity within Specification Section: Provide interchangeable components of same manufacturer.

3.3 TRANSPORTATION AND HANDLING

A. Transportation: Transport products by methods to avoid product damage and deliver in undamaged condition in manufacturer's unopened containers or packaging.

B. Handling: Provide equipment and personnel to handle products by methods to prevent soiling or damage.

C. Inspection:
   1. Inspect shipments to ensure products comply with requirements, quantities are correct, and products are undamaged.
2. Reject damaged and defective items.

3.4 STORAGE AND PROTECTION

A. Storage:

1. Store products in accordance with manufacturer's recommendations, with seals and labels intact and legible. Store sensitive products in weather-tight enclosures and maintain within temperature and humidity ranges required by manufacturer's recommendations.

2. Store loose, granular materials on solid surfaces in well drained area; prevent mixing with foreign matter.

B. Exterior Storage Protection:

1. Fabricated products: Place on sloped supports above ground.

2. Cover products subject to deterioration with impervious sheet covering; provide ventilation to avoid condensation.

C. Inspection: Arrange storage to provide access and conditions for inspection. Periodically inspect to ensure that products are undamaged and are maintained under recommended conditions.

3.5 PRODUCT DATA

A. Materials Source: Comply with Section 8-32.2.

B. Submittal Requirements:

1. Submit for each manufactured item: manufacturer's descriptive literature, catalog cuts, equipment drawings, diagrams, performance and characteristic curves, and other pertinent data. Include in each submittal the manufacturer's name, trade name, catalog model number, nameplate data, size, layout, dimensions, capacity, Specification Section reference, applicable Federal and industry specification references, and all other information necessary to establish Contract Compliance.

2. Modify such data to delete information not applicable to this Contract. Supplement standard information with additional information applicable to this Contract. Indicate dimensions, clearances, performance characteristics, capacities, and any other diagrams, as applicable.

3. Modify erection, application, and placing instructions to delete information not applicable to the Contract.

4. When materials or equipment are required to conform to the standards and/or recommended practices of organizations such as the AREMA (formerly the Association of American Railroads), American Society for Testing and Materials (ASTM), or Underwriters Laboratories (UL), submit proof of such conformance
to the Engineer for approval. If an organization uses a label or listing to indicate 
compliance with a particular standard, the label or listing will be acceptable 
evidence, unless otherwise specified in the individual Specifications Sections. In 
lieu of a label or a listing, a certificate from an independent testing organization 
competent to perform the test may be submitted where acceptable to the 
Engineer. Certificates shall state that the item has been tested in accordance with 
the specified organization's standard.

3.6 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Any product meeting 
those standards.

B. Products Specified by Naming One or More Manufacturers with Substitution Paragraph: 
Products of named manufacturers meeting Specifications. Submit request for substitution 
for any manufacturer not specifically named. Products of acceptable manufacturers are 
subject to the requirements of the Specifications for the specified product.

C. Products Specified by Naming One or More Manufacturers: Products of named 
manufacturers meeting Specifications; no options, no substitutions.

3.7 LIMITATION ON SUBSTITUTIONS

1. Waiver of Restrictions will be considered only when:

   1. Product becomes unavailable due to no fault of Contractor.
   2. Subsequent information or changes indicate specified product(s) will not perform 
as intended.
   3. Substitute product will be in the Project's best interest.

2. Substitutions:

   1. Substitutions will not be considered when:
      a. Indicated on shop drawings or product data submittals without separate formal 
         request.
      b. Requested directly by subcontractor or supplier.
      c. Acceptance will require revision of Contract Documents.

   2. Do not order or install substitute products without written acceptance.

   3. Only one request for substitution for each product will be considered. When 
      substitution is not accepted, provide specified product.

   4. Engineer will determine acceptability of substitutions.

3.8 REQUESTS FOR SUBSTITUTIONS

A. Submittal: Submit two copies of each request on Substitution Request Form at the end of 
the Section. Submit separate request for each substitution.
1. Identify products by Specification Section and Article numbers.
2. Provide manufacturer's name and address, trade name of products, and model or catalog number.
3. List fabricators and suppliers as appropriate.

B. Documentation: Document each request with complete data substantiating compliance of proposed substitution with requirements of Contract Documents.

1. Attach Shop Drawings, product data and samples as specified in Section 8-32.15 herein as appropriate.
2. Give itemized comparison of proposed substitution with specified product, listing variation, and reference to Specification Section and Article numbers.
3. Give quality and performance comparison between proposed substitution and specified product.
4. List availability of maintenance services and replacement materials.
5. State effect of substitution on construction schedule, and changes required in other work or products.

3.9 SUBSTITUTION REVIEW PROCEDURES

A. Engineer will review Contractor's requests for substitutions with reasonable promptness.

1. If accepted by Engineer, products proposed for substitution will be accepted subject to modifications by manufacturer, if necessary, to meet detailed requirements of Drawings and Specifications.
2. Engineer will not make exhaustive attempt to determine products proposed for substitution are equivalent to, or can be modified, in order to be equivalent to specified products.

B. Engineer's Acceptance:

1. During Bidding period: The Approved Equal Requests procedure in the Bid Document shall be followed.
2. After Award of Contract, Engineer will notify Contractor, in writing, of decision to accept or reject requested substitution.
Substitution Request Form

TO: __________________________  PROJECT: __________________________

We hereby submit for your consideration the following product to substitute for the specified
item for the above Project.

Section __________ Paragraph __________ Specified Item

Proposed Substitution ____________________________________________

Attach complete technical data, including laboratory tests, if applicable.
Include complete information on changes to Drawings and Specifications, which proposed
substitution would require for its proper installation.

Please complete the following:

A. Does the substitution affect dimensions shown on Drawings? Yes __ No __. If yes, clearly
indicate changes.

B. Will the undersigned pay for changes to the signal design, including engineering and detailing
costs caused by the requested substitution? Yes __ No __.

C. What effect does substitution have on other trades?

D. What effect does the substitution have on construction schedule?

E. Differences between proposed substitution and specific item?

F. Manufacturer's guarantees of the proposed and specified items are?
   Same _______ Different (explain on attachment) _______

The undersigned states that the function, appearance and quality are equivalent or superior to the
specified item.

Submitted by: __________________________________________

Signature ________________________________  For Use by Design Consultant

Title ______________________________________  Accepted __ Accepted As Needed

Firm __________________________________________  Not Accepted __ Received Late

Address ______________________________________  By __________  Date __________

Date ________________________________  Remarks ________________________________

Telephone ________________________________ ________________________________
3.10 AS-TESTED DRAWINGS: Per FRA requirements.

A. A set of the accepted highway grade crossing control circuit and wiring detail design submittal drawings shall be updated and maintained at the field location for equipment placed in service.

B. The drawing set shall be annotated to show all approved circuiting and wiring changes made during testing of the location prior to placing it in service, and any accepted changes made after placement in service. All changes shall be clearly identified on the drawings and shall be dated and initialed by the Contractor's responsible signal engineer. The date that the location was tested and placed in service shall be identified in the revision block of the drawings.

3.11 FINAL PAPERWORK: Prior to release of final payment, deliver to Engineer the following:

A. Inspection Certificates, as applicable - Triplicate certificates from state and local governing bodies having jurisdiction in dictating Work.

B. Contractor's Warranty of Materials and Workmanship per Guaranty clause included in the Contract Documents.

SIGNAL EARTHWORK

4.1 DESCRIPTION:

A. Work Includes:

1. Excavation, trenching, and back-filling for cable, conduits, signals, footings and foundations for instrument housings, and other signal facilities at the various locations indicated on the Contract Drawings.

2. Rock excavation, if encountered, shall be included in this Section and is defined as removal and disposal of materials, which cannot be loosened or broken down by ripping, or by the use of modern earth excavating equipment.


4. Sheet ing, shoring, and de-watering of excavated areas and trenches as necessary for work described herein.

5. Back-filling with suitable on-site and imported earth excavation, crushed stone, sand, and gravel borrow as specified herein.

6. Construction of signal berms and cribbing for placement of signal and signal housing foundations.

4.2 QUALITY ASSURANCE:
Back-fill materials shall be as specified herein and shall be accepted by the Engineer prior to placement. Contractor shall arrange for material analysis and certifications as directed by the Engineer, at no additional cost to the Project.

4.3 DELIVERY, STORAGE, AND HANDLING:

A. Fill materials delivered to the site for berms and excavated materials suitable for back-fill shall be stored in areas designated by the Engineer in neat piles which will not interfere with Railroad operating traffic movements or work being performed by other Contractors. Surplus excavated materials not required for back-fill shall be removed from the site for legal disposal as soon as practicable.

B. Transportation of back-fill materials and dust control on or near the work shall be in compliance with applicable environmental codes and regulations.

4.4 CONSTRUCTION

A. Excavation work shall be conducted as follows:

1. Provide protective covering over track ballast to prevent contamination during excavation and back-fill operations. Where it is not possible to provide a protective covering, remove the contaminated ballast and replace with crushed stone compacted as described herein.

2. Soft or unsuitable material existing below the required sub grade shall be removed and replaced with gravel, crushed stone, or other suitable material, as directed by the Engineer, and thoroughly compacted. Rock or boulders shall be removed below the sub grade to a minimum depth of one foot below the bottom of foundations.

3. Where cross pipes, drains, cables, or other unforeseen obstacles are encountered, or when clearances are not in conformance with national and local codes, the proposed line and grade of the cable trench or foundation may be altered with the Engineer's prior acceptance.

4. Where cable trenches are to be dug in ballast areas, carefully remove the ballast from the location before trenching. Spread a polyethylene or canvas sheet over the adjacent ballast so as to deposit the excavated earth without contaminating the ballast. When the cable is installed, as described above, refill the trench with earth to the proper level and tamp it at 8-inch lifts before spreading and tamping new ballast to the level of the adjacent ballast.

5. All obstructions, such as rocks, concrete, pipes, etc., which extend into the trench shall be removed unless such projections are part of a permanent structure, in which case they shall be called to the Engineer's attention and corrective action will be provided.

6. All open trenches shall be kept free from water by draining or pumping.

7. Trenches shall be promptly back-filled with earth and/or ballast and mechanically tamped at 20cm (8-inch) lifts so that the site is restored to original grade.
B. Back-fill:

1. After excavation to sub grade has been completed, the specified fill shall be placed and compacted as described herein.
2. Backfill operations shall not commence without the Engineer's acceptance of the excavation.

C. Crushed Stone: At locations where pre-cast concrete or steel foundations are installed, a crushed stone base shall be placed and compacted on accepted sub-grade to a total depth not less that 20cm (8 inches) after compaction. Crushed stone shall be placed and compacted at locations where track ballast has been removed and fouled by the Contractor's operations and as directed by the Engineer.

D. Gravel: In the event that the on-site excavated soil materials, or any part thereof, do not conform to the soil characteristics specified in this Section, gravel material shall be placed and compacted in uniform layers not exceeding 8-inches for back-filling trenches beyond the specified limits for crushed stone and sand back-fill. On-site Material: Only suitable soil material, excavated for cable trenches and foundations and conforming to the material specification of this Section, shall be used for back-filling trenches and foundations beyond the specified limits for crushed stone back-fill. Material shall be placed and compacted in uniform layers not exceeding 20cm (8 inches).

E. Compaction:

1. Sand, gravel, and on-site back-fill shall be compacted to not less than 95 percent of the maximum dry density of the respective materials, as determined by AASHTO Test Designation T-99. Crushed stone shall be compacted with vibrator compactors to distribute the particle sizes and to provide a compact base with free-draining characteristics.
2. All mechanical equipment for compaction of back-fill shall be subject to the Engineer's acceptance.
3. Clean-up and Disposal: Immediately upon completion of the work of this Section or any segments thereof, and as directed by the Engineer, legally remove and dispose of all debris and surplus excavated material away from the site.

SIGNAL EQUIPMENT SHELTERS

5.1 DESCRIPTION

A. Work Includes: Installing Yakima County supplies Equipment shelter and contractor supplied batteries as described herein and as shown on the Contract Drawings.

5.2 QUALITY ASSURANCE.

A. The equipment shelters will be inspected after they have been installed and any deficiencies shall be corrected by the Contractor. This inspection will be conducted in
conformance with the requirements of the Contractors accepted Installation Inspection Procedure.

5.3 SUBMITTALS

A. General: The following submittals shall be provided for each equipment shelter furnished:
   1. Shop Drawings of the complete grounding arrangement.
   2. Sizes and types of internal wire proposed.
   3. Installation Test Procedures proposed.

5.4 WIRING:

A. Internal wiring for vital circuits shall be in accordance with AREMA Signal Manual Parts 10.4.1, 10.4.30 and as specified in Section 8-32.14 unless otherwise specified herein. Minimum wire conductor sizes shall be as shown on the Contract Drawings unless approved by the Engineer. Solderless terminals, for stranded wire, shall be in accordance with Section 8-32.12.

B. Unless otherwise accepted by the Engineer in writing, all wiring for non-vital circuit energy distribution shall be accomplished using single conductor 12-strand No.16 AWG. Non-vital intra-rack wiring shall be accomplished with solderless connections using stranded wire, minimum size No. 20 AWG. Non-vital rack-to-rack wiring shall be accomplished using solderless connections using 19-strand wire, minimum size No.12 AWG.

C. Adhering to the minimum wire size specifications does not relieve the Contractor's responsibility to use the proper wire sized large enough to safely and effectively provide power to the circuit it serves.

D. Solid terminal connectors shall be used for all short terminal jumpers.

5.5 INSTALLATION

A. The equipment shelters shall be mounted level and plumb and secured thereon with the hardware provided. Shims, spacers, or other filler devices shall not be used to level and plumb the equipment shelters.

B. Cable entrance pipes shall be installed through the cable knockout holes provided in the floor of the housing behind the terminal board(s).

C. The equipment shelters shall be grounded as specified in Section 8-32.16.

D. Batteries shall be installed on battery trays.
E. The Contractor shall mark each grade crossing warning device equipment shelter with the street name, milepost location, and DOT inventory number per Appendix B, Signal Standards. The Engineer shall provide necessary information for each crossing. Information shall be stenciled on in 127mm(5inch) high lettering, visible on both railway approaches. Lettering shall be in a non-reflective black paint.

Format shall be:

Street Name/Milepost Number (123.4)
DOT Number (000-000-A)

F. Equipment shelters shall be located as per the Contract Drawings. If conditions do not allow placement as shown in the Contract Drawings, the Contractor shall submit an alternate location to the Engineer for approval.

5.6 TESTS: The functioning of the equipment contained within the instrument shelter/case shall be tested in accordance with the requirements contained in this contract and AREMA Signal Manual Part 2.4.1.

SIGNAL GRADE CROSSING CONTROL EQUIPMENT

6.1 INSTALLATION

A. Equipment and cabling shall be placed, connected, and tested to the extent possible without disruption of railroad or highway traffic.
B. Furnish and install new cabling in conduit between the gate/flasher assemblies and the crossing control shelter.
C. Install AC service meter connection as shown on the Contract Drawings.
D. It is the responsibility of the Contractor to test and adjust all electronic track circuits and crossing warning circuits for suitability and compatibility.
E. Track circuit equipment shall be installed in the signal instrument shelters as shown on the Contract Drawings.
F. Track circuit equipment layouts shall provide for easy access to test points, indicators and adjustments.
G. Install equipment in accordance with the manufacturers installation and adjustment procedures and the accepted Shop Drawings.
H. Furnish any specialized test or calibration instruments, equipment, or tools that may be needed in order to test and place in service the equipment installed under this Section.
I. Printed circuit cards shall be packaged separate from the electronic unit. Each unit and printed circuit card shall be protected from damage or loss during handling and shipment.

6.2 TESTING

A. Conduct tests as specified in AREMA Signal Manual Parts 1.5.1, 2.4.1 and 3.3.1 to ensure proper operation of the signal and grade crossing systems.
B. Conduct tests as specified in AREMA Signal Manual Parts 8.6.1, 8.6.35, and 8.1.10 to ensure proper operation of the D.C. track circuits.
C. Conduct tests to ensure that the signal system conforms to FRA - RS & I Part 234.
D. Conduct all tests required under Section 8-32.13 of these Specifications.
E. Provide the Engineer with copies of all test reports and verify that all applicable tests have been made.

SIGNAL LAYOUTS AND FOUNDATIONS

7.1 DESCRIPTION

A. Work Includes:

1. Installing flashing light assemblies and crossing gates as shown on the Contract Drawings.

7.2 QUALITY ASSURANCE

A. Grade Crossing Signals shall meet the requirements of AREMA Signal Manual, Part 3.1.1, where requirements of the AREMA Specifications do not conflict with any requirements specified herein.

7.3 CROSSING WARNING GATES AND FLASHING LIGHTS

A. The crossing gate warning device assembly shall conform to the requirements of CFR 49, Part 234, and the relevant sub-parts of the AREMA Signal Manual Part 3.2.

B. The gate arm bracket shall be fitted with a breakaway arm adapter as shown in the AREMA Signal Manual, Part 3.2.21..

7.4 INSTALLATION - CROSSING SIGNALS

A. Install crossing signal units level and plumb on their foundations. Leveling nuts are acceptable.

B. Install crossing signal layouts in accordance with the applicable requirements of AREMA Signal Manual, Part 3.1.1 and Appendix B, Signal Standards.

C. Set voltage per manufacturer’s procedure and applicable FRA regulations for each unit.

D. Terminate the signal cable in the junction box. The cable shall be dressed, tagged and terminated in the crossing signal junction box as specified in Section 8-32.14 and shown in Appendix B, Signal Standards. Wiring from the junction box to the units shall be No. 10 AWG Copper stranded wire or larger, and shall be on a separate terminal post connected by test link to the terminal post wherein the cable conductor terminates.

E. Install identification tags on each wire specified in Section 8-32.12. These tags shall bear the nomenclature shown on the accepted Shop Drawings.
F. Align signals for maximum viewing before placing in service.

G. It will be the responsibility of the contractor to determine necessary gate arm lengths, based on final roadway alignment.

7.5 INSTALLATION - FOUNDATIONS

A. The Contractor shall install each foundation in accordance with the accepted installation detail for each type of foundation and as supplied. The absence of a specific task listing herein does not relieve the Contractor of the responsibility for providing a complete and functional installation.

B. Foundation locations shall be pot holed before start of foundation work; advise the Engineer immediately if any utility or cable interferes with the foundation work.

C. Prior to placing steel foundations and precast concrete foundations in the excavations, crushed stone base shall be placed and compacted as specified in Section 8-32.5.

D. When placing foundations, the Contractor shall exercise care to ensure that anchor bolts are not bent or threads damaged. Anchor bolt threads, washers, and nuts shall be protected by applying friction tape, or other accepted method satisfactory to the Engineer, until such time as the unit to be supported is installed.

E. After backfilling foundations, the Contractor shall ensure that the foundation is plumb and level. The top of the signal foundation shall be level with top of the rail. If a crib support wall is required, then the top of final grade in relation to the top of foundation shall be as accepted by the Engineer.

F. Foundations shall be installed to the lines, grades and dimensions required as determined by the Contractor and accepted by the Engineer. Mounting bolts shall be of sufficient length to accommodate use of leveling nuts between the base of the equipment to be supported and the top of the foundation.

G. Precast or cast-in-place reinforced concrete foundations shall be monolithic or sectional construction and shall conform to the requirements for concrete work and must be pre-approved by the Engineer. The Engineer should be contacted for references of acceptable manufactures or suppliers.

H. Precast concrete foundations shall be complete with anchor bolts, nuts, and washers in accordance with the AREMA Signal Manual, Part 14.4.

I. Bolts, nuts, and washers shall be galvanized. Nuts and threads shall be in accordance with AREMA Specifications for Bolts, Nuts, and Threads, Signal Manual, Part 14.6.20. Plain washers shall be in accordance with AREMA Specifications for Plain and Spring Lock Washers, Signal Manual, Part 14.6.21. Steel shall be in accordance with AREMA Specifications for Various Types of Steel, Signal Manual, Part 151.4, Section 1. Bolts shall be of sufficient length to provide for leveling of the device.

J. If the Contractor proposes to furnish or install foundations different from those provided, then the Contractor shall submit drawings of the type of foundations, including size and details of the galvanized anchor bolts, nuts, and washers, structural calculations with loadings and wind shear parameters for the Engineer's approval.
SIGNAL RAIL BONDING

8.1 DESCRIPTION

A. Work Includes: Furnishing and installing all rail bonds, track circuit connections, and all other material required for bonding of track circuit joints and track circuit connections as specified and as shown on the Contract Drawings.

B. All rail track joints within the approaches of Barkes Road shall be bonded with exothermically welded rail head bond and one web bond outside the joint bars around each joint.

C. Track connections shall be stranded bonds. Connections to the rail shall be by web welded, or as approved by the Engineer.

8.2 QUALITY ASSURANCE

Welded Bonds and track connections shall be in accordance with the requirements of AREMA Signal Manual, where the requirements of the AREMA Specifications do not conflict with these Specifications.

8.3 SUBMITTALS

Product Data: Manufacturer's catalog cuts, material Specifications, installation and maintenance instructions, and other data pertinent to the bonding material, staples, and circuit connections specified herein and as shown on the Contract Drawings.

8.4 MATERIALS

A. Rail Head Bonds: Rail head bonds shall be 4.76mm (3/16 inch) in diameter with steel terminals welded to the conductors. They shall have a nominal length of 16.51cm (6-1/2 inches).

