

**DEPARTMENT OF PUBLIC WORKS  
WHITMAN COUNTY  
COLFAX, WASHINGTON 99111**

**BID FOR A NEW MODULAR DETOUR BRIDGE**

**NOTICE TO ALL BIDDERS:**

Please contact Whitman County Operations Manager, Phil Meyer (509) 397-4622, if you have any questions.

*Bid Closed: For Review Only*

**WHITMAN COUNTY  
STATE OF WASHINGTON**

**BID FOR A NEW MODULAR DETOUR BRIDGE**

**INSTRUCTIONS TO BIDDERS**

SEALED BIDS will be received by the Board of County Commissioners of Whitman County, Washington, at its office in the Whitman County Courthouse, Colfax, Washington, until the **29<sup>th</sup> day of February, 2016 at 11:00 a.m.**, Pacific Time, at which time they will be opened and publicly read. Handicap access can be obtained by the Mill Street entrance to the courthouse. FAX BIDS WILL NOT BE ACCEPTED.

EACH BID shall be separately sealed in an envelope addressed to the Board of County Commissioners with the name of the bidder and item bid, including time and date of opening, written plainly on the outside of the envelope and mailed to Whitman County Commissioners, Whitman County Courthouse, Colfax, Washington 99111. (No FAX accepted).

The Board of County Commissioners reserves the right to reject any or all bids or to accept the bid in which in its estimation best serves the interest of Whitman County.

All applicable taxes must be shown when called for in the proposal.

No bidder may withdraw his bid after the hour set for the bid opening thereof, unless award is delayed for a period exceeding thirty (30) days.

It shall be the Dealer's responsibility to furnish Federal Excise Tax Exemption Certificate, when applicable.

A certificate statement shall be furnished to Whitman County on off-shore items in excess of \$2,500. R.C.W. per 39.25.020.

Payment will be made thirty (30) days after delivery and final acceptance by Whitman County. All interest costs incurred to bidder must be computed in the original price bid, as no further compensation will be made.

**Please Initial All Pages**

**SPECIFICATIONS FOR A  
4.25-INCH STEEL BRIDGE DECKED MODULAR BEAM BRIDGE**

**1.0 GENERAL**

1.1 Scope

This bridge will be used primarily as a temporary detour bridge in Whitman County.

These specifications are for fully engineered multi-piece modular bridge of steel construction with a 4.25-Inch Steel Bridge Deck and shall be regarded as minimum standards for design and construction.

1.2 Qualified of Bridge Manufacturer

Each Bidder is required to identify their intended supplier as part of the bid submittal. Qualified Bridge Manufacturers must have at least 5 years' experience fabricating these types of structures and shall have an up to date certification by AISC as a Certified Bridge Fabrication - Intermediate (Major) with Fracture Critical Endorsement. All suppliers shall fabricate their product, no brokers are allowed.

If Bidder is not the Manufacturer the following information must be included in bid packet.

- Bridge Manufacturer's Product Literature,
- Name and resume of Bridge Manufacturer's design professional who will be signing and sealing the engineering submittals,
- Copy of current AISC certification,

The above will be evaluated by the Engineer for accuracy and ability to provide a bridge in accordance with these specifications.

1.3 Bridge Manufacturer's Design and Submittals

Engineering drawings, 11x17 format, shall be prepared and submitted to Whitman County for their review after receipt of the order. Submittal drawings shall be unique drawings, prepared to illustrate the specific portion of the bridge being fabricated. All relative design information such as member size, ASTM/AASHTO material specification, dimension necessary to fabricate and required welding shall be clearly shown on the drawings. Drawings shall have cross referenced details and sheet numbers. All drawings shall be stamped, signed and dated by the Bridge Manufacturer's Design Professional.

Structural calculations for the design of the bridge superstructure shall be prepared and submitted to Whitman County for their review after receipt of the order.

## **2.0 APPLICABLE CODES AND STANDARDS**

### 2.1 Governing Specifications

Bridge shall be designed in compliance with the LRFD Bridge Design Specifications, latest edition, by AASHTO. Calculations shall be in accordance with this document, and formulas shall reference the appropriate sections.