B. Web Bonds: Web Bonds shall meet the requirements of AREMA Signal Manual Part 8.1.32 with no plug or crimp connections.

C. Track Circuit Rail Connectors: Track circuit connectors shall meet the requirements of AREMA Signal Manual Part 8.1.32 with no plug or crimp connections.

D. Bond Strand: Bond strand for web bonds, fouling wires and track connections shall be 4.76mm (3/16) inch single strand with 1.6mm (4/64 inch) black PVC insulation.

E. Acceptable Manufacturers:
   1. Erico Products

8.5 INSTALLATION OF WELDED BONDS

A. Welded bonds shall be installed at all non-insulated rail joints within the limits of this Contract. All non-insulated rail joints will be double bonded with two new bonds. Old bonds will be removed prior to installing new bonds. Measures must be taken to prevent unnecessary crossing activations while bonding.
B. The surfaces of the rails where the bond is to be applied shall be ground clean with a
vitrified grinding wheel. After the surface has been ground and cleaned, the bond wire
shall then be welded to the rail in a manner that will ensure a thorough mechanical and
electrical connection.
C. Before beginning work on these bonds, the Contractor, at no additional expense to the
Project, shall weld in the field, under conditions similar to those of the regular
installation, not less than three complete bond connections, and as many more as the
Engineer considers necessary to determine that the welds are being made satisfactorily.
Such welds shall be subject to inspection and testing by the Engineer, and acceptance as
to the method and quality of workmanship will depend on the results of these inspections
and tests.
D. Ensure that each bond connection is thoroughly welded to the rail. The Engineer reserves
the right to require a test of each weld by hammer and striker, or in any other manner,
which in the opinion of the Engineer is reasonable.
E. Any welded bond installed by the Contractor that is found to be defective prior to
acceptance, shall be removed and a new bond shall be installed at no additional cost to
the Project.

8.6 INSTALLATION OF TRACK CIRCUIT CONNECTIONS

A. All track circuit connections will be web welded with no plugs or crimps allowed.
B. Make track circuit connections with a track kit in conformance with Appendix B, Signal
Standards.
C. All track circuit connections shall be installed by the Contractor, and any found to be
defective prior to acceptance shall be removed and replaced at no additional cost to the
Project.

SIGNAL MISCELLANEOUS PRODUCTS

9.1 DESCRIPTION

A. Work Includes: Furnishing miscellaneous components and products to be used on this
Contract.

9.2 QUALITY ASSURANCE

A. All miscellaneous components and products used on this Contract shall be:
   1. New and free of manufacturing defects.
   2. Clearly and permanently labeled with value or type identification.
B. All electrical components shall be rated to operate at power, voltage, current, and
temperature levels at over 20 percent of those, which the components will be subject to in
service, unless otherwise specified herein.

9.3 SUBMITTALS

A. Product Data: Manufacturers catalog cuts, material descriptions, specifications, and other
data pertinent to the miscellaneous products required.
9.4 CIRCUIT BREAKERS, FUSES

A. Fuses and circuit breakers shall be of suitable capacity to protect the various pieces of signal apparatus from the effects of short circuits or overloads. All circuit breakers and fuses required for the equipment and systems shall be in accordance with these Specifications.

B. Circuit fuses shall be non-renewable and shall be of the fiber-case, time-lag, and fusion type. The circuit breakers and fuses shall be the correct size and rating for circuit current interruption and shall protect the electrical equipment and circuits from short-term and long-term overloads.

C. All fuses shall be centrally located on the power distribution panel and power racks.

D. Fuse clips shall be constructed so that they shall retain their resilience under all installation and service conditions to ensure a positive contact between the clips and the fuse.

9.5 DIODES

All diodes to be furnished under this Contract shall carry a JEDEC number or shall be available from more than one manufacturer and shall be used within the published specifications for such number. All diodes shall be silicon type, unless otherwise accepted by the Engineer.

9.6 RESISTORS, CAPACITORS AND REACTORS

All resistors, capacitors and reactors other than those required for electronic circuits, shall be in accordance with the applicable requirements of the AREMA Signal Manual.

9.7 TERMINALS FOR WIRES AND CABLES

A. All solderless terminals shall be in accordance with AREMA Signal Manual Part 14.1.1, or as specified herein.

B. Terminals shall be of the solderless crimp-on type. Samples of all solderless terminals shall be submitted for review and acceptance.

C. All stranded copper wire shall be fitted with an acceptable type of terminal at all points where the wires are to be terminated on terminal binding posts.

D. The terminating means shall be of four types:

1. A lug for terminating heavy wires or signal power wires.
2. A solder less type of terminal as manufactured by American Pameor, Inc. under the trade name of "Pre-insulated Flag", with translucent insulation, similar to Catalog No. 322313, or accepted equal, for terminating No. 16 and No.14 AWG stranded wires.
3. An AMP Solistrand "Ring Tongue-Flat" terminal similar to that shown on the AMP Drawing P64-044 together with slip-on Nylon Post insulator similar to that shown on AMP Drawing P64-0264, or accepted equal, for terminating wires larger than No. 14 AWG to a maximum diameter over the insulation of 1cm(0.40 inches).

4. An AMP pre-insulated diamond grip-ring, nylon insulated wire terminal for terminating other stranded wires No. 22 and No.18 AWG having a maximum diameter of 3.175mm(0.125 inch); AMP Catalog No.320571 or accepted equal, shall be furnished for 6.35mm(1/4-inch) studs.

E. The terminals shall be for attaching to the ends of the conductor in such a manner that the flexibility of the conductor will not be destroyed and the possibility of breakage at the terminal will be reduced to a minimum.

F. Terminals shall be for attaching to the wire with a tool accepted/recommended by the manufacturer of the terminals being furnished.

G. The tool shall be equipped with a ratchet device to ensure proper indentation of the terminal and which will not release until proper indentation is complete.

9.8 TAGGING FOR CABLES, WIRES, AND EQUIPMENT

A. Except as otherwise specified in this Section, both ends of each cable and each cable wire and all single wires that terminate in the junction boxes, Signal Instrument Shelter, on entrance racks and any equipment of the signal system outside of such locations shall be permanently identified with a tag. Tags shall be installed so that they may be read with a minimum of disturbance of the tags. Each conductor of the cable shall be rung out and identified before applying the tag. All tags shall be typed and printed on a printer recommended by the manufacturer of the tagging system. Hand printed tags are not allowed.

B. Tags for wire and cable identification and for identification of transformers, resistors, reactors and other components shall meet the following requirements and shall be subject to the Engineer's acceptance:

1. Sleeve Type Tags: Tags for identifying individual cable conductors and field-installed wires within the Signal Instrument Shelter, switch mechanisms, switch layout junction boxes, base of signal junction boxes, and similar applications shall be the sleeve type as manufactured by Raychem Corporation, Thermofit Marker System (EMS), or accepted equal. The application of the conductor nomenclature shall be in accordance with the manufacturer's instructions and shall result in a permanently bonded and legible identification.

2. Flat Plastic Tags:
   a. Tags for identification of vital relay plug boards, individual transformers, resistors, reactors, terminals, and other miscellaneous components within the Signal Instrument Shelter, shall be the flat plastic laminated type.
   b. These tags shall be 3.81cm(1-1/2 inches) long by 1.27cm(1/2-inch)-wide. The untreated tag shall be milk white "vinylite" or accepted equal.
c. The identifying nomenclature space shall allow for two rows of lettering, and the tag material shall be capable of receiving typed-on characters by conventional means. The height of the lettering shall not be less than 3.175mm (1/8 inch).

d. After lettering, both the face and back side of the tag shall be covered with a clear plastic coating, "vinylite", or accepted equal.

e. Wrap-around tags: Tags for identification of the individual wires of plug-in relays, within the Signal Instrument Shelter, shall be the wrap-around self-adhesive type.

9.9 HARDWARE: Mounting hardware exposed to the elements and used for signal equipment, shelters, conduit, hangers, brackets, clamps, etc., shall be hot-dip galvanized, except as otherwise accepted by the Engineer.

A. Galvanizing:

1. The hot-dip process of galvanizing shall be used. All parts shall be picked so that all scale and adhering impurities are removed. The zinc coating shall be of commercially pure zinc, and shall be continuous and thorough. It shall not scale or blister or be removable by any of the processes of handling or installation. The finished surface shall be free from fine line cracks, holes, or other indications of faulty galvanizing. It shall be smooth and free from adhering flux and other impurities. The edges and ends of parts shall be free from lumps and globules. Parts shall be coated with at least 57 grams (two ounces) of zinc per 9.29 square decimeter (square foot) of galvanized surface, after all bending, cutting, drilling, and final fabrication.

2. In order to avoid destruction of resilience encountered in the hot-dip process of galvanizing, all lock-washers shall be cadmium plated.

B. Cadmium Plating:

1. All nuts, bolts, and washers shall be cadmium plated or stainless steel. As an alternate, the Contractor may submit another type of plating or non-eroding metal for the Engineer's acceptance.

2. Cadmium plating shall be an impervious, dense, hard, fine grained, continuous, closely adhering coating of commercially pure cadmium, free from capillaries and shall completely cover the surface of the part in a smooth, bright layer. Plating on raised or prominent portions shall show no evidence of blackness or loose crystalline structure. It shall have a minimum thickness of six ten thousandths of an inch and shall withstand the salt spray test for at least 1,000 hours or an equivalent test accepted by the Engineer.

9.10 CONDUIT
A. Rigid: Rigid conduit shall be used at locations as herein specified and shown on the Contract Drawings. The types of rigid conduit to be used for the various applications shall be:

1. Steel Conduit: Steel conduit shall be made of the best grade standard weight steel pipe protected inside and outside by a coat of hot dipped galvanizing. Where elbows are used, they shall be long radius type. Steel conduits shall be protected in shipping and handling by approved thread protectors.

2. Polyvinyl Chloride (PVC) Conduit: Thick wall polyvinyl chloride conduit, High Impact Schedule 80 herein referred to as PVC conduit, shall be furnished for installation under ballast outdoors, and wherever conduit is to be installed in the trackway, at locations where conduit has not been provided by others as herein specified. Where elbows are used, they shall be the long radius type schedule 80.

B. Flexible Conduit and Hose:

1. Hose for track circuit leads shall be Braided Cordura Rayon, vari-purpose hose, internal tube neoprene cover, or accepted equal. The hose shall be clamped at both ends with stainless steel clamps. Clamps are not required for track wire risers.

2. Metallic Flexible Conduit: Where acceptable to the Engineer, metallic flexible conduit, Type UA, or accepted equal may be used.

C. Fittings:

1. Approved fittings for PVC conduit shall be used.

2. Fittings for rigid steel conduit shall be of cast malleable iron and shall be protected by hotdip galvanizing.

3. Stainless steel clamps: Clamps for clamping hose at each end shall be stainless steel.

9.11 CABLE ENTRANCE PIPES: Cable entrance pipes shall be as specified in the Contract Drawings and Appendix B, Signal Standards. Entrance pipes not specified shall be governed as follows:

A. Cable entrance pipes for shelters shall be 10cm(4 inch) Schedule 80 PVC, 1m(3 ft.-6 inches) long.

B. Cable entrance pipes to wayside signals, grade crossing warning devices, and any other trackside signal appliances shall be a minimum 10cm (4 inch) Schedule 80 PVC and extend a minimum of 50cm (18 inches) below the finished grade.

C. Cable entrance pipes to devices mounted on finished sidewalks will extend to a pullbox located near the device.

D. Cable entrance pipes will be provided to pullboxes set in concrete. Entrance pipes will extend 50cm(18 inches) into the unpaved right of way and will be the same depth as the Direct Buried cable. Entrance pipes shall be 10cm(4 inch) Schedule 80 PVC.
9.12 SEALING COMPOUND: Sealing compound for use in sealing cable entrances shall be in accordance with AREMA Signal Manual Part 15.2.15.

9.13 JUNCTION BOXES

A. All junction boxes shall be provided with gaskets to prevent the entrance of moisture and dust, in accordance with AREMA Signal Manual Part 15.2.10.
B. Junction boxes shall be provided with means for applying padlock.

9.14 ENVIRONMENTAL PROTECTION: Protection, as hereinafter specified for machine-finished surfaces, threaded rods and nuts and other parts that are susceptible to rusting or corroding, shall be a corroding preventive compound, NOOX-IDE No. 90918, or accepted equal. The product must have sufficient body to resist weather and rusting for at least 6 months. 17 liters (two gallons) or equivalent weight shall be furnished by the Contractor.

9.15 INSTALLATION: Material and apparatus specified herein shall be installed in accordance with the detail of respective technical Sections of these Specifications, manufacturer's recommendations, and in accordance with the Contractor's accepted installation drawings.

SIGNAL SYSTEMS TESTING

10.1 DESCRIPTION

A. Work includes: Tests and Inspections to demonstrate that Systems, subsystems, assemblies, subassemblies, and components supplied under this Contract are in compliance with these Specifications and with all applicable regulatory requirements.
B. Tests and inspections shall be made both during the progress of this Contract and after completing installation of equipment and shall consist of factory tests, circuit breakdown tests, wiring verification tests, continuity tests, resistance, voltage and current tests, time tests, operating tests, simulation tests, and other electrical and mechanical tests and inspections.
C. Work shall include costs of the Contractor's personnel and any special equipment and assistance required to conduct all tests with complete documentation.
D. In the event that the system does not meet the Specification requirements, necessary corrections shall be made. Any and all tests or re-tests to prove compliance shall be included in the work, at no additional cost to the Project.
E. Work shall include all necessary test-purpose disconnecting and reconnecting.
F. Test work specified elsewhere in these Specifications shall be construed as related to and inclusive with the testing described herein.
G. All field tests shall be conducted with the RAILROAD inspection.

10.2 STANDARDS AND REGULATIONS


C. All applicable local ordinances.

10.3 QUALITY ASSURANCE

A. Test and inspection procedures shall be subject to the Engineer's acceptance and shall comply with all FRA rules and regulations.

B. Test equipment of proper type, capacity, range, and accuracy shall be supplied by the Contractor to perform required tests and inspections. This equipment shall be in good working order and properly calibrated within 6 months of the date of the tests. This equipment shall have a sticker on it indicating the date of calibration and the name of the agency that performed the calibration.

C. Each component and unit of the wayside signal and traffic control system shall have an inspection performed at its point of manufacture and evidence of this inspection and acceptability shall be indicated on the item where practicable.

D. Accepted system and sub-system tests to demonstrate that the installation meets these Specifications and design requirements shall be completed prior to any operational testing of systems or subsystems. The Engineer shall have the right to witness any or all field tests conducted. The Engineer shall be notified in writing at least 48 hours prior to each field test. No part of the signal system shall be placed in service without an authorized representative of the Engineer being present and witnessing the in-service tests.

E. The work shall include all tests required to ensure proper and safe operation of all systems and sub-systems and to prove the adequacy and acceptability of the total installation specified herein. Tests to be performed shall cause each system and sub-system to be sequenced through its required operations, including imposition of simulated conditions to prove that the installation complies with all specified fail-safe requirements.

F. Testing shall include observation of two train movements in each direction on each track to verify system warning time and proper recovery.

10.4 SUBMITTALS

A. The following shall be submitted to the Engineer for acceptance:

1. An outline of the tests to be performed on each type of component or unit, together with sample forms of test record forms and cards as hereinafter specified.

2. The numbers of each type of component or unit to be tested to demonstrate adequacy of design and quality control.

3. A line diagram showing the grouping and sequencing of system and sub-system tests showing both factory and field tests.

4. Cutover procedures and testing must be completed and approved prior to any cutovers or in-service testing.
B. At least 21 days prior to the scheduled performance of each test, a detailed test procedure, broken down by phases, as described herein, shall be submitted to the Engineer for acceptance.

C. The results of each test as herein specified shall be recorded and this test result documentation shall be furnished to the Engineer within one working day of the test. Certified test results shall also be furnished for tests performed by any subcontractors when such tests are required within these Specifications.

D. Test reports shall be checked and approved by the Contractor prior to submittal to the Engineer.

E. Test reports shall document the calibration date of each instrument used during the test. Calibration of each instrument shall be certified by a recognized testing facility. Recertification shall be conducted every 90 days or less. Out of date instruments will be considered non-certified. Tests conducted with non-certified instruments will be rejected.

F. Any additional tests required by the Contractor to ensure the safe operation of the system shall be submitted to the Engineer.

10.5 SITE TEST EQUIPMENT AND MATERIALS

Test instruments and equipment necessary to conduct the tests specified herein shall be available, ready for use not less than one week in advance of test need. "Ready for use" shall mean properly matched for test parameters, properly calibrated, sufficiently supplied with leads, probes, adapters, stands etc., necessary to conduct the particular test in a completely professional manner.

10.6 TEMPORARY TEST MATERIALS

Temporary or interim test related materials, special tools, connections, jumpers, etc., shall be furnished and available not less than one week in advance of the test need.

10.7 FIELD TEST PROCEDURES

A. The field tests performed shall cause each installed system and subsystem to be sequenced through its required operations, including the imposition of simulated conditions, to demonstrate that the installation complies with all specified fail-safe design requirements and operational functions.

B. The quality of installation shall be demonstrated by field tests for continuity, insulation resistance, resistance of ground connections, circuit breakdown, visual inspection and any other tests required by this Specification. These tests shall be performed prior to any operational testing of systems or subsystems.

C. The Contractors test procedures shall consist of reprinted data sheets or inspection sheets for each test. When completed by the field test personnel and checked for accuracy and completeness, the sheet shall be submitted as the test report.

D. When tests require specific meter or test instrument readings, the pre-printed data sheet shall show the allowable range of values, for each part of the test. The test report shall also contain a check-off system for each action and a blank space adjacent to the expected value in which to record the test readings. The test report shall also contain a final
description sheet on which the Contractor shall record discrepancies found and action
taken. This documentation shall be furnished to the Engineer.
E. All test reports shall be dated and signed by the responsible employee of the Contractor
or subcontractor on the day the test is performed. Space also shall be provided for the
signature of the witnessing inspector.
F. The report shall show the test instruments used on each test, with instruments identified
by name, type, serial number, and calibration due date.
G. Should an error be discovered during field testing due to field wiring and connections that
do not agree with the accepted circuit plans, the Contractor may correct such errors
without prior acceptance of the Engineer. The Contractor shall not, however, make any
changes, which affect safety of operation of the accepted circuit(s), as designed, without
prior written acceptance of the Engineer.
H. The Engineer will make all final determinations as to whether only a part, or the whole
test, shall be re-run when any specific field test does not meet the requirements specified
for the test.
I. Any changes made after completion of test procedure shall be re-tested in accordance
with the applicable test procedure.

10.8 FIELD TESTS AND INSPECTION

1. General field tests shall be performed and include the following:
   1. Ground verification test
   2. Breakdown test of all vital circuitry
   3. Wiring verification of all non-vital circuitry
   4. Line circuit verification between wayside instrument shelters
   5. Vital function tests
   6. Operating tests
   7. All applicable tests and inspections prescribed by the RAILROAD, where those
tests and inspections do not conflict with the requirements of these Specifications
   8. All applicable tests prescribed by AREMA Signal Manual, where the AREMA
inspections and tests do not conflict with the requirements of these Specifications
   9. All applicable tests to comply with CFR Parts 234 and 236

2. Specific Field Tests:
   1. Resistance of Ground Connections: All grounding connections shall be tested to
determine that the ground resistance is not greater than 15 ohms. All ground
connections shall be tested.
   2. Insulation Resistance Tests: The test procedure for testing of insulation resistance
shall include tests to verify the following:
   a. All wire and cable installed along the right-of-way and the wire and cable
      entering or leaving the Signal Instrument Shelter, shall be tested after
      installation to ensure that insulation of wires and cable and connected
equipment meet the specified resistance value. A direct reading instrument, having a 0-megohm to 200-megohm scale range and a self-contained DC power supply rated 500 volts minimum to 1,000 volts maximum, shall be used to measure the insulation resistance. Resistance between conductors and ground shall not be less than that specified in the Federal Railroad Administration Rules, Standards, and Instructions for Railroad Signal Systems. The insulation resistance of each conductor to ground and between each conductor and all other conductors in each multi-conductor cable shall be tested. Power sources, made grounds, and connections to the rails shall be disconnected from the circuits during testing.

b. The point used as ground shall be the most convenient ground available.

c. Insulation resistance test values shall be recorded on accepted Insulation Resistance Record Forms and turned over to the Engineer upon acceptance of this test requirement.

3. Energy Distribution:

a. Energy-Off Tests: With all power to the Signal Instrument Shelter off, the following checks and tests shall be performed. These tests shall include:

1) Removing all fuses.
2) Verifying that circuit breaker size compares to that of approved circuit plans.
3) Comparing wire gauges with those called for on the accepted circuit drawings. All discrepancies in wire sizes shall be replaced with the proper size wire.
4) During energy distribution breakdown, a wire count on each terminal, relay contact, etc. shall be taken to ensure that only the number of wires called for on the accepted circuit plans is present at each terminal, relay contact, etc. Any discrepancies found shall be corrected and additional wires, if found, shall be removed.
5) Verify proper system voltage for each power supply, AC and DC.
6) Verify all power supplies for correct setting and quantities.
7) Verify that no cross, shorts, or grounds exist.
8) Verify operation of standby power system per FRA Rule 234.215.
9) Tags shall be verified for proper nomenclature and terminal location.

4. Breakdown of Control Circuits

a. All circuits shall be tested in their entirety for the correct operation of and response to each contact on each circuit element, such as relays and contactors. Where parallel paths exist, the tests shall validate each path, and circuits shall be opened when required to ensure the proper test.

b. Each circuit shall be tested by simulating all operating conditions to verify that the circuit operates in accordance with the Specifications and accepted plans.
5. Grade Crossing Signal Layouts: Tests shall be performed on all signal layouts. These tests shall include the following:

   a. Continuity check of field wires and verification of all nomenclature.
   b. Apply energy to signal lighting circuits and adjust all lamp voltages per the manufacturer’s recommendation, or to the value determined by the Engineer.
   c. Sight signals for maximum visibility.


7. Insulated Joints: Each insulated joint shall be tested with an insulated joint tester, either the Harmon 1501A1JC, or accepted equal, and shall measure no less than 40 Ohms across the joint or the minimum value per the Railroad’s Signal Maintenance, Inspection and Testing Manuals.

SIGNAL WIRE, CABLE AND CONDUIT

11.1 DESCRIPTION

   A. Work Includes: Furnishing and installing all cable and wire required for signal and signal power system wiring to wayside shelters, junction boxes and factory wired mechanisms.

   B. Material and workmanship shall be of the highest quality, assuring durability for a minimum life expectancy of 40 years. Cables to be furnished and installed shall be suitable for use in the environment to be encountered on a railroad, and shall be certified for continuous operation at 75 degrees Celsius in wet or dry locations with no conductor failing in continuity or with loss of insulation to cross or ground less than one meg-ohm.

   C. Main cables (express runs) shall be defined as those, which run between housings, or those cables containing conductors for more than one system function. Local distribution cables shall be defined as those cables, which run between the housing and an individual unit of equipment.

11.2 QUALITY ASSURANCE

   A. Qualifications:

   1. Cable manufacturer’s qualifications shall be:

      a. Quality Assurance Program: The manufacture of cables in accordance with the requirements of this Specification shall be accomplished in compliance with a Quality Assurance Program that meets the intent of the ASQC Standard C1; General Requirements for Quality Program.
Such compliance shall promote a thoroughly tested cable, which will render long service life to the user. Prime concern must be focused on the necessary formal assurance requirements to ensure that cable failure cannot be attributed to actions or lack of actions by the manufacturer.

b. Past performance and experience: Demonstrate previous successful experience in supplying cable to the railroad or transit industry for use as vital signal control cables. A list of such installations shall be provided for each cable manufacturer to be considered.

c. Certified electrical and physical test reports shall be furnished for the finished multiple conductor cables no later than the time of shipment. Each test document shall include the test results and the date the tests were performed.

d. The RAILROAD reserves the right to conduct itself, or by its duly authorized representative, those tests it so elects to further satisfy itself that the cable is manufactured in accordance with the requirements of this Specification.

e. The manufacturer shall produce wire and cable in compliance with this specification and with a Quality Assurance Program that meets the intent of Section 10, CFR-50, Appendix B of the Federal Register and ANSI N45.2.

f. To ensure accountability and traceability in the application of the Quality Assurance Plan, the manufacturer shall formulate, mix and apply conductor insulating compound materials and cable outer covering and shall perform conductor testing, cable assembly and testing in his own plant(s).

11.3 SUBMITTALS

A. Provide product data sheets for each proposed cable type.

B. Copies of the cable manufacturer’s instructions and procedures together with one sample and seal specimen for potheading of each type of underground cable to be furnished and installed under this Contract.

C. List of major railroads and installations for which cable has been furnished by proposed cable manufacturer, if any.

D. Technical Data: Full technical data demonstrating compliance with the requirements of this Specification for each specified cable type proposed.

E. Certification that the supplier will manufacture and test the cable under the control of a Quality Assurance Program which meets the requirements of Section 10, CFR-50, Appendix B of the Federal Register and ANSI N45.2.

F. Test reports for each cable furnished.
G. Sample Specimens, if requested by the Project shall be furnished to the Engineer within 14 days after receipt of the NTP. Provide sample specimens in 1 meter (3-ft) lengths for each type cable specified herein. Sample specimens shall remain the property of the Project.

H. Manufacturer's certification of the following:

1. Manufacturer shall warrant that the design, material, and workmanship incorporated in each item of cable shall be of the highest grade and consistent with the established and generally accepted standards for aerial and underground cable for vital railroad signal, and power circuits; and that each such item and every part and component thereof shall comply with this Specification.

2. The Manufacturer shall agree that this warranty will commence with the acceptance of each item or the cable, whether the defect be patent or latent, and shall be effective for a period of 10 years after initial satisfactory operation of the item or 12 years after acceptance of the item, whichever is shorter.

3. The warranty covering any length of cable that shall be replaced by the Manufacturer under the above conditions shall be reinstated for a period of 10 years, effective as of the day when said replacement is affected. If the failure is found to be of major importance and affects any cable, then the reinstatement of the warranty shall then be extended to cover the cable so affected, and shall start as of the date of such replacement. The warranty reinstatement provided for in this subparagraph shall apply only to the first replacement or repair of any such item and, in the case of failure of major importance, to the first extension of the said warranty to said affected items.

11.4 INSPECTION

A. The Project shall have the right to make inspections and tests, as necessary, to determine if the cable meets the requirements of this Specification. The inspector shall have the right to reject cable, which is defective in any respect.

B. Testing of conductors and conductor insulation shall be as specified in the AREMA Signal Manual and the Railroad's Maintenance, Test and Inspection manuals.

11.5 DELIVERY, STORAGE, AND HANDLING

A. Shipping, storage, and handling shall be in accordance with AREMA Signal Manual.

B. During storage and handling, prior to final conductor termination, cable ends shall be sealed to prevent the entrance of moisture.

C. Any instance of damaged cable observed at any time, whether prior to installation, occurring during construction or discovered by test observation subsequent to installation, shall be immediately called to the Engineer's attention. The method of
correction shall be in accordance with the Engineer's written instruction. The Contractor shall promptly repair such damage without additional compensation.

11.6 MATERIALS

A. Underground cable and track wire meeting the requirements of Subsection 1.4 above.

B. Acceptable Manufacturers:
   1. Okonite Co.
   2. National Electric Gate Co.
   3. Tamaqua Cable Products Corp.

11.7 CABLE INSTALLATION

A. General:

1. The installation of wire and cable shall conform to AREMA Signal Manual Parts 10.4.1 and 10.4.30 except as specified herein.
2. The Contractor shall separate signaling cables from parallel run of AC feeder cables where adjacent locations are fed from one AC service location.
3. The Contractor shall install and connect all wires and cable required for the Project. Give the Engineer 24-hour notice prior to installing cables.
4. Provide sufficient slack at all terminating posts to enable three reterminations of the conductor due to broken eyelets without reserviceing or repotheading the cable. Sufficient slack in wires and cables at signals, relay racks and other equipment shall be provided as ordered by the Engineer in the pull boxes.
5. In certain types of installation, the cable cannot be constrained; therefore, ample cable slack shall be provided for additional flexibility due to vibration of such equipment.
6. Cables shall not be bent to a radius less than manufacturer's recommendation.
7. Distribution cable runs shall be continuous without splices between cable terminating locations. Express cable runs longer than cable lengths shall be spliced together in junction box, instrument shelter, pull box or other acceptable housing.
8. Individual cable conductors shall be identified at each cable termination with plastic tags as specified in Section 8-32.12. All spare conductors in each cable shall be identified and terminated.
9. Cable entrance openings in equipment enclosures and junction boxes shall be sealed with either compression type fitting or pliable sealing compound after the cable is in place. Sealing compound shall be used to seal the area around cable where the cable emerges from the end of a conduit or pipe. All spare conduits shall be sealed or plated.
10. Wherever multiple conductor cables are terminated, the outer sheath of the cable shall be carefully removed to a minimum point of 7.62cm (3 inches) from the cable entrance. At the end of the cable sheath or covering, two layers of plastic electrical tape shall be applied.
11. All cable conductors shall be terminated in conductor sequence from top to
bottom.

12. Care must be observed in handling the cable so as not to subject the jacket to
undue abuse. Vehicular traffic shall not be allowed to pass over this cable nor
shall it be pulled over rocks, fences, or other sharp objects. Cable reels must be set
up so that the cable is pulled from the top of the reel. Prolonged exposure to
abrasion at cable supports or other adjacent structure can result in damage to the
cable jacket. At points where proper clearances cannot be maintained, place
plastic guards over exposed area of cable. A standard line wire grip or come-along
is to be used when pulling up and tensioning cable.

13. Cables shall be installed in one continuous length between pull points. It shall be
the Contractor's responsibility to measure each cable run before pulling and
cutting, to select cutting length from reels of cable.

14. Cables shall be pulled into conduits as shown on the Contract Drawings; no
changes will be permitted unless approved by the Engineer.

15. Pulling sheaves shall allow for no less than 16 times cable OD for cable pulling
radius.

16. Contractor shall select cable pull locations best suited to minimize overall cable
pulling tension. Cable pulling tensions shall be eased by the application of the
cable pulling lubricant as the cable is pulled into the duct. Cable pulling lubricant
shall not harm the cable jacket, and shall be a type approved by the cable
manufacturer.

17. While cables are being pulled into duct and conduit, they shall be protected by
underground cable feeder straighteners, rollers and cable drawing-in protectors as
necessary. The method of pulling cables into ducts shall be approved by the
Engineer.

18. Sufficient slack in cables in pull boxes shall be provided so that all connections,
splices, and tests and adjustments can be easily made. Whenever cables are cut,
the ends shall be immediately capped and sealed to positively exclude moisture.
The seals shall be carefully maintained until final connections are made.

19. Great care shall be exercised in handling the cable and in pulling the cable in
ducts and conduits to prevent damage to the insulation. Any length of cable
damaged shall be replaced at the Contractor's expense with cable of the same size,
make, type and quality.

20. The Contractor's cable pulling shall be in accordance with accepted modern
practices so as to prevent damage to the cable. Protecting the cable from damage
while pulling is the responsibility of the Contractor. Any cable damaged during
installation will be replaced and installed without any expense to the Project.

21. Cables shall not be pulled off and laid on the ground prior to installation. Cable
grips shall be designed for the purpose and shall not cut or otherwise damage the
cable. No cable shall be pulled with ends open. A rubber tape seal shall be
maintained at all times. The cable shall be continuously inspected during
installation and any cuts, abrasions or other injured portion shall be brought to the
attention of the Engineer and repaired or removed as directed.
22. Where cables exit duct construction, their jackets shall be protected with cable duct shields furnished and installed by the Contractor.

23. The Contractor shall provide all labor, material, equipment and services necessary to complete all excavating, backfilling, sub-grade preparation, sheeting, shoring, bracing and related items as required for, and incidental to, the completion of the Contract.

24. The Contractor shall support and protect existing utilities and lines which are to remain.

25. The Contractor shall provide and maintain all required bilge pumps, suction and discharge lines, and well points, and power for running the same in sufficient number and capacity to keep all excavations, pits, trenches, as so forth, free from standing water at all times. Above equipment shall be maintained in good condition and operation, when so required until excavations are backfilled.

B. All underground cables and wires shall be installed in conduits from the grade crossing control shelters to the grade crossing warning devices. Underground cables to switches will be direct buried.

C. AC power cable shall be installed in dedicated rigid steel conduit from the service meters to the signal shelters and between signal shelters.

11.8 CONDUIT INSTALLATION

A. The Contractor shall be required to furnish and install all Schedule 80 conduit and fittings between various field devices, shelters, and appliances, as required and shown on the plans.

B. All conduits, except those specifically designated for bridge deck mounting, shall be installed per Appendix B, Signal Standards.

C. Included in the work are the drilling of holes in concrete to support the conduit, the cutting of concrete, the furnishing and placing of concrete as required, the boring, cutting, tapping of ties or beams as required. Also included is the furnishing and placing of joint compound, the excavation of trenches, backfilling, tamping and the furnishing and installing of all brackets, hangers, clamps and bolts.

D. Pull boxes shall be installed as shown in the contract drawings. Conduits may enter pullboxes from the sides or bottom. All pullboxes shall be open at the bottom and be installed on a 31cm(12 inch) deep bed of gravel directly beneath the box and extending 50Cm(18 inches) to each side of the box.

E. Pull boxes and covers shall support H/20-44 loading as shown in Appendix B Standard Drawings. Covers shall bolt down. Pullboxes shall be installed level with final grade. Those pull boxes mounted in sidewalks must have concrete covers.
11.9 TESTING: All installed external cable shall be tested in accordance with the requirements of Section 8-32.13 and AREMA Signal Manual Part 10.4.30.

SIGNAL SERVICE METERS

12.1 DESCRIPTION

A. Work includes:

1. Installing 120/240 100A 3 wire single phase meter service, and upgrading existing meter services to 120/240, 100A, 3-wire, single-phase meter service.

12.2 INSTALLATION

A. The installation of the various equipment and materials for the signal power distribution system that are specified herein and in other Sections of these Specifications shall be installed in accordance with local service provider's requirements and the NEC.

B. The requirements included within this Section shall cover all incidental installation work necessary to effect an integrated, tested and operable signal power system for the project, as shown on the Contract Drawings.

12.3 GROUNDING

Meter service grounding shall be in accordance with Section 34-9.16 of these Specifications, the latest edition of the NEC Article 250, and local service provider's requirements. If there is a conflict between the above specifications, local service provider's requirements shall govern.

12.4 TESTING AND INSPECTION

A. Simulated load tests in accordance with approved signal power system test procedure shall be satisfactorily completed prior to final connection of signal facilities at each equipment location.

Prior to final acceptance by the RAILROAD, the Contractor shall have the new ac power service inspected by state and local jurisdictional authority(s) as required.

SIGNAL GROUNDING OF EQUIPMENT

13.1 DESCRIPTION

A. Work Includes:

1. Furnishing and installing a grounding system for the wayside equipment shelters, signal equipment, including meter housing, and all other wayside equipment.
apparatus specified herein and shown on the Contract Drawings and Appendix B, Signal Standards.

2. The grounding system shall preclude any closed loop grounding arrangements.
3. Ground connection(s) to the track rails or use of the neutral conductors of the Power Company or AC signal supply system will not be permitted.

13.2 SUBMITTALS

A. Schematic Drawings showing the design and detail of the proposed grounding system for the signal and power equipment proposed to be furnished and installed.

B. Catalog cuts or drawings showing the type of components to be used for the proposed grounding system(s).

C. Installation and Test Procedure proposed for all equipment grounding.

D. Test reports as described in Section 8-32.16.6 herein.

13.3 MATERIALS

A. Ground rods - Copperweld Corp. or accepted equal.

B. Ground rod clamps - Copperweld Corp. or accepted equal.

C. Ground wire.

13.4 GENERAL

A. Ground rods shall be copper-clad steel, of the non-rusting type. The rod shall be at least 3 meters (ten feet) in length and at least 1.9cm(3/4 inch) diameter.

B. Ground rod clamps shall be made of a cast bronze clamp body with non-ferrous set screws.

C. Internal ground wire, from the equipment to the ground bus, shall be insulated No. 6 or 10 AWG standard copper wire, as specified within Section 8-32.14 of these Specifications.

D. A grounding bus of nickel-plated hard drawn pure copper shall be provided in the Signal Instrument Shelters.

E. Bare Ground Wire: Soft drawn copper, Class A or Class B stranded, shall meet the requirements of ASTM B 8. Sizing of ground wire shall be in accordance with the NEC except where sizes specified herein or shown on the Contract Drawings are larger than those required by NEC; UL listed, Label A for lightning protection conductors. Grounding cable shall be continuous without joints or splices throughout its length.

F. Bolted Grounding Connectors: Use connectors made of high strength electrical bronze with silicon bronze clamping bolts and hardware; designed such that bolts, nuts, lock washers and similar hardware which might nick or otherwise damage the ground wire, shall not make direct contact with the ground wire.
13.5 INSTALLATION

A. Ground connections from lightning arresters and equipment chassis shall run separately to a ground buss in the equipment shelter. The ground buss shall be connected to the ground stud on the equipment shelter with a bare No. 6 AWG copper wire. The ground buss shall be located on the lower section of the terminal board and as near to the cable entrance as possible. The length of the grounding wire shall be the shortest obtainable distance with no sharp bends.

B. Ground rods shall be driven into the ground near each corner of the equipment shelter. The ground rods shall be a minimum of 2 meters (6 feet) apart and shall be driven to ground level or below. A trench, 30.5cm (12 inches) deep, shall be dug between the four ground rods. Each of the four ground rods shall be electrically connected to each other using a No.6 AWG bare copper wire and a tamper proof ground clamp. The ground wires shall be placed in the bottom of the trench. The trench shall be backfilled with native soil removed during construction of the trench. A ground rod clamp shall be used to connect one end of a No. 6 AWG bare copper ground wire to the four ground rod network and the other end shall be attached to the ground stud on the equipment shelter.

C. If, after the installation of any outside ground, it is found that the resistance between equipment and earth is in excess of 15 ohms, an additional ground rod section may be added or another rod or rods shall be installed in multiple with the first rod until the resistance of ground connections meets the requirements for ground tests. Perform and verify these tests after the ground rods are installed. Rods connected in multiple shall be spaced a minimum distance of 2 meters (6 feet) apart.

D. Grounding under these specifications will conform to AREMA Signal Manual Part 11.4.1. In cases where these instructions differ, Engineer will make final decision.

13.6 TESTING

A. Test Reports: Provide test reports that completely describe ground resistance test procedures. Upon completion of ground tests, provide the Engineer with results.

B. Ground Resistance Testing: Verify that resistance between ground buss and absolute earth for existing grounding systems does not exceed 15 ohms without benefit of chemical treatment or other artificial means acceptable to the RAILROAD and local environmental authority.

BATTERIES

14.1 DESCRIPTION

A. Work Includes: Furnishing and installing batteries as specified herein and as shown on the Contract Drawings.
14.2 QUALITY ASSURANCE

A. Batteries shall meet the requirements of AREMA Signal Manual Part 9.1.4.

B. Testing of batteries and battery chargers will be in accordance with the Manufacturer's standard...

14.3 ACCEPTABLE MATERIALS

A. The Contractor shall size the batteries for a minimum 48-hour standby capacity based on normal operating conditions. If the calculated load exceeds the capacity of the batteries as shown on the Contract Drawings, the Engineer shall be notified.

B. Valve Regulated Lead Acid (Gel Type Maintenance Free) Batteries - manufactured by GNB, or accepted equal.

14.4 EQUIPMENT DETAILS

A. The battery charging equipment shall be designed to deliver rated outputs with input voltage of 100 to 130 VAC at 60 Hz, single phase, two wire input.

B. Battery to be sized to provide a minimum of 48 hours of uninterrupted power to highway grade crossing systems at the normal operating load.

C. Batteries shall be valve regulated lead acid (Gel type Maintenance Free) batteries or accepted equal.

D. Batteries shall require charging voltages as recommended by the battery manufacturer to maintain rated capacity and life.
CONTRACTOR'S RIGHT OF ENTRY AGREEMENT
FOR CONSTRUCTION PROJECTS ON OR ADJACENT TO PROPERTY OF

The undersigned, hereinafter referred to as Contractor, has entered into a Contract, with Yakima County ("County") for the performance of certain work in connection with the project. The work will require the Contractor to conduct operations within Yakima County ("Owner"), right of way and property ("Railway Property"). Said property is leased to the Columbia Basin Railroad Company ("Railway"). The Contract provides that no work shall be commenced within Railway Property until the Contractor employed in connection with said work for County executes and delivers to Railway an Agreement, in the form hereof, and shall have provided insurance of the coverage and limits specified in said Contract and Section 2 of this Agreement. If this Agreement is executed by other than the Owner, General Partner, President or Vice President of Contractor, evidence is furnished to you herewith certifying that the signatory is empowered to execute this Agreement for the Contractor.

Accordingly, as one of the inducements to and as part of the consideration for Railway and Owner granting permission to Contractor to enter upon Railway Property, Contractor, effective on the date of said Contract, has agreed and does hereby agree with Railway and Owner as follows:

SECTION 1. RELEASE OF LIABILITY AND INDEMNITY

Contractor agrees to release Railway and Owner from any claims arising from the performance of this Agreement which Contractor or any of its employees, subcontractors, agents or invitees could otherwise assert against Railway and Owner, regardless of the negligence of Railway and Owner, except to the extent that such claims are proximately caused by the intentional misconduct or gross negligence of Railway and Owner.

Contractor shall indemnify and hold harmless Railway and Owner for all judgments, awards, claims, demands, and expenses (including attorney's fees), for injury or death to all persons, including Railway's and Owner's, and Contractor's officers and employees, and for loss and damage to property belonging to any person, arising in any manner from Contractor's or any of Contractor's subcontractors' acts or omissions or failure to perform any obligation hereunder. THE LIABILITY ASSUMED BY CONTRACTOR SHALL NOT BE AFFECTED BY THE FACT, IF IT IS A FACT, THAT THE DESTRUCTION, DAMAGE, DEATH, OR INJURY WAS OCCASIONED BY OR CONTRIBUTED TO BY THE NEGLIGENCE OF RAILWAY AND OWNER, ITS AGENTS, SERVANTS, EMPLOYEES OR OTHERWISE, EXCEPT TO THE EXTENT THAT SUCH CLAIMS ARE PROXIMATELY CAUSED BY THE INTENTIONAL MISCONDUCT OR GROSS NEGLIGENCE OF RAILWAY AND OWNER.