### 2.2 Other Reference Codes, Specifications and Standards

- AISC, Steel Construction Manual, Latest Edition
- American Welding Society, Structural Welding Code, D1.5, Latest Edition
- ASCE/SEI 7 Minimum Design Loads for Buildings and Other Structures, Latest Edition
- National Design Specification for Wood Construction, ANSI NDS-Latest Edition

## **3.0 BRIDGE GEOMETRY**

### 3.1 Span Length

The bridge span length shall be 45'-0" (straight line dimension) and measured from end to end of the bridge structure (bridge will be in two 45'-0 long sections).

### 3.2 Width

The bridge width shall be 14'-0" and shall be as measured from the inside face to inside face of rail (bridge will be in two 7' widths).

### 3.3 Lower Steel Clearance

The bridge manufacturer shall determine the distance from the top of the deck (measured from the highest point of the deck) to the bottom of any steel member.

### 3.4 Rail Height

Top of rail shall be a minimum 2'-3" above the top of the wearing surface for vehicular traffic only.

### 3.5 Camber

A single simple-span bridge shall have a vertical camber dimension at the mid-span equal to 100% of the anticipated full dead load deflection. If beam mill camber is adequate to accommodate full dead load deflection, then indicate so on drawings.

### 3.6 Elevation Difference

The top of the decks shall be at the same elevation at each end of the bridge.

## 4.0 STRUCTURAL DESIGN LOADS

### 4.1 Dead Load

The bridge structure shall be designed for the total bridge weight plus an additional allowance of 80 pounds per square foot total wearing surface.

### 4.2 Vehicle Load (VL)

Bridge shall be designed for one lane of traffic, supporting HL-93 vehicle plus Dynamic Load Allowance.

### 4.3 Owner Specified Vehicle (OVL)

Bridge shall also be designed for a U-80 Owner Specified Vehicle.

### 4.4 Wind Load (WS)

Bridge shall be designed for a 50 pounds per square foot wind load applied horizontally against the height of the stringer plus the side dam.

### 4.5 Fatigue Load (FL)

The fatigue loading shall be as specified in AASHTO LRFD Bridge Design Specifications, current edition.

### 4.6 Railing Loads (RL)

Traffic rail shall be Thrie Beam Galvanized designed in accordance with AASHTO LRFD Bridge Design Specifications, current edition, Appendix A13.2.

Traffic rail shall meet the force requirements for a TL-1 rating

## 5.0 STRUCUTRAL DESIGN CRITERIA

### 5.1 Fracture

The main beams shall meet CVN values of 20 ft-lbs @ 40-degrees Fahrenheit.

## 6.0 MATERIALS OF CONSTRUCTION

### 6.1 Structural Steel

For weathering steel bridges, all structural steel shall be ASTM A588.

### 6.2 Deck Material

Decking to be 4.25-inch Steel Bridge Deck, 9-gage, placed transverse across the width of the bridge. The height of the deck shall be 4.25" from top of the lower through to top of the profile. Width of the plank shall be 12-13/16" with one 13/16" overlapping leg. Decking shall be manufactured from pre-galvanized steel, ASTM A653 Grade 50 Class with a minimum 2 oz. galvanized coating,  $F_y=50$  ksi. Decking is to be welded to top flange of stringers and to adjoining sheets. Welds to be treated with organic zinc-rich coating meeting the material and performance requirements of ASTM A 780 (Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings).

### 6.3 Wearing Surface

Timber (Treated) - Running (Ribbon)

Top of side dam shall be 3.5" above top of 4.25-inch Steel Bridge Deck for timber wearing surface. Timber wearing surface shall be two ribbons of four planks each of 3x12 No. 2 or better, rough sawn, West Coast Region Douglas Fir, pressure treated ACQ or equal to 0.4 pcf or refusal. Timber shall be attached to the 4.25-inch Steel Bridge Deck utilizing 1/2" diameter galvanized carriage bolts, two at each end of the planks and one alternating every 4'-0" along the length of the planks. Some planks will be shipped loose to allow access to the lifting lugs and the bolted stitch connection.