THE INDEMNIFICATION OBLIGATION ASSUMED BY CONTRACTOR SHALL INCLUDE ANY CLAIMS, SUITS OR JUDGMENTS BROUGHT AGAINST RAILWAY AND OWNER UNDER THE FEDERAL EMPLOYEE'S LIABILITY ACT INCLUDING CLAIMS FOR STRICT LIABILITY UNDER THE SAFETY APPLIANCE ACT OR THE BOILER INSPECTION ACT, WHENEVER SO CLAIMED.

Nothing in this agreement is intended to be construed as a requirement for the indemnification against the sole negligence of the Railway and Owner, its officers, employees or agents for any work relative to the construction, alteration, repair, addition to, subtraction from, improvement to, or maintenance of, any building, highway, road, railroad, excavation, or other structure, project, development, or improvement attached to real estate, including moving and demolition in connection therewith, performed in the State of Washington. Indemnification against liability for damages arising out of bodily injury to persons or damage to property for any work relative to the construction, alteration, repair, addition to, subtraction from, improvement to, or maintenance of, any building, highway, road, railroad, excavation, or other structure, project, development, or improvement attached to real estate, including moving and demolition in connection therewith, performed in the State of Washington and caused by or resulting from the concurrent negligence of the Railway and Owner and the Agency and its agents or employees will be enforceable only to the extent of the negligence of the Agency and its agents and employees.
The indemnification obligation shall include all claims brought by Contractor's employees against the Railway and Owner, its agents, servants, employees or otherwise, and Contractor expressly waives its immunity under the industrial insurance act (RCW Title 51) and assumes potential liability for all actions brought by its employees.

Contractor further agrees, at its expense, in the name and on behalf of Railway and Owner, that it shall adjust and settle all claims made against Railway and Owner, and shall, at Railway's and Owner's discretion, appear and defend any suits or actions of law or in equity brought against Railway and Owner on any claim or cause of action arising or growing out of or in any manner connected with any liability assumed by Contractor under this Agreement for which Railway and Owner is liable or is alleged to be liable. Railway and Owner shall give notice to Contractor, in writing, of the receipt or dependency of such claims and thereupon Contractor shall proceed to adjust and handle to a conclusion such claims, and in the event of a brought against Railway and Owner, Railway and Owner may forward summons and complaint or other process in connection therewith to Contractor, and Contractor, at Railway's discretion, shall defend, adjust, or settle such suits and protect, indemnify, and save harmless Railway and Owner from and against all damages, judgments, decrees, attorney's fees, costs, and expenses growing out of or resulting from or incident to any such claims or suits.

It is mutually understood and agreed that the assumption of liabilities and indemnification provided for in this Agreement shall survive any termination of this Agreement.

SECTION 2. INSURANCE.

(a). Before commencing any work under this Agreement, Contractor must provide and maintain in effect throughout the term of this Agreement insurance, at Contractor's expense, covering all of the work and services to be performed hereunder by Contractor and each of its subcontractors, as described below:

(1). Workers' Compensation coverage as is required by State law.

(2). Commercial General Liability insurance covering liability, including but not limited to Public Liability, Personal Injury, Property Damage and Contractual Liability covering the obligations assumed by Contractor in Section 1, with coverage of at least $2,000,000 per occurrence and $4,000,000 in the aggregate. Where explosion, collapse, or underground hazards are involved, the X, C, and U exclusions must be removed from the policy. **THE CERTIFICATE MUST CONTAIN A SPECIFIC WAIVER OF THE INSURANCE COMPANY'S SUBROGATION RIGHTS AGAINST THE.**

(3). Automobile Liability insurance, including bodily injury and property damage, with coverage of at least $1,000,000 combined single limit or the equivalent covering any and all vehicles owned or hired by the Contractor used in performing any of the services under this agreement.

(b). The average train traffic per 24-hour period on this route is 6 through freight trains at a timetable speed of 25 MPH.

(c). All insurance shall be placed with insurance companies licensed to do business in the States in which the work is to be performed, and with a current Best's Insurance Guide Rating of A- and Class VII, or better.

(d). In all cases except Workers' Compensation and Railroad Protective Liability coverage the certificate must specifically state that Yakima County AND Columbia Basin Railroad Company IS AN ADDITIONAL INSURED.

(e). Any coverage afforded Railway and Owner, the Certificate Holder, as an Additional Insured shall apply as primary and not excess to any coverage issued in the name of Railway and Owner.
(f). Such insurance shall be approved by the Railway and Owner before any work is performed on Railway's Property and shall be carried until all work required to be performed on or adjacent to Railway's Property under the terms of the contract is satisfactorily completed as determined by Yakima County, Washington, and thereafter until all tools, equipment and materials not belonging to the Railway and Owner, have been removed from Railway’s Property and Railway Property is left in a clean and presentable condition. The insurance herein required shall be obtained by the Contractor and Contractor shall furnish Railway and Owner with an original certificate of insurance, signed by the insurance company, or its authorized representative, evidencing the issuance of insurance coverage as prescribed in (a) 1, 2 and 3 above to:

Attention: Railroad Property Management
Iron Horse Development, L.L.C.
111 South 33rd Street, Ste 200
Yakima, Washington 98901

(g). The certificate of insurance shall guarantee that the policies will not be amended, altered, modified or canceled insofar as the coverage contemplated hereunder is concerned, without at least thirty (30) days notice mailed by registered mail to Railway and Owner.

(h). Full compensation for all premiums which the Contractor is required to pay on all the insurance described hereinafter shall be considered as included in the prices paid for the various items of work to be performed under the Contract, and no additional allowance will be made therefor or for additional premiums which may be required by extensions of the policies of insurance.

It is further distinctly understood and agreed by the Contractor that its liability to the Railway and Owner herein under SECTION 1 will not in any way be limited to or affected by the amount of insurance obtained and carried by the Contractor in connection with said Contract.

SECTION 3. CONTRACTOR REQUIREMENTS

(a). While on or about Railway Property, Contractor shall fully comply with Railway’s and Owners “Contractor Requirements”, including (but not limited to) clearance requirements and personal protective equipment requirements. Contractor shall be responsible for fully informing itself as to Railway and Owner “Contractor Requirements”.

(b). Prior to entering Railway Property, each person providing labor, material, supervision, or services connected with the work to be performed on or about Railway Property shall attend a Safety Orientation session conducted or approved by Railway and Owner. Contractor shall contact General Manager, Tim Marshall, telephone (509) 349-8994, fax (509) 349-8074, at least thirty (30) calendar days in advance to arrange the necessary safety orientation session(s).

(c). Prior to entering Railway and Owner property, the Contractor shall prepare and implement a safety action plan acceptable to Railway and Owner. Contractor shall audit its compliance with that plan during the course of its work. A copy of said plan and audit results shall be kept at the work site and shall be available for inspection by Railway and Owner at all reasonable times.

SECTION 4. PROTECTION OF RAILWAY FACILITIES AND RAILWAY FLAGGER SERVICES

(a). The Contractor shall give a minimum of at least thirty (30) working days notice to the Railways Tim Marshall at telephone (509)-349-8994, in advance of when flagging services will be required to bulletin the flaggers position and shall provide five (5) working days notice to the General Manager to abolish the position per union requirements.

(b). Railway flagger and protective services and devices will be required and furnished when Contractor’s work activities are located over or under of and within twenty-five (25) feet measured horizontally from center line of the nearest track and when cranes or similar equipment positioned outside of 25-foot
horizontally from track center line that could foul the track in the event of tip over or other catastrophic occurrence, but not limited thereto for the following conditions:

(1). When in the opinion of the Railway's representative, it is necessary to safeguard Railway's and Owner's Property, employees, trains, engines and facilities.

(2). When any excavation is performed below the bottom of tie elevation, if, in the opinion of Railway's representative, track or other Railway facilities may be subject to movement or settlement.

(3). When work in any way interferes with the safe operation of trains at timetable speeds.

(4). When any hazard is presented to Railway track, communications, signal, electrical, or other facilities either due to persons, material, equipment or blasting in the vicinity.

(5). Special permission must be obtained from the Railway before moving heavy or cumbersome objects or equipment which might result in making the track impassable.

(a). Flagging services will be performed by qualified Railway flaggers. The base cost per hour for (1) flagger is $50.00 which includes vacation allowance, paid holidays, Railway and Unemployment Insurance, Public Liability and Property Damage Insurance, health and welfare benefits, transportation, meals, lodging and supervision, for an eight (8) hour basic day with time and one-half or double time for overtime, rest days and holidays. These rates are subject to any increases which may result from Railway Employees-Railway Management negotiations or which may be authorized by Federal authorities. Contractor will be billed on actual costs in effect at time work is performed.

(1). A flagging crew generally consists of one employee. However, additional personnel may be required to protect Railway Property and operations, if deemed necessary by the Railway's representative.

(2). Each time a flagger is called, the minimum period for billing shall be the eight (8) hour basic day.

(3). The cost of flagger services provided by the Railway, when deemed necessary by the Railway's representative, will be borne by the Contractor.

(4). The average train traffic per 24-hour period on this route is 6 freight trains at a timetable speed of 25 MPH.

SECTION 5. TRAIN DELAYS

No work performed by Contractor shall cause any interference with the constant, continuous and uninterrupted use of the tracks, property and facilities of the Railway, its lessees, licensees or others, unless specifically permitted under this agreement, or specifically authorized in advance by the Railway Representative. Nothing shall be done or suffered to be done by the Contractor at any time that would in any manner impair the safety thereof. When not in use, Contractor's machinery and materials shall be kept at least 50 feet from the centerline of Railway's and Owner's nearest track, and there shall be no vehicular crossings of Railway's and Owner's track except at agreed upon location.

Contractor shall be responsible to Railway and Owner, including its affiliated railway companies, and its tenants for damages for any unscheduled delay to freight or passenger trains that are caused by the Contractor as follows:

(b). Train Delays Damages, Freight Trains

(1). Contractor will be billed and Contractor shall pay Railway within 30 days, as provided herein, for the damages for freight train delays, whether caused by the State, its contractors or subcontractors, or by the Railway working for the County. The Contractor will be billed for each freight train delayed as determined from
Railway's records. Each delay may cause delays to more than one freight train at the same time. These rates will be updated annually and Contractor will be billed at rate per hour in effect at the time the delay occurred.

Kindly acknowledge receipt of this letter by signing and returning to the undersigned three original copies of this letter, which, upon execution by Railway, shall constitute an Agreement between us.

Yours truly,

Contractor

By ____________________________

(Title)

______________________________

Address

City, State, Zip

Owner

By ____________________________

______________________________

Accepted this __ day of __________, 2002

Columbia Basin Railroad Company

By ____________________________

Presdent

Accepted this __ day of __________, 2002
PREVAILING WAGE RATES
Washington State Prevailing Wage Rates For Public Works Contracts

The PREVAILING WAGES listed here include both the hourly wage rate and the hourly rate of fringe benefits. On public works projects, workers’ wage and benefit rates must add to not less than this total. A brief description of overtime calculation requirements is provided on the Benefit Code Key.

YAKIMA COUNTY
Effective 09-31-07

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## YAKIMA COUNTY
### Effective 08-31-07

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<th>Time Code</th>
<th>Holiday Code</th>
<th>Note Code</th>
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Washington State Department of Labor and Industries  
Policy Statement  
(Regarding the Production of "Standard" or "Non-standard" Items)

Below is the department's (State L&I's) list of criteria to be used in determining whether a prefabricated item is "standard" or "non-standard". For items not appearing on WSDOT's predetermined list, these criteria shall be used by the Contractor (and the Contractor's subcontractors, agents to subcontractors, suppliers, manufacturers, and fabricators) to determine coverage under RCW 39.12. The production, in the State of Washington, of non-standard items is covered by RCW 39.12, and the production of standard items is not. The production of any item outside the State of Washington is not covered by RCW 39.12.

1. Is the item fabricated for a public works project? If not, it is not subject to RCW 39.12. If it is, go to question 2.

2. Is the item fabricated on the public works jobsite? If it is, the work is covered under RCW 39.12. If not, go to question 3.

3. Is the item fabricated in an assembly/fabrication plant set up for, and dedicated primarily to, the public works project? If it is, the work is covered by RCW 39.12. If not, go to question 4.

4. Does the item require any assembly, cutting, modification or other fabrication by the supplier? If not, the work is not covered by RCW 39.12. If yes, go to question 5.

5. Is the prefabricated item intended for the public works project typically an inventory item which could reasonably be sold on the general market? If not, the work is covered by RCW 39.12. If yes, go to question 6.

6. Does the specific prefabricated item, generally defined as standard, have any unusual characteristics such as shape, type of material, strength requirements, finish, etc? If yes, the work is covered under RCW 39.12.

Any firm with questions regarding the policy, WSDOT's Predetermined List, or for determinations of covered and non-covered workers shall be directed to State L&I at (360) 902-5330.
Below is a list of potentially prefabricated items, originally furnished by WSDOT to Washington State Department of Labor and Industries, that may be considered non-standard and therefore covered by the prevailing wage law, RCW 39.12. Items marked with an X in the "YES" column should be considered to be non-standard and therefore covered by RCW 39.12. Items marked with an X in the "NO" column should be considered to be standard and therefore not covered. Of course, exceptions to this general list may occur, and in that case shall be evaluated according to the criteria described in State and L&I's policy statement.

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<tr>
<th>ITEM DESCRIPTION</th>
<th>YES</th>
<th>NO</th>
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<tbody>
<tr>
<td>1. Manhole Ring &amp; Cover - manhole type 1, 2, 3, and 4 for bridges. For use with</td>
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<td>Catch Basin type 2. The casting to meet AASHTO-M-105, class 30 gray iron casting.</td>
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<td>See Std. Plan B-1f, B-23a, B-23b, B-23c, and B-23d.</td>
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<tr>
<td>2. Frame &amp; Grate - frame and Grate for Catch Basin type 1, 1L, 1P, 2, 3, 4 and</td>
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<tr>
<td>Concrete Inlets. Cast frame may be grade 70-36 steel, class 30 gray cast iron or</td>
<td></td>
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<tr>
<td>grade 80-55-06 ductile iron. The cast grate may be grade 70-36 steel or grade</td>
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<tr>
<td>80-55-06 ductile iron. See Std. Plan B-2, B-2a, and B-2b.</td>
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<tr>
<td>3. Grate Inlet &amp; Drop Inlet Frame &amp; Grate - Frame and Grate for Grate Inlets</td>
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<tr>
<td>Type 1 or 2 or Drop Inlet. Angle iron frame to be cast into top of inlet.</td>
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<tr>
<td>See Std. Plan B-4b or B-4h. Frames &amp; Grates to be galvanized.</td>
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<tr>
<td>4. Concrete Pipe - Plain Concrete pipe and reinforced concrete pipe Class 2 to</td>
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<tr>
<td>5 sizes smaller than 60 inch diameter.</td>
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<tr>
<td>5. Concrete Pipe - Plain Concrete pipe and reinforced concrete pipe Class 2 to</td>
<td></td>
<td></td>
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<tr>
<td>5 sizes larger than 60 inch diameter.</td>
<td></td>
<td>X</td>
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<tr>
<td>6. Corrugated Steel Pipe - Steel lock seam corrugated pipe for culverts and</td>
<td></td>
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</tr>
<tr>
<td>storm sewers, sizes 30 inch to 120 inches in diameter. May also be treated, 1</td>
<td></td>
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<tr>
<td>thru 5.</td>
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<tr>
<td>ITEM DESCRIPTION</td>
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<tr>
<td>7. Corrugated Aluminum Pipe - Aluminum lock seam corrugated pipe for culverts and storm sewers, sizes 30 inch to 120 inches in diameter. May also be treated, #5.</td>
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<tr>
<td>8. Anchor Bolts &amp; Nuts - Anchor Bolts and Nuts, for mounting sign structures, luminaries and other items, shall be made from commercial bolt stock. See Contract Plans and Std. Plans for size and material type.</td>
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</tr>
<tr>
<td>9. Aluminum Pedestrian Handrail - Pedestrian handrail conforming to the type and material specifications set forth in the contract plans. Welding of aluminum shall be in accordance with Section 9-28.15(3).</td>
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<tr>
<td>10. Major Structural Steel Fabrication - Fabrication of major steel items such as trusses, beams, girders, etc., for bridges.</td>
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<tr>
<td>11. Minor Structural Steel Fabrication - Fabrication of minor steel items such as special hangers, brackets, access doors for structures, access ladders for irrigation boxes, bridge expansion joint systems, etc., involving welding, cutting, punching and/or boring of holes. See Contract Plans for item description and shop drawings.</td>
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<tr>
<td>12. Aluminum Bridge Railing Type BP - Metal bridge railing conforming to the type and material specifications set forth in the Contract Plans. Welding of aluminum shall be in accordance with Section 9-28.15(3).</td>
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<tr>
<td>13. Concrete Piling--Precast-Prestressed concrete piling for use as 55 and 70 ton concrete piling. Concrete to conform to Section 9-19.1 of Std. Spec.. Shop drawings for approval shall be provided per Section 6-05.3(3) of the Std. Spec.</td>
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<td>14. Manhole Type 1, 2, 3 and 4 - Precast Manholes with risers and flat top slab and/or cones. See Std. Plans.</td>
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<tr>
<td>ITEM DESCRIPTION</td>
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<td>15. Drywell - Drywell as specified in Contract Plans.</td>
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<td>16. Catch Basin - Catch Basin type 1, 1L, 1P, 2, 3, and 4, including risers, frames may be cast into riser. See Std. Plans.</td>
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<tr>
<td>17. Precast Concrete Inlet - Concrete Inlet with risers, frames may be cast into risers. See Std. Plans.</td>
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<tr>
<td>18. Drop Inlet Type 1 - Drop Inlet Type 1 with support angles and grate. See Std. Plans B-4f and B-4h.</td>
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<td>19. Drop Inlet Type 2 - Drop Inlet type 2 with support angles and grate. See Std. Plans B-4g and B-4h.</td>
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<tr>
<td>20. Grate Inlet Type 2 - Grate Inlet Type 2 with risers and top unit with bearing angles.</td>
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<tr>
<td>21. Precast Concrete Utility Vaults - Precast Concrete utility vaults of various sizes. Used for in ground storage of utility facilities and controls. See Contract Plans for size and construction requirements. Shop drawings are to be provided for approval prior to casting.</td>
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<tr>
<td>22. Vault Risers - For use with Valve Vaults and Utilities Vaults.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>23. Valve Vault - For use with underground utilities. See Contract Plans for details.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>24. Precast Concrete Barrier - Precast Concrete Barrier for use as new barrier or may also be used as Temporary Concrete Barrier. Only new state approved barrier may be used as permanent barrier.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>ITEM DESCRIPTION</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
<td>-----</td>
<td>----</td>
</tr>
<tr>
<td>25. Reinforced Earth Wall Panels - Reinforced Earth Wall Panels in size and shape as shown in the Plans. Fabrication plant has annual approval for methods and materials to be used. See Shop Drawing. Fabrication at other locations may be approved, after facilities inspection, contact HQ. Lab.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>26. Precast Concrete Walls - Precast Concrete Walls - tilt-up wall panel in size and shape as shown in Plans. Fabrication plant has annual approval for methods and materials to be used.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>27. Precast Railroad Crossings - Concrete Crossing Structure Slabs.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>28. 12, 18 and 26 inch Standard Precast Prestressed Girder - Standard Precast Prestressed Girder for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)c.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>29. Prestressed Concrete Girder Series 4-14 - Prestressed Concrete Girders for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)c.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>30. Prestressed Tri-Beam Girder - Prestressed Tri-Beam Girders for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)c.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>31. Prestressed Precast Hollow-Core Slab - Precast Prestressed Hollow-core slab for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)c.</td>
<td></td>
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<tr>
<td>ITEM DESCRIPTION</td>
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<td>---------------------------------------------------------------------------------</td>
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<tr>
<td>32. Prestressed-Bulb Tee Girder - Bulb Tee Prestressed Girder for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(26)A.</td>
<td></td>
<td>X</td>
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<tr>
<td>33. Monument Case and Cover - To meet AASHTO-M-105 class 30 gray iron casting. See Std. Plan H-7.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>34. Cantilever Sign Structure - Cantilever Sign Structure fabricated from steel tubing meeting AASHTO-M-183. See Std. Plans G-3, G-3a, and Contract Plans for details. The steel structure shall be galvanized after fabrication in accordance with AASHTO-M-111.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>35. Mono-tube Sign Structures - Mono-tube Sign Bridge fabricated to details shown in the Plans. Shop drawings for approval are required prior to fabrication.</td>
<td></td>
<td>X</td>
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<tr>
<td>36. Steel Sign Bridges - Steel Sign Bridges fabricated from steel tubing meeting AASHTO-M-138 for Aluminum Alloys. See Std. Plans G-2, G2a, G-2b, and Contract Plans for details. The steel structure shall be galvanized after fabrication in accordance with AASHTO-M-111.</td>
<td></td>
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<tr>
<td>37. Steel Sign Post - Fabricated steel sign posts as detailed in Std. Plan G-8. Shop drawings for approval are to be provided prior to fabrication.</td>
<td></td>
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<tr>
<td>38. Light Standard-Prestressed - Spun, prestressed, hollow, concrete poles.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>39. Light Standards - Lighting Standards for use on highway illumination systems, poles to be fabricated to conform with methods and materials as specified on Std. Plan J-1, J-1a, and J-1b. See Special Provisions for pre-approved drawings.</td>
<td></td>
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<tr>
<td>ITEM DESCRIPTION</td>
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<td>NO</td>
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<td>------------------</td>
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<tr>
<td>40. Traffic Signal Standards - Traffic Signal Standards for X use on highway and/or street signal systems. Standards to be fabricated to conform with methods and material as specified on Std. Plans J-1, J-7a, J-7c, and J-8. See Special Provisions for pre-approved drawings.</td>
<td></td>
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<tr>
<td>41. Traffic Curb, Type A or C Precast - Type A or C Precast traffic curb, for use in construction of raised channelization, and other traffic delineation uses such as parking lots, rest areas, etc. NOTE: Acceptance based on inspection of Fabrication Plant and an advance sample of curb section to be submitted for approval by Engineer.</td>
<td>X</td>
<td></td>
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<tr>
<td>42. Traffic Signs - Prior to approval of a Fabricator of Traffic Signs, the sources of the following signing materials must be submitted and approved for reflective sheeting, legend material, and aluminum sheeting. NOTE: Fabrication inspection required. Only signs tagged &quot;Fabrication Approved&quot; by WSDOT Sign Fabrication Inspector to be installed.</td>
<td>X custom</td>
<td>X std. msg</td>
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<tr>
<td>43. Cutting &amp; bending reinforcing steel</td>
<td>X</td>
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<tr>
<td>44. Guardrail components</td>
<td>X custom</td>
<td>X standard end sect. sect.</td>
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<td>45. Aggregates/Concrete mixes</td>
<td>Covered by WAC 296-127-018</td>
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<tr>
<td>46. Asphalt</td>
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<tr>
<td>47. Fiber fabrics</td>
<td>X</td>
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<td>48. Electrical wiring/components</td>
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<td></td>
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<td>49. treated or untreated timber piles</td>
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<tr>
<td>50. Girder pads (elastomeric bearing)</td>
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<td>X</td>
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<tr>
<td>51. Standard Dimension lumber</td>
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<td>52. Irrigation components</td>
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<td>53. Fencing materials</td>
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<td>54. Guide Posts</td>
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<td>55. Traffic Buttons</td>
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<td>56. Epoxy</td>
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<td>57. Cribbing</td>
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<td>58. Water distribution materials</td>
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<td>59. Steel &quot;H&quot; piles</td>
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<td>60. Steel pipe for concrete pile casings</td>
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<td>61. Steel pile tips, standard</td>
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<tr>
<td>62. Steel pile tips, custom</td>
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The PREVAILING WAGES listed here include both the hourly wage rate and the hourly rate of fringe benefits. On public works projects, workers' wage and benefit rates must add to not less than this total. A brief description of overtime calculation requirements is provided on the Benefit Code Key.

**METAL FABRICATION (IN SHOP)**
**EFFECTIVE 08-31-07**

(See Benefit Code Key)

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</table>
## METAL FABRICATION (IN SHOP)
**EFFECTIVE 08-31-07**

(See Benefit Code Key)

<table>
<thead>
<tr>
<th>Classification Code</th>
<th>PREVAILING WAGE</th>
<th>Over Time Code</th>
<th>Holiday Code</th>
</tr>
</thead>
</table>

**Counties Covered:**

**CLALLAM**

- FITTER/WELDER: $15.16, 1
- LABORER: $9.50, 1
- MACHINE OPERATOR: $26.90, 1
- PAINTER: $11.41, 1

**Counties Covered:**

**CLARK**

- FITTER: $25.84, 1
- LABORER: $17.56, 1
- LAYEROUT: $27.48, 1
- MACHINE OPERATOR: $27.12, 1
- PAINTER: $23.68, 1
- WELDER: $25.24, 1

**Counties Covered:**

**COLUMBIA, FERRY, GARFIELD, KITITAS, LINCOLN, PEND OREILLE AND WHITMAN**

- FITTER/WELDER: $12.76, 1
- LABORER: $8.13, 1
- MACHINE OPERATOR: $12.66, 1
- PAINTER: $10.20, 1

**Counties Covered:**

**COWLITZ**

- FITTER: $24.46, 1B, 6V
- LABORER: $17.46, 1
- MACHINE OPERATOR: $24.46, 1B, 6V
- WELDER: $24.46, 1B, 6V

**Counties Covered:**

**DOUGLAS**

- FITTER/WELDER: $12.76, 1
- LABORER: $8.13, 1
- MACHINE OPERATOR: $16.54, 1
- PAINTER: $10.20, 1

**Counties Covered:**

**FRANKLIN**

- FITTER/WELDER: $12.76, 1
- LABORER: $8.13, 1
- MACHINE OPERATOR: $12.66, 1
- PAINTER: $10.20, 1
- WELDER: $26.15, 1
# Metal Fabrication (In Shop)

**Effective 08-31-07**

(See Benefit Code Key)

<table>
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<tr>
<th>Classification Code</th>
<th>Prevailing Wage</th>
<th>Time Code</th>
<th>Holiday Code</th>
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</table>

**Counties Covered:**

**Grant**

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<th>Prevailing Wage</th>
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**Counties Covered:**

**Grays Harbor and Mason**

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<td>Fitter/Welder</td>
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**Counties Covered:**

**Island**

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<td>Painter</td>
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**Counties Covered:**

**Jefferson**

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<tr>
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**Counties Covered:**

**King**

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**Counties Covered:**

**Kitsap**

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### METAL FABRICATION (IN SHOP)
**EFFECTIVE 08-31-07**

(See Benefit Code Key)

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#### KLICKITAT

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#### LEWIS

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#### OKANOGAN

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#### PACIFIC

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*Supplemental To Wage Rates*
### METAL FABRICATION (IN SHOP)
#### EFFECTIVE 08-31-07

(See Benefit Code Key)

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**Supplemental To Wage Rates**
## METAL FABRICATION (IN SHOP)
### EFFECTIVE 08-31-07

(See Benefit Code Key)

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# FABRICATED PRECAST CONCRETE PRODUCTS

**EFFECTIVE 08-31-07**

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**Supplemental To Wage Rates**
FABRICATED PRECAST CONCRETE PRODUCTS
EFFECTIVE 08-31-07

(See Benefit Code Key)

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WSDOT's List of State Occupation not applicable to Heavy and Highway Construction Projects

This project is subject to the state hourly minimum rates for wages and fringe benefits in the contract provisions, as provided by the state Department of Labor and Industries. The following list of occupations, is comprised of those occupations that are not normally used in the construction of heavy and highway projects. When considering job classifications for use and/or payment when bidding on, or building heavy and highway construction projects for, or administered by WSDOT, these Occupations will be exempted from the included "Washington State Prevailing Wage Rates For Public Work Contracts" documents.

- Electrical Fixture Maintenance Workers
- Electricians - Motor Shop
- Heating Equipment Mechanics
- Industrial Engine and Machine Mechanics
- Industrial Power Vacuum Cleaners
- Inspection, Cleaning, Sealing of Water Systems by Remote Control
- Laborers - Underground Sewer & Water
- Machinists (Hydroelectric Site Work)
- Modular Buildings
- Playground & Park Equipment Installers
- Power Equipment Operators - Underground Sewer & Water
- Residential *** ALL ASSOCIATED RATES ***
- Sign Makers and Installers (Non-Electrical)
- Sign Makers and Installers (Electrical)
- Stage Rigging Mechanics (Non Structural)

The following occupations may be used only as outlined in the preceding text concerning "WSDOT's list for Suppliers - Manufacturers - Fabricators"

- Fabricated Precast Concrete Products
- Metal Fabrication (In Shop)

Definitions for the Scope of Work for prevailing wages may be found at the Washington State Department of Labor and Industries web site and in WAC Chapter 296-127.
Washington State Department of Labor and Industries
Policy Statements
(Regarding Production and Delivery of Gravel, Concrete, Asphalt, etc.)

The following two letters from the State Department of Labor and Industries (State L&I) dated August 18, 1992 and June 18, 1999, clarify the intent and establish policy for administrating the provisions of WAC 296-127-018 COVERAGE AND EXEMPTIONS OF WORKERS INVOLVED IN THE PRODUCTION AND DELIVERY OF GRAVEL, CONCRETE, ASPHALT, OR SIMILAR MATERIALS.

Any firm with questions regarding the policy, these letters, or for determinations of covered and non-covered workers shall be directed to State L&I at (360) 902-5330.

Effective September 1, 1993, minimum prevailing wages for all work covered by WAC 296-127-018 for the production and/or delivery of materials to a public works contract will be found under the regular classification of work for Teamsters, Power Equipment Operators, etc.
August 18, 1992

TO: All Interested Parties

FROM: Jim P. Christensen
Acting Industrial Statistician

SUBJECT: Materials Suppliers - WAC 296-127-018

This memo is intended to provide greater clarity regarding the application of WAC 296-127-018 to awarding agencies, contractors, subcontractors, material suppliers and other interested parties. The information contained herein should not be construed to cover all possible scenarios which might require the payment of prevailing wage. The absence of a particular activity under the heading "PREVAILING WAGES ARE REQUIRED FOR" does not mean that the activity is not covered.

Separate Material Supplier Equipment Operator rates have been eliminated. For those cases where a production facility is set up for the specific purpose of supplying materials to a public works construction site, prevailing wage rates for operators of equipment such as crushers and batch plants can be found under Power Equipment Operators.

**PREVAILING WAGES ARE REQUIRED FOR:**

1. Hauling materials away from a public works project site, including excavated materials, demolished materials, etc.

2. Delivery of materials to a public works project site using a method that involves incorporation of the delivered materials into the project site, such as spreading, leveling, rolling, etc.

3. The production of materials at a facility that is established for the specific, but not necessarily exclusive, purpose of supplying materials for a public works project.

4. Delivery of the materials mentioned in #3 above, regardless of the method of delivery.

**PREVAILING WAGES ARE NOT REQUIRED FOR:**

1. The production of materials by employees of an established materials supplier, in a permanent facility, as well as the delivery of these materials, as long as delivery does not include incorporation of the materials into the job site.

2. Delivery of materials by a common or contract carrier, as long as delivery does not include incorporation of the materials into the job site.

3. Production of materials for unspecified future use.
TO: Kerry S. Radcliff, Editor  
Washington State Register

FROM: Gary Moore, Director  
Department of Labor and Industries

SUBJECT: Notice re WAC 296-127-018, Coverage and exemptions of workers involved in the production and delivery of gravel, concrete, asphalt, or similar materials

The department wishes to publish the following Notice in the next edition of the Washington State Register:

NOTICE

Under the current material supplier regulations, WAC 296-127-018, the department takes the position that prevailing wages do not apply to the delivery of wet concrete to public works sites, unless the drivers do something more than just deliver the concrete. Drivers delivering concrete into a crane and bucket, hopper of a pump truck, or forms or footings, are not entitled to prevailing wages unless they operate machinery or use tools that screed, float, or put a finish on the concrete.

This position applies only to the delivery of wet concrete. It does not extend to the delivery of asphalt, sand, gravel, crushed rock, or other similar materials covered under WAC 296-127-018. The department's position applies only to this regulation.

If you need additional information regarding this matter, please contact Greg Mowat, Program Manager, Employment Standards, at P.O. Box 44510, Olympia, WA 98504-4510, or call (360) 902-5310.

Please publish the above Notice in WSR 99-13. If you have questions or need additional information, please call Selwyn Walters at 902-4206. Thank you.

Cc: Selwyn Walters, Rules Coordinator  
Patrick Woods, Assistant Director  
Greg Mowat, Program Manager
OVERTIME CODES

OVERTIME CALCULATIONS ARE BASED ON THE HOURLY RATE ACTUALLY PAID TO THE WORKER. ON PUBLIC WORKS PROJECTS, THE HOURLY RATE MUST BE NOT LESS THAN THE PREVAILING RATE OF WAGE MINUS THE HOURLY RATE OF THE COST OF FRINGE BENEFITS ACTUALLY PROVIDED FOR THE WORKER.

1. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

A. ALL HOURS WORKED ON SATURDAYS, SUNDAYS AND HOLIDAYS SHALL ALSO BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

B. ALL HOURS WORKED ON SATURDAYS SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON SUNDAYS AND HOLIDAYS SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

C. THE FIRST TWO (2) HOURS AFTER EIGHT (8) REGULAR HOURS MONDAY THROUGH FRIDAY AND THE FIRST TEN (10) HOURS ON SATURDAY SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL OTHER OVERTIME HOURS WORKED SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

D. THE FIRST TWO (2) HOURS BEFORE OR AFTER A FIVE - EIGHT (8) HOUR WORK WEEK DAY OR A FOUR - TEN (10) HOUR WORK WEEK DAY AND THE FIRST EIGHT (8) HOURS WORKED THE NEXT DAY AFTER EITHER WORK WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL ADDITIONAL HOURS WORKED AND ALL WORKED ON SUNDAYS AND HOLIDAYS SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

E. THE FIRST TWO (2) HOURS AFTER EIGHT (8) REGULAR HOURS MONDAY THROUGH FRIDAY AND THE FIRST EIGHT (8) HOURS ON SATURDAY SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL OTHER HOURS WORKED MONDAY THROUGH SATURDAY, AND ALL HOURS WORKED ON SUNDAYS AND HOLIDAYS SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

F. THE FIRST TWO (2) HOURS AFTER EIGHT (8) REGULAR HOURS MONDAY THROUGH FRIDAY AND THE FIRST TEN (10) HOURS ON SATURDAY SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL OTHER OVERTIME HOURS WORKED, EXCEPT LABOR DAY, SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON LABOR DAY SHALL BE PAID AT THREE TIMES THE HOURLY RATE OF WAGE.

G. THE FIRST TEN (10) HOURS WORKED ON SATURDAYS AND THE FIRST TEN (10) HOURS WORKED ON A FIFTH CALENDAR WEEKDAY IN A FOUR - TEN HOUR SCHEDULE SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON SATURDAY OVER TWELVE (12) HOURS AND ALL HOURS WORKED ON SUNDAYS AND HOLIDAYS SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

H. ALL HOURS WORKED ON SATURDAYS (EXCEPT MAKEUP DAYS IF WORK IS LOST DUE TO INCLEMENT WEATHER CONDITIONS OR EQUIPMENT BREAKDOWN) SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED MONDAY THROUGH SATURDAY OVER TWELVE (12) HOURS AND ALL HOURS WORKED ON SUNDAYS AND HOLIDAYS SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

J. THE FIRST TWO (2) HOURS AFTER EIGHT (8) REGULAR HOURS MONDAY THROUGH FRIDAY AND THE FIRST TEN (10) HOURS ON SATURDAY SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED OVER TEN (10) HOURS MONDAY THROUGH SATURDAY, SUNDAYS AND HOLIDAYS SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

K. ALL HOURS WORKED ON SATURDAYS AND SUNDAYS SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON HOLIDAYS SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

L. ALL HOURS WORKED IN EXCESS OF TEN (10) HOURS PER DAY MONDAY THROUGH SATURDAY AND ALL HOURS WORKED ON SUNDAYS AND HOLIDAYS SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

M. ALL HOURS WORKED ON SATURDAYS (EXCEPT MAKEUP DAYS IF WORK IS LOST DUE TO INCLEMENT WEATHER CONDITIONS) SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON SUNDAYS AND HOLIDAYS SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

N. ALL HOURS WORKED ON SATURDAYS (EXCEPT MAKEUP DAYS) SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON SUNDAYS AND HOLIDAYS SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

O. THE FIRST TEN (10) HOURS WORKED ON SATURDAY SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON SUNDAYS, HOLIDAYS AND AFTER TWELVE (12) HOURS, MONDAY THROUGH FRIDAY, AND AFTER TEN (10) HOURS ON SATURDAY SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.

P. ALL HOURS WORKED ON SATURDAYS (EXCEPT MAKEUP DAYS IF CIRCUMSTANCES WARRANT) AND SUNDAYS SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE. ALL HOURS WORKED ON HOLIDAYS SHALL BE PAID AT DOUBLE THE HOURLY RATE OF WAGE.
1. Q. The first two (2) hours after eight (8) regular hours Monday through Friday and up to ten (10) hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of ten (10) hours per day Monday through Saturday and all hours worked on Sundays and holidays (except Christmas Day) shall be paid at double the hourly rate of wage. All hours worked on Christmas Day shall be paid at two and one-half times the hourly rate of wage.

R. All hours worked on Sundays and holidays shall be paid at two times the hourly rate of wage.

S. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours worked, except Labor Day, shall be paid at double the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage.

T. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal shift, and all work on Saturdays shall be paid at time and one-half the straight time rate. Hours worked over twelve hours (12) in a single shift and all work performed after 6:00 PM Saturday to 6:00 AM Monday and holidays shall be paid at double the straight time rate of pay. The employer shall have the sole discretion to assign overtime work to employees. Primary consideration for overtime work shall be given to employees regularly assigned to the work to be performed on overtime situations. After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more.

U. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays (except Labor Day) shall be paid at two times the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage.

V. All hours worked on Saturdays, Sundays and holidays (except Thanksgiving Day and Christmas Day) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Thanksgiving Day and Christmas Day shall be paid at double the hourly rate of wage.

W. All hours worked on Saturdays and Sundays (except make-up days due to conditions beyond the control of the employer) shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.

X. The first four (4) hours after eight (8) regular hours Monday through Friday and the first twelve (12) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked over twelve (12) hours Monday through Saturday, Sundays and holidays shall be paid at double the hourly rate of wage. When holiday falls on Saturday or Sunday, the day before Saturday, Friday, and the day after Sunday, Monday, shall be considered the holiday and all work performed shall be paid at double the hourly rate of wage.

2. All hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be paid at one and one-half times the hourly rate of wage.

A. The first six (6) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of six (6) hours on Saturday and all hours worked on Sundays and holidays shall be paid at two times the hourly rate of wage.

B. All hours worked on holidays shall be paid at one and one-half times the hourly rate of wage.

C. All hours worked on Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at two times the hourly rate of wage.

D. All hours worked on Saturdays and Sundays shall be paid at one and one-half times the hourly rate of wage. The first eight (8) hours worked on holidays shall be paid at straight time in addition to the holiday pay. All hours worked in excess of eight (8) hours on holidays shall be paid at one and one-half times the hourly rate of wage.

E. All hours worked on Saturdays or holidays (except Labor Day) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays or on Labor Day shall be paid at two times the hourly rate of wage.

F. The first eight (8) hours worked on holidays shall be paid at the straight hourly rate of wage in addition to the holiday pay. All hours worked in excess of eight (8) hours on holidays shall be paid at double the hourly rate of wage.
BENEFIT CODE KEY - EFFECTIVE 08-31-97

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G. All hours worked on Sunday shall be paid at two times the hourly rate of wage. All hours worked on paid holidays shall be paid at two and one-half times the hourly rate of wage including holiday pay.

H. All hours worked on Sunday shall be paid at two times the hourly rate of wage. All hours worked on holidays shall be paid at one and one-half times the hourly rate of wage.

I. All hours worked on Saturdays and holidays (except Labor Day) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and on Labor Day shall be paid at two times the hourly rate of wage.

J. All hours worked on Sundays shall be paid at two times the hourly rate of wage. All hours worked on holidays shall be paid at two and one-half times the hourly rate of wage, including the holiday pay. All hours worked on unpaid holidays shall be paid at two times the hourly rate of wage.

K. All hours worked on holidays shall be paid at two times the hourly rate of wage in addition to the holiday pay.

M. All hours worked on Saturdays, Sundays and holidays shall be paid at double the hourly rate of wage.

O. All hours worked on Sundays and holidays shall be paid at one and one-half times the hourly rate of wage.

P. The first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of eight (8) hours on Saturday and all hours worked on Sundays and holidays shall be paid at two times the hourly rate of wage.

4A. All hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be paid at double the hourly rate of wage. All hours worked on Saturdays, Sundays and holidays shall be paid at double the hourly rate of wage.

HOLIDAY CODES


 BENEFIT CODE KEY - EFFECTIVE 08-31-07

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P. HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, FRIDAY AND SATURDAY AFTER THANKSGIVING DAY, THE DAY BEFORE CHRISTMAS, AND CHRISTMAS DAY (9).

Q. PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, AND CHRISTMAS DAY (6).

R. PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, DAY AFTER THANKSGIVING DAY, ONE-HALF DAY BEFORE CHRISTMAS DAY, AND CHRISTMAS DAY. (7 1/2).

S. PAID HOLIDAYS: NEW YEAR'S DAY, PRESIDENTS' DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, AND CHRISTMAS DAY (7).


V. PAID HOLIDAYS: SIX (6) PAID HOLIDAYS.

W. PAID HOLIDAYS: NINE (9) PAID HOLIDAYS.

X. HOLIDAYS: AFTER 520 HOURS - NEW YEAR'S DAY, THANKSGIVING DAY AND CHRISTMAS DAY. AFTER 2080 HOURS - NEW YEAR'S DAY, WASHINGTON'S BIRTHDAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, CHRISTMAS DAY AND A FLOATING HOLIDAY (8).

Y. HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, PRESIDENTIAL ELECTION DAY, THANKSGIVING DAY, THE FRIDAY FOLLOWING THANKSGIVING DAY, AND CHRISTMAS DAY (8).