### 6.4 Fasteners

Structural bolts used to field splice, or connect; all main members shall be ASTM A325, in accordance with the *Specification for Structural Joints using ASTM A325 or A490 Bolts*. The nuts for these structural bolts shall be ASTM A563. One flat hardened washer meeting ASTM F436 shall be supplied with all bolts. All bolts, nuts and washers shall be galvanized and shall be furnished in an amount of 5% in excess of the number required for each size and length.

Non-structural bolts shall be ASTM A307, 1/4" diameter carriage bolts, zinc plated or galvanized.

Self-drilling fasteners shall be #14 x 1" Zinc Plated Hex Washer Head Tek Screws.

Power Actuated fasteners shall be Hilti sheet metal nail X-ENP-19 fastener.

#### 6.5 Traffic Rail

Rail to be galvanized steel Thrie-Beam Rail, 10-gage thickness, with flared ends at each end of bridge. A 2-sided crystal reflector tab shall be provided to be placed 6'-3" on center.

### 7.0 FINISH

#### 7.1 Blast Cleaning

Exposed surfaces of structural steel shall be blast cleaned in accordance with the Steel Structures Painting Council (SSPC), Surface Preparation Specification No. 7, latest edition, (SSPC-SP7), Brush-Off Blast. Exposed surfaces of steel shall be defined as those surfaces seen from the deck or from the outside and bottom of the structure.

### 8.0 BEARINGS

8.1 Bearing plates and elastomeric leveling pads shall be included.

### 9.0 FABRICATION

#### 9.1 Welding

Welding procedures and weld qualification test procedures shall conform to the provisions of AWS D1.5, Bridge Welding Code, latest edition. Filler metal shall be in accordance with the applicable AWS Filler Metal Specification, and shall match the corrosion properties of the base metal.

#### 9.2 Welders

Welders shall be qualified for each process and position used while fabricating the bridge. Qualification tests shall be in accordance with AWS D1.1. All weld qualifications and records shall be kept in accordance with the Fabricator's Quality Assurance Manual which has been approved by AISC.

### 10.0 QUALITY CONTROL

#### 10.1 AISC Certification

The facility where manufacturing takes place shall have up to date certification by

AISC as a Certified Bridge Fabrication - Intermediate (Major) with Fracture Critical Endorsement.

#### 10.2 Certified Weld Inspector

The bridge manufacturer shall employ a Certified Weld Inspector (CWI), with endorsement by AWS QC1. This CWI shall be present during the complete fabrication of the bridge. The CWI shall provide written documentation that the bridge has been fabricated in accordance with these specifications and the approved design drawings.

#### 10.3 Documentation

Material Certifications shall be available for review for all materials within the bridge. Traceability of heat numbers is required for all steel.

Documentation showing the performance of all critical quality checks shall also be made available for review by the Engineer or Owner.

### 11.0 DELIVERY AND ERECTION

#### 11.1 Delivery

**Delivery will be to 201 Duncan Springs Rd, Colfax, Washington 99111**

#### 11.2 Installation & Lifting Procedures

The Bridge Manufacturer will provide standard typical written procedures for lifting and splicing the bridge. Each section shall be lifted from the four lifting lugs provided. Rigging materials and methods will be the responsibility of Whitman County. Capacity of the lifting lug is 24,000 pounds at a 45-degree lift angle.

#### 11.3 Loose Items

Post and Rails will be shipped loose for field installation.

Bearing Plate will be shipped loose for filed welding to the bottom flange of the stringers.

### 12.0 WARRANTY

The Bridge Manufacturer shall warrant their steel structure(s) to be free of design, material, and workmanship defects for a period of ten years from the earlier of the date of delivery or from 60 days after final fabrication. **Please provide any further Warranty information with bid.**

**BID PROPOSAL**

The undersigned hereby certifies that he has read the attached specifications including warranty requirements for the bid for a New Modular Detour Bridge and desires to submit for our consideration said bridge that conforms to the above specifications.

\_\_\_\_\_  
Company

\_\_\_\_\_  
Title

\_\_\_\_\_  
Signature

ACCEPTED this \_\_\_\_\_ day of \_\_\_\_\_ 2016

BOARD OF COUNTY COMMISSIONERS  
WHITMAN COUNTY, WASHINGTON

\_\_\_\_\_  
Chair

\_\_\_\_\_  
Commissioner

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Maribeth Becker, CMC  
Clerk of the Board

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Commissioner