Z. HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, VETERANS DAY, THANKSGIVING DAY, THE FRIDAY AFTER THANKSGIVING DAY, AND CHRISTMAS DAY (8).

A. PAID HOLIDAYS: NEW YEAR'S DAY, PRESIDENTS' DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, THE FRIDAY AFTER THANKSGIVING DAY, AND CHRISTMAS DAY (8).

B. PAID HOLIDAYS: NEW YEAR'S EVE DAY, NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, THE FRIDAY AFTER THANKSGIVING DAY, CHRISTMAS EVE'S DAY, AND CHRISTMAS DAY (9).


I. PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, FRIDAY AFTER THANKSGIVING DAY, AND CHRISTMAS DAY (7).


Q. PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, VETERANS DAY, THANKSGIVING DAY, THE DAY AFTER THANKSGIVING DAY AND CHRISTMAS DAY (8). UNPAID HOLIDAY, PRESIDENTS' DAY.


V. PAID HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, DAY AFTER THANKSGIVING DAY, CHRISTMAS EVE DAY, CHRISTMAS DAY, AND ONE DAY OF THE EMPLOYEE'S CHOICE (9).
W. PAID HOLIDAYS: NEW YEAR'S DAY, DAY BEFORE NEW YEAR'S DAY, PRESIDENTS DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, DAY AFTER THANKSGIVING DAY, CHRISTMAS DAY, DAY BEFORE OR AFTER CHRISTMAS DAY (10).

X. PAID HOLIDAYS: NEW YEAR'S DAY, DAY BEFORE OR AFTER NEW YEAR'S DAY, PRESIDENTS DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, DAY AFTER THANKSGIVING DAY, CHRISTMAS DAY, DAY BEFORE OR AFTER CHRISTMAS DAY, EMPLOYEE'S BIRTHDAY (11).

NOTE CODES

8. A. THE STANDBY RATE OF PAY FOR DIVERS SHALL BE ONE-HALF TIMES THE DIVERS RATE OF PAY. IN ADDITION TO THE HOURLY WAGE AND FRINGE BENEFITS, THE FOLLOWING DEPTH PREMIUMS APPLY TO DEPTHS OF FIFTY FEET OR MORE:
   OVER 50' TO 100' - $1.00 PER FOOT FOR EACH FOOT OVER 50 FEET
   OVER 100' TO 175' - $2.25 PER FOOT FOR EACH FOOT OVER 100 FEET
   OVER 175' TO 250' - $5.50 PER FOOT FOR EACH FOOT OVER 175 FEET
   OVER 250' - DIVERS MAY NAME THEIR OWN PRICE, PROVIDED IT IS NO LESS THAN THE SCALE LISTED FOR 250 FEET

C. THE STANDBY RATE OF PAY FOR DIVERS SHALL BE ONE-HALF TIMES THE DIVERS RATE OF PAY. IN ADDITION TO THE HOURLY WAGE AND FRINGE BENEFITS, THE FOLLOWING DEPTH PREMIUMS APPLY TO DEPTHS OF FIFTY FEET OR MORE:
   OVER 50' TO 100' - $1.00 PER FOOT FOR EACH FOOT OVER 50 FEET
   OVER 100' TO 150' - $1.50 PER FOOT FOR EACH FOOT OVER 100 FEET
   OVER 150' TO 200' - $2.00 PER FOOT FOR EACH FOOT OVER 150 FEET
   OVER 200' - DIVERS MAY NAME THEIR OWN PRICE

D. WORKERS WORKING WITH SUPPLIED AIR ON HAZMAT PROJECTS RECEIVE AN ADDITIONAL $1.00 PER HOUR.

L. WORKERS ON HAZMAT PROJECTS RECEIVE ADDITIONAL HOURLY PREMIUMS AS FOLLOWS - LEVEL A: $0.75, LEVEL B: $0.50, AND LEVEL C: $0.25.

M. WORKERS ON HAZMAT PROJECTS RECEIVE ADDITIONAL HOURLY PREMIUMS AS FOLLOWS: LEVELS A & B: $1.00, LEVELS C & D: $0.50.

N. WORKERS ON HAZMAT PROJECTS RECEIVE ADDITIONAL HOURLY PREMIUMS AS FOLLOWS - LEVEL A: $1.00, LEVEL B: $0.75, LEVEL C: $0.50, AND LEVEL D: $0.25.

9. A. SHIFT DIFFERENTIAL: SWING FROM 4:30 PM TO 1 AM IS WAGE PLUS 17.2%
   GRAVEYARD FROM 12:30 AM TO 9:00 AM IS WAGE PLUS 31.4%

B. SHIFT DIFFERENTIAL: SWING FROM 4:30 PM TO 12:30 AM IS WAGE PLUS 16% FOR 7 ½ HOURS WORKED
   GRAVEYARD FROM 12:30 AM TO 9:00 AM IS WAGE PLUS 15% 7 HOURS WORKED
YAKAMA NATION PERMITS
Yakama Nation
Wildlife Resource Management Program

Date: March 27, 2007

To: Lloyd Mills, Water Code
Kim Pfaff, Engineer—Yakima County
Richard Beams, BIA-IDT Coordinator

Thru: Arlen Washines, WRMP—Program Manager

From: Laurel James, WRMP—IDT Representative

Re: Wildlife Report—Barkes Road Improvement Project

A recent review of proposed work relating to the Yakima County Barkes Road Improvement project has identified little to no potential for prolonged negative impacts on wildlife species or their habitats. Therefore, a “no effect” determination for general Wildlife concerns and “no effect” determination for Threatened & Endangered species are provided.

Overall, this project has been deemed necessary to allow for future work to be completed on Fort Road referencing a future bridge replacement project. The Barkes road project will provide a Fort Road detour with a design speed of 50 MPH. The work as proposed would occur within and will not exceed the existing “Right of Way” [ROW]. The existing road bed would be raised vertically to allow for the placement of new cross pipes. In doing so, minor disturbances to existing vegetative structure would be required and has been identified to occur within this ROW. These actions will not result in a profound negative impact to wildlife and their habitats.

Please contact me at 509-865-5121 ext. 6329 with any questions and/or concerns regarding this assessment. Thank You.

Cc: IDT, DNR-Admin., Transportation, WRMP files
Details of Application
Date of Application: July 19, 2007
Applicant Name: Yakima County Public Services
Contact: Kim Pfaff
Address: 128 North Second Street
          Yakima, WA 98901
          Work: 509-574-2329

Note: This Maintenance Hydraulic Project Approval permit pertains only to the provisions of the Yakama Nation Hydraulic Code and Water Code. It is the permittee’s responsibility to apply for and obtain any additional permits from other permitting agencies, State and Federal that may be necessary for this project.

PROPOSED ACTIVITY

Information listed on application is: Barkes Road improvement project to widen the two mile narrow two lane gravel roadway to a twenty-four foot, twenty-six foot and thirty foot width paved roadway. Project is between Fort Road and Branch Road which is the southern part of the boundary of Sections 1 and 2, Township 10 North, Range 17 East, W.M. and the northern part of the project of boundary of Sections 35 and 36 of Township 11 North, Range 17 East, W.M. The affected body of water is in the basins of Simcoe and Toppenish Creek.

IMPACTS
1) Soils: Impact will be minimal
2) Water: Impact will be minor or none
3) Vegetation: Impact will be minimal or none.
4) Air: There will be no impacts anticipated.
5) Fisheries & Wildlife: There will be no impacts anticipated.
6) Cultural Preservation: None
MITIGATION
Mitigation will be incorporated as necessary and prescribed by resource specialists and Water Code.

PROVISIONS
1. TIMING LIMITATIONS: The project may begin immediately and shall be completed by December 31, 2008. Work may occur if the stream is dry. If water is present, the following work windows shall be strictly adhered to:

<table>
<thead>
<tr>
<th>Stream and All Tributaries</th>
<th>Work Window</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yakima River</td>
<td>July 15 – September 15</td>
</tr>
<tr>
<td>- South Fork Ahtanum Creek</td>
<td>July 15 – August 31</td>
</tr>
<tr>
<td>- Ahtanum Creek (Mainstem)</td>
<td>July 15 – October 15</td>
</tr>
<tr>
<td>- Toppenish Creek, Simcoe Creek, Agency Creek, and all tributaries</td>
<td>July 1 – October 15</td>
</tr>
<tr>
<td>- Satus Creek</td>
<td>July 1 – October 15</td>
</tr>
<tr>
<td>- Wanity Slough</td>
<td>July 1 – October 15</td>
</tr>
<tr>
<td>Klickitat River</td>
<td>Not Authorized Under This HPA</td>
</tr>
</tbody>
</table>

2. NOTIFICATION REQUIREMENT: The permittee or contractor shall notify the Water Code Administration of the project start date. Notification shall be received by the WCA at least three working days prior to the start of construction activities. The notification shall include the permittee’s name, project location, starting date for work, and the permit number for this Maintenance Hydraulic Project Approval.

3. Debris may be removed from and/or repositioned within/or on Exterior Boundaries of the Yakama Reservation, Yakima County, State, BIA and bordering Irrigation Districts owned or maintained culverts and bridges, including their piers, braces, wingwalls and abutments.

4. Only large, non-embedded woody debris may be repositioned within a watercourse. Large woody debris shall not be removed but repositioned as long as it will not cause damage to existing capital structures. Large woody material shall be suspended during its repositioning or removal so no portion of the large woody material or limbs can damage the streambed or banks. It may be necessary to cut the large woody material in place to a size that allows suspension during removal.

5. Small woody debris (limbs and bark less than four inches in diameter) and non-embedded inorganic debris shall be removed so they will not re-enter the watercourse.

6. Debris removal or repositioning shall be accomplished in a manner that minimizes the release of bed material, fine sediment, logs, or debris.

7. Large woody material embedded in the bank or streambed shall be left undisturbed and intact. Embedded is defined as material that is buried by consolidated sediments (i.e. stream bank) or active bed sediments, including sediments deposited within the past year. Removal of embedded woody material shall require a separate Hydraulic application.
8. Removal or repositioning of bedload material (e.g. gravels) is not authorized by this Maintenance HPA.

9. Under no circumstances shall a blockage to stream flow or fish passage be created.

10. If at any time, as a result of project activities, fish are observed in distress, a fish kill occurs, or water quality problems develop (including equipment leaks or spills), operations shall cease and the Yakama Nation Water Code Administration shall be contacted immediately at 509-865-5121 Ext. 6122/6123/6124. Work shall not resume until further approval is given by the WCA.

11. If high flow conditions that may cause siltation are encountered during this project, work shall stop until the flow subsides.

12. Large woody material removal or repositioning shall be conducted with equipment stationed on the bank, bridge, or roadway. Equipment used for this project may operate below the ordinary high water line (OHWL), provided the drive mechanisms (wheels, tracks, tires, etc.) shall not enter or operate below the OHWL.

13. Equipment used for projects shall have vegetable based oils and fluids, and free of external petroleum-based products while working around the stream. The equipment shall be checked daily for leaks and any necessary repairs shall be completed prior to commencing work activities along the stream.

14. The use of explosives is not authorized.

15. No petroleum products, hydraulic fluid, chemicals, or any other toxic or deleterious materials shall enter or leach into the stream.

16. All waste material such as construction debris, silt, excess dirt or overburden resulting from this project shall be deposited above the limits of floodwater in an approved upland disposal site.

17. Within seven calendar days of each project completion, all disturbed soils shall be seeded with a native seed mix and protected from erosion with the placement of an erosion control blanket or a heavy mulch (a minimum of two inches in depth).

18. Alteration or disturbance of the bank and bank vegetation shall be limited to that necessary to remove and/or reposition debris. Within one year of project completion, altered or disturbed stream banks shall be revegetated with native woody species. Plants shall be planted at a maximum interval of three feet (on center) and maintained as necessary for three years to ensure 80 percent survival.

19. This Maintenance Hydraulic Project Approval (MHPA) is for work involving the stream only. This Maintenance HPA does not authorized trespass onto property not owned by the permittee. It is the permittee's responsibility to obtain permission to enter property owned by others.
Failure to comply with the terms, conditions, and scope of this permit or the provisions of the YN Hydraulic Code may result in the cancellation of this permit and/or civil penalties as listed in the YN Law and Order Code Title 60, Chapter 61 Hydraulic Code. This maintenance hydraulic project approval permit is to be available on the job site at all times and its provisions followed by the permittee and operator performing the work.

RATIONALE FOR THE DECISION

In arriving at this decision, I reviewed the environmental consequences of the proposed maintenance hydraulic project. In my judgment, at this time, the maintenance hydraulic project proposed under this permit represents an environmentally sound activity.

Please read carefully, sign, date and return this agreement. Your signature indicates that you understand and agree to the conditions set forth in this agreement. Project activities may commence when exact date is given and you sign, date and return this permit agreement.

Water Code Director

[Signature]

Date 12-18-07

I have read the foregoing permit and agree to comply with all conditions and measures set forth, in exchange for the Yakama Nation’s permission to proceed with maintenance hydraulic modifications.

[Signature]

Date 12-19-07

Permit Applicant
STANDARD PLANS
CONCRETE AND DUCTILE IRON PIPE

THERMOPLASTIC PIPE

METAL PIPE

NOTES
1. See Standard Specifications Section 7-08.3(3) for Pipe Zone Backfill.
2. See Standard Specifications Section 9-03.12(3) for Gravel Backfill for Pipe Zone Bedding.
3. See Standard Specifications Section 2-06.4 for Measurement of Trench Width.
4. For sanitary sewer installation, concrete pipe shall be bedded to spring line.

CLEARANCE BETWEEN PIPIES FOR MULTIPLE INSTALLATIONS

<table>
<thead>
<tr>
<th>PIPE</th>
<th>SIZE</th>
<th>MINIMUM DISTANCE BETWEEN BARRELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIRCULAR PIPE (DIAMETER)</td>
<td>12&quot; to 24&quot;</td>
<td>12&quot;</td>
</tr>
<tr>
<td></td>
<td>30&quot; to 36&quot;</td>
<td>DIAM. /2</td>
</tr>
<tr>
<td></td>
<td>102&quot; to 189&quot;</td>
<td>45&quot;</td>
</tr>
<tr>
<td>PIPE ARCH (SPAN) METAL ONLY</td>
<td>18&quot; to 36&quot;</td>
<td>12&quot;</td>
</tr>
<tr>
<td></td>
<td>43&quot; to 142&quot;</td>
<td>SPAN /3</td>
</tr>
<tr>
<td></td>
<td>145&quot; to 200&quot;</td>
<td>45&quot;</td>
</tr>
</tbody>
</table>
END SECTION LENGTH SHALL BE AT LEAST SIX TIMES THE DIAMETER OF THE PIPE (SEE STD. SPEC. 7-02.3(1))

NOTES

1. The culvert ends shall be beveled to match the embankment or ditch slope and shall not be beveled flatter than 4H:1V. When slopes are between 4H:1V and 8H:1V, shape the slope in the vicinity of the culvert end to ensure that no part of the culvert protrudes more than 4" above the ground line.

2. Field cutting of culvert ends is permitted when approved by the Engineer. All field-cut culvert pipe shall be treated with treatment as shown in the Standard Specifications or General Special Provisions.

FOR CULVERTS 30" DIAMETER OR LESS

BEVELED END SECTIONS

STANDARD PLAN B-70.20-00
NOTES
1. When required by the Contract, a Snow Load Post Washer shall be used on the backside of the post (in lieu of the 1 1/4" Post Bolt Washer) and a Snow Load Rail Washer shall be placed on the face side of Beam Guardrail Types 1 and 2. Snow Load Rail Washers shall not be installed on terminals.

2. Rail Washers, also called "Snow Load Rail Washers" are not required on new installation except as called for in Note 1. Unnecessary Rail washers need not be removed from existing installations, except those on posts 2 through 6 of a BCT installation shall be removed.

3. Beam Guardrail post spacing for Types 1 through 4 shall be 6' - 3" on centers.

4. Timber blocks shall be toe-nailed to the post with a 16d galvanized nail to prevent block rotation.

5. For post and block details, see Standard Plan C-1b.

6. When "Beam Guardrail Type 1 ___ Ft. Long Post" is specified in the Contract, the post length shall be stamped with numbers, 1 1/2" min. high and 1/4" deep, at the location where the letter "H" is shown in the ASSEMBLY DETAIL. After installing a Long Post, it shall be the Contractor's responsibility to ensure that the stamped numbers are still legible and 1/4" deep.

7. Existing posts shall not be replaced. Replace posts as necessary to achieve required guardrail height.
NOTES
1. Type 10 posts shall be 6x8 timber or W6x6.
   Type 11 posts shall be 10x10 timber or W6x16.
   For details, see "Standard Plan Beam Guardrail Posts and Stacks."
2. Type 10 guardrail post spacing shall be 6'-3" on center.
   Type 11 shall be a maximum of 3'-11 1/2" on center.
NOTES

1. Wood posts for all guardrail placement plans shall be 6x8 except where noted otherwise.

2. Lower hole is for tub rail of Type 2 and Type 3 Beam Guardrail.

3. 6x8 steel posts and timber blocks are alternates for 6x8 timber posts and blocks. 6x10 steel posts and timber blocks are alternates for 10x10 timber posts and blocks.

4. Holes shall be located on approaching traffic side of web.

5. When contract requires "Beam Guardrail Type 1, 24' Foot Long Post," the steel post length shall be marked with numbers to ensure permanent identification at the location where the latter "n" is shown on the detail. The marking shall be 1/2" MIN height.

6. Soil plate may be welded to foundation tube. If so, holes in soil plate and foundation tube may be omitted.
NOTES

1. For post details see Standard Plan, "Beam Guardrail Posts and Blocks".

DETAIL A

\( \frac{1}{4} \)" DIA x 1\( \frac{1}{2} \)" hex head bolt with hex nut and 1\( \frac{3}{8} \)" square x \( \frac{1}{32} \)" washer

Guardrail rests on top of bolt.

DETAIL B

\( \frac{1}{8} \)" DIA x \( \frac{1}{2} \)" Hex head bolt with hex nut.
NOTES
1. For wood posts, saw top of post and block to 1" above thrie beam guardrail reducer section. For steel posts, drive post down to 1" maximum above the thrie beam guardrail reducer section.
NOTES
1. Type 4 anchor required. For details, see Standard Plan C-2a.
2. Post spacing is 6'-3" unless otherwise shown.
3. For Terminal type and details, see Contract Plans and applicable Standard Plan(s).
4. The slope from the edge of the shoulder into the face of the guardrail should not exceed 12'-1' when the face of the guardrail is less than 12'-0" from the edge of the shoulder.
5. For one-way traffic, use Type 4 anchor. For two-way traffic, use Type 1 anchor. See applicable Standard Plan(s) for details.
5. When Beam Guardrail Flared Terminals are used on both ends a minimum of 25'-0" of Beam Guardrail shall be installed.

GUARDRAIL PLACEMENT
STANDARD PLAN C-2

APPROVED FOR PUBLICATION
March 14, 2000
Washington State Department of Transportation
Spokane, Washington
NOTES

1. For terminal type and details, see Contract and applicable Standard Plan(s).

2. The slope from the edge of the shoulder into the face of the guardrail should not be steeper than 10H:1V when the guardrail is within 12'-0" from the edge of the shoulder.

3. See Contract for Beam Guardrail Transition Section type and Connection to Bridge Traffic Barrier or Concrete Barrier.

<table>
<thead>
<tr>
<th>FLARE RATE TABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>POSTED SPEED</td>
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<tr>
<td>70</td>
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<td>60</td>
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<td>55</td>
</tr>
<tr>
<td>50</td>
</tr>
<tr>
<td>45</td>
</tr>
<tr>
<td>40 OR LESS</td>
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</tbody>
</table>

GUARDRAIL PLACEMENT
STANDARD PLAN C-2a
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Washington State Department of Transportation

6-21-06
NOTES

1. An ET-PLUS (TL3) as manufactured by Trinity Industries, Inc. or an SKT-350 as manufactured by Road Systems Inc. shall be installed according to manufacturer's recommendations. When a TL2 terminal is specified in the contract an ET-PLUS (TL2) as manufactured by Trinity Industries, Inc., or an SKT-TL2 as manufactured by Road Systems, Inc. shall be installed according to manufacturer's recommendations.

2. A reflectorized object marker shall be installed according to manufacturer's recommendations.

3. When snow load post washers and snow load rail washers are required by the contract, the snow load rail washers must not be installed within the terminal limits.

4. Terminal shall be installed at a taper, ensuring that end piece is entirely off shoulder.

5. Length for ET-PLUS (TL3) and SKT-350 is 50'. Length for ET-PLUS (TL2) and SKT-TL2 is 25'.

---

BEAM GUARDRAIL
NON-FLARED TERMINAL PAY LIMIT

(SEE NOTES 4 & 5)

10' MIN

EDGE OF WIDENED EMBANKMENT

6:1 TAPER

20:1 SLOPE OR FLATTER (RELATIVE TO GRADE)

10:1 SLOPE OR FLATTER

EDGE OF SHOULDER

ELEVATION

SEE NOTE 2

GROUND LINE

BEAM GUARDRAIL
NON-FLARED TERMINAL

STANDARD PLAN C-4d

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

WASHINGTON DEPARTMENT OF TRANSPORTATION

1/29/03

REVISED NOTES I & 9) ADDED 1/29/03

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION

HUNTS CO. 1-20-03

REVISED NOTES I & 9) ADDED 1/29/03

WASHINGTON DEPARTMENT OF TRANSPORTATION
NOTES

1. Anchor plate may be constructed from 1/4" plates welded to equal strength and dimensions as shown.

2. For end section details see Standard Plan "Beam Guardrail: End Sections".

3. For post details, see Standard Plan "Beam Guardrail Posts and Blocks".

4. Eight 5/8" x 1 1/2" machine bolts with hex nut and washer. Place washer on face side of rail.

5. Outside nut shall be torqued against inside nut a minimum of 100 ft-lbs.

6. Tension bearing plate with 16d nail at corners to prevent turning.

7. Anchor pay limit does not apply when anchor is included in a Beam Guardrail Terminal.
NOTES

1. End Section Design G shall be used except where noted on the plans or contract.

2. Attach guardrail to bridge rail or concrete barrier with 7/8" diameter high strength bolts (Standard Specification 9-05 5.4) with thin slab femur inserts or resin bonded anchors. See the Contract Plans.

3. A single piece having similar dimensional shape to Design G and mating with the W-beam guardrail is an alternate.

4. In cases where Design F end section is tapped on the outside of the guardrail, a galvanized 1" ID, 2" OD, 0.134" thick, narrow Type A Plain Washer or an anchor rail washer shall be placed under the splice bolt heads.

BEAM GUARDRAIL
END SECTIONS

STANDARD PLAN C-7

SHEET 1 OF 1 SHEET
NOTES
1. Maximize detention of stormwater by placing fence as far away from toe of slope as possible without encroaching on sensitive areas or outside of the clearing boundaries.
2. Install silt fencing along contours whenever possible.
3. Install the ends of the silt fence to point slightly up-slope to prevent sediment from flowing around the ends of the fence.
4. Perform maintenance in accordance with Standard Specifications 8.01.3(9)A and 8.01.3(15).
NOTE
Perform maintenance in accordance with Standard Specification B-01.3(8A) and B-01.3(15).

EROSION CONTROL AT CULVERT ENDS
STANDARD PLAN I-30.20-00
IMPROVEMENT PLANS
### SUMMARY OF QUANTITIES

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>ITEM DESCRIPTION</th>
<th>UNIT</th>
<th>TOTAL QUANTITY</th>
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<tbody>
<tr>
<td>1</td>
<td>MOBILIZATION</td>
<td>L.S.</td>
<td>1</td>
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<tr>
<td>2</td>
<td>CLEANING AND H pione</td>
<td>L.S.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>REMOVAL OF STRUCTURES AND OBSTRUCTIONS</td>
<td>L.S.</td>
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<tr>
<td>4</td>
<td>REMOVAL OF BH JEFFERSON</td>
<td>L.F.</td>
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<td>REMOVAL OF GUARDRAIL ANCHOR</td>
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<td>REMOVAL OF HIGH FENCE</td>
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<td>C.Y.</td>
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<td>SCHEDULE A COLLY PIPE 24 IN. DIA.</td>
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<td>NON-HOT MIX ASPHALT</td>
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<td>BEAM GUARDRAIL TYPE 1 - 5 FT. LONG POST</td>
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<td>BEAM GUARDRAIL TYPE 2 - 5 FT. LONG POST</td>
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<td>BEAM GUARDRAIL DRILLED TERMINAL 1</td>
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<td>BEAM GUARDRAIL DRILLED TERMINAL 2</td>
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<td>BEAM GUARDRAIL ANCHOR TYPE 1</td>
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<td>PAINT LINE</td>
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<td>PAINTED RAILROAD CROSSING SYMBOL</td>
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<td>PERMANENT SIGNING</td>
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<td>FLASHERS AND SPOTTERS</td>
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<td>TRAFFIC CONTROL SUPERVISOR</td>
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<td>CONSTRUCTION CROSSING PANELS</td>
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<td>MONUMENT CASE AND COVER EQUITY PLUMBING</td>
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<td>MINOR CHANGES</td>
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<td>SIGNAL PLAN</td>
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<td>CONSTRUCTION BEGITS FOR SOIL STABILIZATION</td>
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<td>BRIDGEO CROSING WORK</td>
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### APPROACH PIPE SCHEDULE

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<th>APPROACH SIZE</th>
<th>PIPE SIZE</th>
<th>PIPE LENGTH</th>
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<tbody>
<tr>
<td>16+43 L.</td>
<td>NO APPROACH</td>
<td>12'</td>
<td>15'</td>
</tr>
<tr>
<td>20+31 L.</td>
<td>20' F.E.</td>
<td>12'</td>
<td>32'</td>
</tr>
<tr>
<td>20+86 L.</td>
<td>20' F.E.</td>
<td>12'</td>
<td>32'</td>
</tr>
<tr>
<td>25+77 L.</td>
<td>20' F.E.</td>
<td>12'</td>
<td>75'</td>
</tr>
<tr>
<td>26+13 L.</td>
<td>20' D/W</td>
<td>12'</td>
<td>64'</td>
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<tr>
<td>26+71 L.</td>
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<td>32'</td>
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<tr>
<td>36+86 L.</td>
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<td>35'</td>
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<td>47+11 L.</td>
<td>20' F.E.</td>
<td>12'</td>
<td>32'</td>
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<td>53+97 L.</td>
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<td>45'</td>
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<td>79+11 L.</td>
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<td>32'</td>
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<td>79+54 L.</td>
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<td>12'</td>
<td>32'</td>
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<td>79+85 L.</td>
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<td>32'</td>
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<td>81+35 L.</td>
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<td>32'</td>
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<td>91+24 L.</td>
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<td>12'</td>
<td>32'</td>
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<td>93+19 L.</td>
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<td>32'</td>
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<td>96+50 L.</td>
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<td>12'</td>
<td>32'</td>
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<td>99+24 L.</td>
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<td>12'</td>
<td>32'</td>
</tr>
<tr>
<td>101+66 L.</td>
<td>30' D/W</td>
<td>12'</td>
<td>42'</td>
</tr>
<tr>
<td>101+66 L.</td>
<td>30' D/W</td>
<td>12'</td>
<td>42'</td>
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### CULVERT PIPE SCHEDULE

<table>
<thead>
<tr>
<th>STATION</th>
<th>DESCRIPTION</th>
<th>I.E. INLET</th>
<th>I.E. OUTLET</th>
<th>PIPE SIZE</th>
<th>PIPE LENGTH</th>
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<tbody>
<tr>
<td>0+39.16</td>
<td>CROSSING</td>
<td>845.40</td>
<td>844.50</td>
<td>12&quot;</td>
<td>75'</td>
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<tr>
<td>39+76.57</td>
<td>CROSSING</td>
<td>845.40</td>
<td>844.50</td>
<td>24&quot;</td>
<td>55'</td>
</tr>
</tbody>
</table>
GUARDRAIL PLAN VIEW
CULVERT NO. 0202

1. INSTALL GUARDRAIL TYPE 10 - 1 SPACE 6'-5 1/2" - 6 FT. LONG POSTS
2. INSTALL GUARDRAIL TYPE 10 - 1 SPACE 6'-5 1/2" - 6 FT. LONG POSTS
3. INSTALL GUARDRAIL REDUCER SECTION TYPE 5 - 2 SPACES 5'-1 1/2" - 5 FT. LONG POSTS
4. INSTALL GUARDRAIL REDUCER SECTION TYPE 5 - 2 SPACES 5'-1 1/2" - 5 FT. LONG POSTS
5. INSTALL GUARDRAIL REDUCER SECTION TYPE 5 - 2 SPACES 5'-1 1/2" - 5 FT. LONG POSTS
6. INSTALL GUARDRAIL TYPE 1 - 1 SPACE 6'-3 6" - 6 FT. LONG POSTS
7. INSTALL GUARDRAIL TYPE 1 - 1 SPACE 6'-3 6" - 6 FT. LONG POSTS
8. INSTALL GUARDRAIL TYPE 1 ANCHOR - PAY LIMIT
9. INSTALL GUARDRAIL TYPE 1 - 2 SPACES 6'-3 6" - 6 FT. LONG POSTS
10. INSTALL GUARDRAIL TYPE 1 - 2 SPACES 6'-3 6" - 6 FT. LONG POSTS

NOTE:
1) SALVAGE EXISTING GUARDRAIL, COORDINATE WITH YAKIMA COUNTY MAINTENANCE FOR PICKUP OF SALVAGED GUARDRAIL
2) CULVERT NO. 0202, ATTACH GUARDRAIL TYPE 10 USING WOOD POSTS, DRILL HOLES IN POST TO MATCH EXISTING LOCATIONS OF HOLES ON WOODEN BRIDGE, BOLT TO OUTSIDE STRINGERS AT THESE EXISTING LOCATIONS.

GUARDRAIL DETAIL - BEAM GUARDRAIL TRANSITION SECTION TYPE 6

NOTE:
- GUARDRAIL TRANSITION SECTION TYPE 6
- INSTALL GUARDRAIL TYPE 6 WITH WOOD POSTS - PAY LIMIT
- GUARDRAIL TRANSITION SECTION TYPE 6
GUARDRAIL PLAN VIEW

NOTE:
1) SALVAGE EXISTING GUARDRAIL,
   COORDINATE WITH YAKIMA COUNTY,
   MAINTENANCE FOR PICKUP OF SALVAGED
   GUARDRAIL.
BARKES ROAD

SEC. 02, T.10 N., R.17 E., W.M.

Tribe land
(T1002-9999)

CLEARING SHALL BE LIMITED TO THE MINIMUM
NECESSARY TO CONTRACT IMPROVEMENTS.
SITES OF ALL CLEARING MAY BE DISCUSSED.

45° C.A.P. stand pipe 10" steel.
New pipe may be pump station

INSTALL SLT. FENCE

INSTALL SLT. FENCE

INSTALL 12" L.P. OF 24" M.I. SCHEDULE A
SCHEDULE A APPROACH PIPE

40 0 40 80

40

660

ROADWAY EXCAVATION INCLUDING HALF = 270 C.Y.
ENDMENMENT = 366 C.Y.

VPI STA = 57+15.00
VPI EL = 331.15
CURVE LBD = 190.00

CENTERLINE PROFILE

EXISTING & PROFILE

PLAN AND PROFILE
STA. 35+00
TO
STA. 40+00

SHEET 13 OF 51
NOTE: CONTRACTOR IS RESPONSIBLE FOR SUBMITTING SITE SPECIFIC TRAFFIC CONTROL PLANS TO THE PROJECT ENGINEER FOR REVIEW AND APPROVAL.
# General Traffic Control Sign Specifications

<table>
<thead>
<tr>
<th>Sign No.</th>
<th>MUTCD Sign #</th>
<th>Location</th>
<th>Sign Size</th>
<th>Sheeting Type</th>
<th>Post Material</th>
<th>Post Size</th>
<th>Post Length</th>
<th>Clearance</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>M22-1</td>
<td>Fort Rd., 750 ft. W of Bakers Rd.</td>
<td>40&quot; 40&quot;</td>
<td>I</td>
<td>Nood</td>
<td>4&quot;x4&quot;</td>
<td>20&quot;</td>
<td>1/2&quot;</td>
</tr>
<tr>
<td>2</td>
<td>M22-2</td>
<td>Fort Rd., 500 ft. W of Bakers Rd.</td>
<td>36&quot; 16&quot;</td>
<td>I</td>
<td>Nood</td>
<td>4&quot;x4&quot;</td>
<td>14&quot;</td>
<td>1/2&quot;</td>
</tr>
<tr>
<td>3</td>
<td>M22-1</td>
<td>Fort Rd., 750 ft. E of Bakers Rd.</td>
<td>40&quot; 40&quot;</td>
<td>I</td>
<td>Nood</td>
<td>4&quot;x4&quot;</td>
<td>20&quot;</td>
<td>1/2&quot;</td>
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<tr>
<td>4</td>
<td>M22-2</td>
<td>Fort Rd., 500 ft. E of Bakers Rd.</td>
<td>36&quot; 16&quot;</td>
<td>I</td>
<td>Nood</td>
<td>4&quot;x4&quot;</td>
<td>14&quot;</td>
<td>1/2&quot;</td>
</tr>
<tr>
<td>5</td>
<td>M22-1</td>
<td>Branch Rd., 750 ft. W of Bakers Rd.</td>
<td>40&quot; 40&quot;</td>
<td>I</td>
<td>Nood</td>
<td>4&quot;x4&quot;</td>
<td>21&quot;</td>
<td>1/2&quot;</td>
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<tr>
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<td>Nood</td>
<td>4&quot;x4&quot;</td>
<td>16&quot;</td>
<td>1/2&quot;</td>
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<tr>
<td>7</td>
<td>M22-2</td>
<td>Branch Rd., 500 ft. E of Bakers Rd.</td>
<td>36&quot; 16&quot;</td>
<td>I</td>
<td>Nood</td>
<td>4&quot;x4&quot;</td>
<td>15&quot;</td>
<td>1/2&quot;</td>
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<tr>
<td>8</td>
<td>M22-1</td>
<td>Branch Rd., 750 ft. E of Bakers Rd.</td>
<td>40&quot; 40&quot;</td>
<td>I</td>
<td>Nood</td>
<td>4&quot;x4&quot;</td>
<td>17&quot;</td>
<td>1/2&quot;</td>
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<tr>
<td>9</td>
<td>M22-2</td>
<td>Bakers Rd., 500 ft. N of Branch Rd.</td>
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<td>Nood</td>
<td>4&quot;x4&quot;</td>
<td>14&quot;</td>
<td>1/2&quot;</td>
</tr>
<tr>
<td>10</td>
<td>M22-1</td>
<td>Bakers Rd., 750 ft. N of Branch Rd.</td>
<td>40&quot; 40&quot;</td>
<td>I</td>
<td>Nood</td>
<td>4&quot;x4&quot;</td>
<td>18&quot;</td>
<td>1/2&quot;</td>
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</tbody>
</table>

**NOTES:**
1. MUTCD (Manual on Uniform Traffic Control Devices).
2. For structure and mounting details, see Standard Plans for Road and Bridge Construction, Series G.
3. For code references and standard sign layout details, see Standard Highway Sign Book.
4. Post lengths shown are approximate. Final values shall be determined in the field by the Contractor.
5. W-distance from the existing shoulder, or face of curb, to the sign post.
6. All signs, posts, and any other traffic control devices shall be supplied, erected and maintained by the contractor.
7. The posts shall not protrude above the signs.

---

**Note:** Contractor is responsible for submitting site-specific traffic control plans to the project engineer for review and approval.

---

**Typical Sign Installation**

![Typical Sign Installation Diagram]

---

**General Traffic Control Plan**

**Sheet 32 of 51**
# ROAD CLOSURE SIGN SPECIFICATIONS

<table>
<thead>
<tr>
<th>SIGN NO.</th>
<th>MUTCD SIGN #</th>
<th>LOCATION</th>
<th>SIGN SIZE</th>
<th>SHEETING TYPE</th>
<th>POST MATERIAL</th>
<th>POST SIZE</th>
<th>POST LENGTH</th>
<th>CLEARANCE</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SPECIAL</td>
<td>DAKES ROAD, AT STA. 30+00</td>
<td>46&quot; x 36&quot;</td>
<td>I</td>
<td>WOOD</td>
<td>4&quot; x 4&quot;</td>
<td>11&quot;</td>
<td>---</td>
<td>7' 10&quot;</td>
</tr>
<tr>
<td>2</td>
<td>SAME</td>
<td>SAME</td>
<td>36&quot; x 12&quot;</td>
<td>I</td>
<td>SAME</td>
<td>SAME</td>
<td>SAME</td>
<td>---</td>
<td>6&quot;</td>
</tr>
<tr>
<td>3</td>
<td>SPECIAL</td>
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<td>46&quot; x 36&quot;</td>
<td>I</td>
<td>WOOD</td>
<td>4&quot; x 4&quot;</td>
<td>10&quot;</td>
<td>---</td>
<td>7' 10&quot;</td>
</tr>
<tr>
<td>4</td>
<td>SAME</td>
<td>SAME</td>
<td>36&quot; x 12&quot;</td>
<td>I</td>
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<td>SAME</td>
<td>SAME</td>
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<td>6&quot;</td>
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<td>TYPE III BARRIERS (B)</td>
<td>DAKES ROAD, AT STA. 44+00</td>
<td>0&quot; x 5&quot;</td>
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<td>---</td>
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<td>7</td>
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<tr>
<td>8</td>
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<td>0&quot; x 5&quot;</td>
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<td>11</td>
<td>TYPE III BARRIERS (B)</td>
<td>DAKES ROAD, AT STA. 30+00</td>
<td>0&quot; x 5&quot;</td>
<td>---</td>
<td>---</td>
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<td>---</td>
</tr>
<tr>
<td>12</td>
<td>W02-3</td>
<td>DAKES ROAD, 500 FT. SOUTH FROM POINT OF CLOSURE</td>
<td>46&quot; x 40&quot;</td>
<td>I</td>
<td>WOOD</td>
<td>4&quot; x 4&quot;</td>
<td>16&quot;</td>
<td>---</td>
<td>7' 10&quot;</td>
</tr>
<tr>
<td>13</td>
<td>W02-3</td>
<td>DAKES ROAD, 1000 FT. SOUTH FROM POINT OF CLOSURE</td>
<td>46&quot; x 40&quot;</td>
<td>I</td>
<td>WOOD</td>
<td>4&quot; x 4&quot;</td>
<td>14&quot;</td>
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<td>7' 10&quot;</td>
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<tr>
<td>14</td>
<td>W02-3</td>
<td>DAKES ROAD, 1500 FT. SOUTH FROM POINT OF CLOSURE</td>
<td>46&quot; x 40&quot;</td>
<td>I</td>
<td>WOOD</td>
<td>4&quot; x 4&quot;</td>
<td>16&quot;</td>
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<tr>
<td>15</td>
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<td>DAKES ROAD, 2000 FT. SOUTH FROM POINT OF CLOSURE</td>
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<td>WOOD</td>
<td>4&quot; x 4&quot;</td>
<td>16&quot;</td>
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<td>7' 10&quot;</td>
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<tr>
<td>16</td>
<td>W02-3</td>
<td>DAKES ROAD, 2500 FT. SOUTH FROM POINT OF CLOSURE</td>
<td>46&quot; x 40&quot;</td>
<td>I</td>
<td>WOOD</td>
<td>4&quot; x 4&quot;</td>
<td>16&quot;</td>
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<td>7' 10&quot;</td>
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<tr>
<td>17</td>
<td>W02-3</td>
<td>DAKES ROAD, 3000 FT. SOUTH FROM POINT OF CLOSURE</td>
<td>46&quot; x 40&quot;</td>
<td>I</td>
<td>WOOD</td>
<td>4&quot; x 4&quot;</td>
<td>16&quot;</td>
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<td>7' 10&quot;</td>
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<tr>
<td>18</td>
<td>W02-3</td>
<td>DAKES ROAD, 3500 FT. SOUTH FROM POINT OF CLOSURE</td>
<td>46&quot; x 40&quot;</td>
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<td>WOOD</td>
<td>4&quot; x 4&quot;</td>
<td>16&quot;</td>
<td>---</td>
<td>7' 10&quot;</td>
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<tr>
<td>19</td>
<td>W02-3</td>
<td>DAKES ROAD, 4000 FT. SOUTH FROM POINT OF CLOSURE</td>
<td>46&quot; x 40&quot;</td>
<td>I</td>
<td>WOOD</td>
<td>4&quot; x 4&quot;</td>
<td>16&quot;</td>
<td>---</td>
<td>7' 10&quot;</td>
</tr>
<tr>
<td>20</td>
<td>W02-3</td>
<td>DAKES ROAD, 4500 FT. SOUTH FROM POINT OF CLOSURE</td>
<td>46&quot; x 40&quot;</td>
<td>I</td>
<td>WOOD</td>
<td>4&quot; x 4&quot;</td>
<td>16&quot;</td>
<td>---</td>
<td>7' 10&quot;</td>
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<tr>
<td>21</td>
<td>W02-3</td>
<td>DAKES ROAD, 5000 FT. SOUTH FROM POINT OF CLOSURE</td>
<td>46&quot; x 40&quot;</td>
<td>I</td>
<td>WOOD</td>
<td>4&quot; x 4&quot;</td>
<td>16&quot;</td>
<td>---</td>
<td>7' 10&quot;</td>
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<tr>
<td>22</td>
<td>W02-3</td>
<td>DAKES ROAD, 5500 FT. SOUTH FROM POINT OF CLOSURE</td>
<td>46&quot; x 40&quot;</td>
<td>I</td>
<td>WOOD</td>
<td>4&quot; x 4&quot;</td>
<td>16&quot;</td>
<td>---</td>
<td>7' 10&quot;</td>
</tr>
<tr>
<td>23</td>
<td>W02-3</td>
<td>DAKES ROAD, 6000 FT. SOUTH FROM POINT OF CLOSURE</td>
<td>46&quot; x 40&quot;</td>
<td>I</td>
<td>WOOD</td>
<td>4&quot; x 4&quot;</td>
<td>16&quot;</td>
<td>---</td>
<td>7' 10&quot;</td>
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<tr>
<td>24</td>
<td>W02-3</td>
<td>DAKES ROAD, 6500 FT. SOUTH FROM POINT OF CLOSURE</td>
<td>46&quot; x 40&quot;</td>
<td>I</td>
<td>WOOD</td>
<td>4&quot; x 4&quot;</td>
<td>16&quot;</td>
<td>---</td>
<td>7' 10&quot;</td>
</tr>
<tr>
<td>25</td>
<td>W02-3</td>
<td>DAKES ROAD, 7000 FT. SOUTH FROM POINT OF CLOSURE</td>
<td>46&quot; x 40&quot;</td>
<td>I</td>
<td>WOOD</td>
<td>4&quot; x 4&quot;</td>
<td>16&quot;</td>
<td>---</td>
<td>7' 10&quot;</td>
</tr>
<tr>
<td>26</td>
<td>W02-3</td>
<td>DAKES ROAD, 7500 FT. SOUTH FROM POINT OF CLOSURE</td>
<td>46&quot; x 40&quot;</td>
<td>I</td>
<td>WOOD</td>
<td>4&quot; x 4&quot;</td>
<td>16&quot;</td>
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<td>7' 10&quot;</td>
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<tr>
<td>27</td>
<td>W02-3</td>
<td>DAKES ROAD, 8000 FT. SOUTH FROM POINT OF CLOSURE</td>
<td>46&quot; x 40&quot;</td>
<td>I</td>
<td>WOOD</td>
<td>4&quot; x 4&quot;</td>
<td>16&quot;</td>
<td>---</td>
<td>7' 10&quot;</td>
</tr>
<tr>
<td>28</td>
<td>W02-3</td>
<td>DAKES ROAD, 8500 FT. SOUTH FROM POINT OF CLOSURE</td>
<td>46&quot; x 40&quot;</td>
<td>I</td>
<td>WOOD</td>
<td>4&quot; x 4&quot;</td>
<td>16&quot;</td>
<td>---</td>
<td>7' 10&quot;</td>
</tr>
<tr>
<td>29</td>
<td>W02-3</td>
<td>DAKES ROAD, 9000 FT. SOUTH FROM POINT OF CLOSURE</td>
<td>46&quot; x 40&quot;</td>
<td>I</td>
<td>WOOD</td>
<td>4&quot; x 4&quot;</td>
<td>16&quot;</td>
<td>---</td>
<td>7' 10&quot;</td>
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<tr>
<td>30</td>
<td>W02-3</td>
<td>DAKES ROAD, 9500 FT. SOUTH FROM POINT OF CLOSURE</td>
<td>46&quot; x 40&quot;</td>
<td>I</td>
<td>WOOD</td>
<td>4&quot; x 4&quot;</td>
<td>16&quot;</td>
<td>---</td>
<td>7' 10&quot;</td>
</tr>
</tbody>
</table>

**NOTES:**
1. MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES).
2. FOR STRUCTURE AND MOUNTING DETAILS, SEE STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION, SERIES 6.
3. FOR CODE REFERENCES AND STANDARD SIGN LAYOUT DETAILS, SEE STANDARD HIGHWAY SIGN BOOK.
4. POST LENGTHS SHOWN ARE APPROXIMATE. FINAL VALUES SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR.
5. DISTANCE FROM THE EXISTING SHOULDER, OR FACE OF CURB, TO THE SIGN POST.
6. ALL SIGNS, POSTS AND ANY OTHER TRAFFIC CONTROL DEVICES SHALL BE SUPPLIED, ERECTED AND MAINTAINED BY THE CONTRACTOR.
7. THE POSTS SHALL NOT PROTRUDE ABOVE THE SIGNS.
# Road Closure Sign Specifications

<table>
<thead>
<tr>
<th>Sign No.</th>
<th>MUTCD Sign No.</th>
<th>Location</th>
<th>Sign Size</th>
<th>Sheeting Type</th>
<th>Post Material</th>
<th>Post Size</th>
<th>Post Length</th>
<th>Clearance</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>42</td>
<td>R50-1</td>
<td>BARKES ROAD, 1750 FT. NORTH OF BRANCH ROAD</td>
<td>45° x 45°</td>
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<td>Wood</td>
<td>4 x 4&quot;</td>
<td>18&quot;</td>
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<td>7' 10&quot;</td>
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<tr>
<td>44</td>
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<td>BARKES ROAD, 1500 FT. NORTH FROM POINT OF CLOSURE</td>
<td>45° x 45°</td>
<td>1</td>
<td>Wood</td>
<td>4 x 4&quot;</td>
<td>12&quot;</td>
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<td>7' 10&quot;</td>
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<tr>
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<td>R50-5</td>
<td>BARKES ROAD, 975 FT. NORTH FROM POINT OF CLOSURE</td>
<td>45° x 45°</td>
<td>1</td>
<td>Wood</td>
<td>4 x 4&quot;</td>
<td>14&quot;</td>
<td>---</td>
<td>7' 10&quot;</td>
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<tr>
<td>46</td>
<td>R50-5</td>
<td>BARKES ROAD, 500 FT. NORTH FROM POINT OF CLOSURE</td>
<td>45° x 45°</td>
<td>1</td>
<td>Wood</td>
<td>4 x 4&quot;</td>
<td>14&quot;</td>
<td>---</td>
<td>7' 10&quot;</td>
</tr>
</tbody>
</table>

## Notes:
1. MUTCD (Manual on Uniform Traffic Control Devices).
2. For structure and mounting details, see Standard Plans for Road and Bridge Construction, Series 6.
3. For color references and standard sign layout details, see Standard Highway Sign Book.
4. Post lengths shown are approximate. Final values shall be determined in the field by the contractor.
5. Resistance from the existing shoulder, or face of curb, to the sign post.
6. All signs, posts, and any other traffic control devices shall be supplied, erected, and maintained by the contractor.
7. The posts shall not protrude above the signs.

### Typical Sign Installation

**Preferred Installation - NTS**

- **Road Work Ahead**
- **Edge of Traveled Way**
- **Edge of Shoulder**

**Road Will Be Closed**

**Road Work**

**Monday - Friday**

**Special Sign No. 1**

- (45° x 36")
- Black on Orange
- With Man in and Border

**Special Sign No. 2**

- (45° x 27")
- Black on Orange
- With Man in and Border

**Road Closure**

- (45° x 27")
- Road closed until further notice

- (45° x 27")
- Road closed, remove immediately after the road is closed

**Yakima County Public Works**

**DATE:** 2-5-08

**Project Engineer:**

**Architect:**

**Prepared by:**

**Reviewed by:**

**Yakima County Public Works**

**Sheet 35 of 51**

---

**YAKIMA COUNTY PUBLIC WORKS**

**DATE:** 2-5-08

**Project Engineer:**

**Architect:**

**Prepared by:**

**Reviewed by:**

**Yakima County Public Works**

**Sheet 35 of 51**
## SIGN REMOVAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>SIGN NO.</th>
<th>MUTCD SIGN #</th>
<th>LOCATION</th>
<th>SIGN SIZE</th>
<th>POST MATERIAL</th>
<th>POST SIZE</th>
<th>REMARKS</th>
</tr>
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<tbody>
<tr>
<td>M2-2L</td>
<td></td>
<td>FORT RD, 550 FT. WEST OF BARKES RD.</td>
<td>36'' x 36''</td>
<td>WOOD</td>
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<td>M19-00400-1</td>
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<td>24'' x 6''</td>
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<td></td>
<td>BARKES RD, 45 FT. NORTH OF FORT RD.</td>
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<td>2''x2''</td>
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<td>E3-01900-1</td>
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<td>30'' x 6''</td>
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<td>2''x2''</td>
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<td>CM-3E</td>
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<td>12'' x 36''</td>
<td>METAL</td>
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<tr>
<td>CM-3L</td>
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<td>BARKES RD, N.E. CORNER OF CULVERT NO. 0262</td>
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<td>METAL</td>
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<td>CM-3E</td>
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<td>BARKES RD, N.W. CORNER OF CULVERT NO. 0262</td>
<td>12'' x 36''</td>
<td>METAL</td>
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<td>M3-1</td>
<td></td>
<td>FORT RD, 550 FT. NORTH OF FORT RD.</td>
<td>36'' x 36''</td>
<td>METAL</td>
<td>2''x2''</td>
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<td>M10-1</td>
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<td>2''x2''</td>
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<td>36'' x 36''</td>
<td>METAL</td>
<td>2''x2''</td>
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<tr>
<td>M10-2R</td>
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<td>METAL</td>
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<td>E1-1</td>
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<td>36'' x 36''</td>
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<td>4''x4''</td>
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</table>

**NOTES:**
1. MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES).
2. FOR CODE REFERENCES AND STANDARD SIGN LAYOUT DETAILS, SEE STANDARD MUTCD SIGN BOOK.
3. THE SIGNS AND POSTS SHALL BE DISASSEMBLED AND DELIVERED TO THE YAKIMA COUNTY DEPARTMENT OF PUBLIC SERVICES MAINTENANCE SHOP AT 1216 S. 10TH ST., YAKIMA, WA. 98901.
   CONTACT CRAIG BLANKENSHIP, TEL. 509-574-2396.
## PERMANENT SIGNING SPECIFICATIONS

<table>
<thead>
<tr>
<th>SIGN NO.</th>
<th>MUTCD SIGN NO.</th>
<th>LOCATION (FT)</th>
<th>SIGN SIZE (IN)</th>
<th>SHEET MATERIAL</th>
<th>POST MATERIAL</th>
<th>POST TYPE</th>
<th>POST AND CLEARANCE (FT)</th>
<th>REMARKS</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>W2-2L</td>
<td>FORT RD., 500 FT WEST OF BARKES RD.</td>
<td>30&quot; x 30&quot;</td>
<td>METAL</td>
<td>METAL</td>
<td>1</td>
<td>16&quot;</td>
<td>6.5&quot;</td>
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<td>6.5&quot;</td>
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<td>3</td>
<td>W5-7</td>
<td>FORT RD., 5 PT WEST OF BARKES RD.</td>
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<td>METAL</td>
<td>METAL</td>
<td>1</td>
<td>16&quot;</td>
<td>6.5&quot;</td>
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<td>4</td>
<td>B1-1</td>
<td>BARKES RD., 10 FT NORTH OF FORT RD.</td>
<td>30&quot; x 30&quot;</td>
<td>METAL</td>
<td>METAL</td>
<td>1</td>
<td>16&quot;</td>
<td>6.5&quot;</td>
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<tr>
<td>5</td>
<td>D5-10506D3</td>
<td>SAME</td>
<td>30&quot; x 30&quot;</td>
<td>SAME</td>
<td>SAME</td>
<td>1</td>
<td>16&quot;</td>
<td>6.5&quot;</td>
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<tr>
<td>6</td>
<td>D5-10506D3</td>
<td>SAME</td>
<td>30&quot; x 30&quot;</td>
<td>SAME</td>
<td>SAME</td>
<td>1</td>
<td>16&quot;</td>
<td>6.5&quot;</td>
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<tr>
<td>7</td>
<td>W2-2R</td>
<td>FORT RD., 500 FT EAST OF BARKES RD.</td>
<td>30&quot; x 30&quot;</td>
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<td>METAL</td>
<td>1</td>
<td>16&quot;</td>
<td>6.5&quot;</td>
</tr>
<tr>
<td>8</td>
<td>W5-6006D3</td>
<td>SAME</td>
<td>30&quot; x 30&quot;</td>
<td>SAME</td>
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<td>1</td>
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<td>6.5&quot;</td>
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<td>9</td>
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<td>BARKES RD., 500 FT NORTH OF FORT RD.</td>
<td>30&quot; x 30&quot;</td>
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<td>10</td>
<td>EM-2R</td>
<td>BARKES RD., S.E. CORNER OF CULVERT NO. 0202</td>
<td>30&quot; x 30&quot;</td>
<td>METAL</td>
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<td>1</td>
<td>16&quot;</td>
<td>6.5&quot;</td>
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<td>11</td>
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<td>BARKES RD., S.E. CORNER OF CULVERT NO. 0202</td>
<td>30&quot; x 30&quot;</td>
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<td>METAL</td>
<td>1</td>
<td>16&quot;</td>
<td>6.5&quot;</td>
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<td>12</td>
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<td>BARKES RD., S.E. CORNER OF CULVERT NO. 0202</td>
<td>30&quot; x 30&quot;</td>
<td>METAL</td>
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<td>1</td>
<td>16&quot;</td>
<td>6.5&quot;</td>
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<td>13</td>
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<td>BARKES RD., S.E. CORNER OF CULVERT NO. 0202</td>
<td>30&quot; x 30&quot;</td>
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<td>W10-10</td>
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<td>30&quot; x 30&quot;</td>
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<td>1</td>
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<td>6.5&quot;</td>
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<td>15</td>
<td>W5-1</td>
<td>BARKES RD., 500 FT SOUTH OF BRANCH RD.</td>
<td>30&quot; x 30&quot;</td>
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<td>METAL</td>
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<td>17</td>
<td>W5-1</td>
<td>BARKES RD., 500 FT SOUTH OF BRANCH RD.</td>
<td>30&quot; x 30&quot;</td>
<td>METAL</td>
<td>METAL</td>
<td>1</td>
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<td>6.5&quot;</td>
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<td>18</td>
<td>W10-2R</td>
<td>BRANCH RD., 450 FT WEST OF BARKES RD.</td>
<td>30&quot; x 30&quot;</td>
<td>METAL</td>
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<td>19</td>
<td>W10-6006D3</td>
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<td>30&quot; x 30&quot;</td>
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<td>21</td>
<td>W10-6006D3</td>
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<td>SAME</td>
<td>SAME</td>
<td>1</td>
<td>16&quot;</td>
<td>6.5&quot;</td>
</tr>
</tbody>
</table>

**NOTES:**
1. MUTCD (Manual on Uniform Traffic Control Devices).
2. FOR STRUCTURE AND MOUNTING DETAILS, SEE STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION, SERIES 6.
3. FOR CODE REFERENCES AND STANDARD SIGN LAYOUT DETAILS, SEE STANDARD HIGHWAY SIGN BOOK.
4. POST LENGTHS SHOWN ARE APPROXIMATE. FINAL VALUES SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR.
5. W = DISTANCE FROM THE EXISTING SHOULDER, ON FACE OF Curb, TO THE SIGN POST.
6. ALL SIGNS, POSTS AND ANY OTHER TRAFFIC CONTROL DEVICES SHALL BE SUPPLIED, ERECTED AND MAINTAINED BY THE CONTRACTOR.
7. THE POSTS SHALL NOT PROTRUDE ABOVE THE SIGNS.
CHANNELIZATION NOTES

1. Painted yellow skip center line.
2. Painted double yellow center line.
3. Painted edge line.
7. Painted yellow no-pass line.

CENTER OF ROAD

- Typical double yellow center line
- Typical yellow no-pass line
- Typical skip pattern

NOTES:
1) The pavement markings shall be spotted by the engineer prior to painting. The engineer shall be notified at least 5 working days prior to painting to spot the pavement markings.
BARKES ROAD IMPROVEMENT PROJECT
FORT ROAD TO BRANCH ROAD C 3204

CHANNELIZATION NOTES

1. PAINTED DOUBLE YELLOW CENTER LINE.
2. PAINTED EDGE LINE.
3. PAINTED YELLOW NO-PASS LINE.

CENTER OF ROAD

NOTE:
1) THE PAVEMENT MARKINGS SHALL BE SPOTTED BY THE ENGINEER PRIOR TO PAINTING. THE ENGINEER SHALL BE NOTIFIED AT LEAST 5 WORKING DAYS PRIOR TO PAINTING TO SPOT THE PAVEMENT MARKINGS.

PAVEMENT MARKINGS
STA. 19:00 TO STA. 29:00

40 0 40 80

SHEET 43 OF 51
CHANNELIZATION NOTES

<table>
<thead>
<tr>
<th></th>
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<tr>
<td>1</td>
<td>PAINTED YELLOW SKIP CENTER LINE.</td>
</tr>
<tr>
<td>2</td>
<td>PAINTED EDGE LINE.</td>
</tr>
<tr>
<td>3</td>
<td>PAINTED YELLOW NO-PASS LINE.</td>
</tr>
</tbody>
</table>

CENTER OF ROAD

- Typical Double Yellow Center Line
- Typical Yellow No-Pass Line
- Typical Skip Pattern

NOTES:

1) The pavement markings shall be spotted by the engineer prior to painting. The engineer shall be notified at least 5 working days prior to painting to spot the pavement markings.
**CHANNELIZATION NOTES**

1. Painted yellow skip center line.
2. Painted edge line.

---

**NOTES:**

1) The pavement markings shall be spotted by the engineer prior to painting. The engineer shall be notified at least 5 working days prior to painting to spot the pavement markings.

---

**PAVEMENT MARKINGS**

STA. 39+00
TO
STA. 49+00

---

**SHEET 46 OF 51**
BARKES ROAD

CHANNELIZATION NOTES

1. PAINTED YELLOW SKIP CENTER LINE.
2. PAINTED EDGE LINE.

CENTER OF ROAD

TYPICAL DOUBLE YELLOW CENTER LINE

TYPICAL YELLOW NO-PASS LINE

TYPICAL SKIP PATTERN

NOTES:
1) THE PAVEMENT MARKINGS SHALL BE SPOTTED BY THE ENGINEER PRIOR TO PAINTING. THE ENGINEER SHALL BE NOTIFIED AT LEAST 5 WORKING DAYS PRIOR TO PAINTING TO SPOT THE PAVEMENT MARKINGS.
BARKES ROAD

MATCHLINE STA. 69+00

MATCHLINE STA. 74+00

MATCHLINE STA. 79+00

CHANNELIZATION NOTES

1. PAINTED YELLOW SKIP CENTER LINE.
2. PAINTED EDGE LINE.

CENTER OF ROAD

TYPICAL DOUBLE YELLOW CENTER LINE

TYPICAL YELLOW NO-PASS LINE

TYPICAL SKIP PATTERN

NOTES:
1) THE PAVEMENT MARKINGS SHALL BE SPOTTED BY THE ENGINEER PRIOR TO PAINTING. THE ENGINEER SHALL BE NOTIFIED AT LEAST 5 WORKING DAYS PRIOR TO PAINTING TO SPOT THE PAVEMENT MARKINGS.

PAVEMENT MARKINGS

STA. 69+00
TO
STA. 79+00

SHEET 48 OF 51
BARKES ROAD IMPROVEMENT PROJECT
FORT ROAD TO BRANCH ROAD C 3204

CHANNELIZATION NOTES

1. PAINTED YELLOW SKIP CENTER LINE.
2. PAINTED EDGE LINE.

CENTER OF ROAD

TYPICAL DOUBLE
YELLOW CENTER LINE

TYPICAL YELLOW
NO-PASS LINE

TYPICAL SKIP PATTERN

NOTES:
1) THE PAVEMENT MARKINGS SHALL BE SPOTTED BY THE ENGINEER PRIOR TO PAINTING. THE ENGINEER SHALL BE NOTIFIED AT LEAST 5 WORKING DAYS PRIOR TO PAINTING TO SPOT THE PAVEMENT MARKINGS.

PAVEMENT MARKINGS
STA. 79+00
TO
STA. 89+00

SHEET 49 OF 51
BARKES ROAD

CHANNELIZATION NOTES

1. PAINTED YELLOW SKP CENTER LINE.
2. PAINTED EDGE LINE.

CENTER OF ROAD

TYPICAL DOUBLE YELLOW CENTER LINE

TYPICAL YELLOW NO-PASS LINE

TYPICAL SKP PATTERN

NOTES:
1) THE PAVEMENT MARKINGS SHALL BE SPOTTED BY THE ENGINEER PRIOR TO PAINTING. THE ENGINEER SHALL BE NOTIFIED AT LEAST 5 WORKING DAYS PRIOR TO PAINTING TO SPOT THE PAVEMENT MARKINGS.

PAVEMENT MARKINGS
STA. 89+00
TO
STA. 99+00

SHEET 50 OF 51
BARKES ROAD

MATCHLINE STA. 99+00

MATCHLINE STA. 104+00

CHANNELIZATION NOTES

1. PAINTED YELLOW SKIP CENTER LINE.
2. PAINTED DOUBLE YELLOW CENTER LINE.
3. PAINTED EDGE LINE.
4. PAINTED YELLOW NO-PASS LINE.
5. PAINTED RAILROAD CROSSING SYMBOL.

CENTER OF ROAD

TYPICAL DOUBLE YELLOW CENTER LINE

TYPICAL YELLOW NO-PASS LINE

TYPICAL SKIP PATTERN

NOTES:
1) THE PAVEMENT MARKINGS SHALL BE SPOTTED BY THE ENGINEER PRIOR TO PAINTING. THE ENGINEER SHALL BE NOTIFIED AT LEAST 5 WORKING DAYS PRIOR TO PAINTING TO SPOT THE PAVEMENT MARKINGS.

NOTE:
RAILROAD PAVEMENT MARKINGS SHALL BE PAINTED USING YAKIMA COUNTY SUPPLIED TEMPLATES, AVAILABLE AT COUNTY ROADS MAINTENANCE SHOP, 1216 S. 18TH ST., YAKIMA, WA. 98901. CONTACT CRAIG BLANKENSHIP, TEL. (509)-574-2346.

EXPRESSES 8/13/04
COUNTY ENGINEER DATE: 2-5-08

PROJECT ENGINEER: KIM PFANT
CHECKED BY: C. FRENCH

PAVEMENT MARKINGS
STA. 99+00
TO
EOP STA. 106+59.43

SHEET 51 OF 51