

SECTION 00560 - STRUCTURAL STEEL BRIDGES

(Follow all instructions and make all edits with "Track Changes" turned on. If there are no instructions [purple text] above a subsection, paragraph, sentence, or bullet, then include it in the project. Delete all purple text before preparing the final document. All other modifications to this Section will require ODOT Technical Resource and State Specifications Engineer approval.)

Comply with Section 00560 of the Standard Specifications modified as follows:

00560.03 Working Drawings - Replace the paragraph that begins "Submit unstamped Working Drawings ..." with the following paragraph:

Submit unstamped Working Drawings according to 00150.35. Any Work performed before review of these drawings is at the Contractor's risk. When Material is ordered in advance, obtain approval before placing the order.

00560.03(b) Revisions - Replace this subsection, except for the subsection number and title, with the following:

Submit copies of any revisions to the detailed Working Drawings for review. Work performed before review of these revisions is at the Contractor's risk.

00560.04 Erection Plan - Replace the bullet that begins "Load test and certify the lifting ..." with the following bullet:

- Load test and certify the lifting bracket for a load at least twice the working load and at all angles it is used at (angle of load or rigging). Certification documentation from a previous project may be submitted.

(Use the following two paragraphs for straight single span bridges less than 150 feet)

Replace this subsection, except for the subsection number and title, with the following:

Submit an erection plan with unstamped Working Drawings according to 00150.35 at least 21 Calendar Days before the start of the steel erection Work. Include the proposed erection method and the amount and character of Equipment to be used for review. Do not perform Work until approval has been obtained. This review does not relieve the Contractor of the responsibility for the safety of the method or Equipment, or from carrying out the Work in full according to the Plans and Specifications.

00560.22(a) Test Results Certificate and Initial Identification - Replace the paragraph that begins "Furnish test results certificates ..." with the following paragraph:

Provide test results certificates, showing chemical analysis and physical tests for each heat or plate of steel, for all members according to 00165.35 and Section 02530. Identify each piece of steel to be fabricated.

Replace the paragraph that begins "Material that can be identified ..." with the following paragraph:

Material that can be identified by heat number and mill test report may be provided from stock.

00560.22(b) Steel Identification during Fabrication - Replace the paragraph that begins "During fabrication, and until ..." with the following paragraph:

During fabrication, and until member assembly, mark each piece of steel, other than AASHTO M 270 (ASTM A709), Grade 36 steel, clearly and legibly with its specification identification color code shown in AASHTO M 160 (ASTM A6).

Replace the paragraph that begins "Mark individual pieces of ..." with the following paragraph:

Mark individual pieces of steel, other than AASHTO M 270 (ASTM A709), Grade 36 steel, that are furnished in tagged lifts or bundles with the AASHTO M 160 (ASTM A6) specification identification color code immediately on being removed from the bundle or lift.

Replace the paragraph that begins "Pieces of steel, other ..." with the following paragraph:

Mark pieces of steel, other than AASHTO M 270 (ASTM A709), Grade 36, for grade by steel die stamping or by a substantial tag firmly attached before assembling into members and subject to fabricating operations such as heating, blast cleaning, galvanizing or other coating that might obliterate paint color code marking. Use only rounded characters when primary stress components are identified by steel die stamping. Ensure impressions have a maximum allowable depth of 0.010 inch and are placed a minimum distance of 2 inches from edges of tension-stressed plate members. Use characters that are 1/4 inch to 3/8 inch high and have a minimum face radius of 0.015 inch.

00560.22(c) Check Samples - Replace this subsection, except for the subsection number and title, with the following:

To verify the accuracy of test reports, obtain check samples from material furnished for fabrication. The plates, shapes or bars from where check samples are required are as designated on the Plans. Order plates, shapes or bars from the mill with the extra size required for samples. The Engineer may take additional samples from drop-offs or scrap material as deemed necessary. No more than two samples are required from any one plate according to AASHTO M 270 (ASTM A709) Grade 36, 50, HPS 50W and HPS 70 W with QT processing, or from any one shape or bar. Remove material for check samples in the presence of the Engineer. The Engineer will select the locations where samples are to be taken. Check samples may be ordered cut from either end of the designated steel plate, according to AASHTO M 270 (ASTM A709) Grade 36, 50, HPS 50W and HPS 70 W with QT

processing, or shape or bar. To verify accuracy of test reports for HPS 50W and HPS 70W with thermo-mechanical control process, check samples of both ends of each plate is required.

Provide rectangular plate check samples, not less than 24 inches long in the required direction, depending on plate width, for the longitudinal axis of tensile specimens, and 5 inches wide. Provide bend specimens, where required, not less than 24 inches long in the direction of rolling of the plate. Provide check samples in bars or shapes that are the full section and at least 24 inches long. In removing the sample, take care not to damage it by overheating. The Agency is responsible for the necessary machining of check test specimens and their testing. To expedite obtaining test results, the Contractor may, if approved, perform machining and testing of specimens, in the presence of the Engineer.

The normal basis of acceptance of Material is the mill report or other test report, and fabrication need not be held up pending results of check tests. If the check tests indicate Material with properties failing to meet the minimum requirements of the material specification, the Material may be rejected and the Contractor required to order new Material at no additional cost to the Agency.

For purposes of determining compliance with the Specifications, if the results on an original tensile specimen are within 2,000 psi of the required tensile strength, within 1,000 psi of the required yield point, or within 2 percent of the required elongation, a retest is allowed on two random specimens from the heat or lot. If the results from both of these retest specimens meet Specifications, the heat or lot is accepted. Orient the specimens with the final direction of rolling in the same manner as the original specimen, and may come from any location within the plate. The extra material from plates, shapes or bars that is not used for check testing becomes the property of the Contractor.

00560.22(d) Certification of Identification - Replace this subsection, except for the subsection number and title, with the following:

Upon request, provide an affidavit certifying that throughout the fabrication operation the identification of steel has been maintained according to this Specification.

00560.23(a) Facilities - Replace this subsection, except for the subsection number and title, with the following:

Provide facilities for the inspection of Material and Work in the mill and shop. Allow the Engineer free access to the Material and Work for inspection.

00560.23(b) Testing - Replace this subsection, except for the subsection number and title, with the following:

Provide samples for testing as specified according to Section 00165.

00560.25(d) Bent Plates - Replace the paragraph that begins "Unwelded, cold-bent ..." with the following paragraph:

Fabricate unwelded, cold-bent, load-carrying, rolled-steel plates that are:

Replace the bullet that begins "Rounded at the corners ..." with the following bullet:

- Rounded at the corners of the plate before bending, to a radius of 1/16 inch throughout the portion of the plate that the bending is to occur.

00560.26(a) Bridge Welding - Replace this subsection, except for the subsection number and title, with the following:

All welding, welder qualifications, prequalification of weld details, and inspection of welds for Bridge Structures is according to AWS D1.5.

00560.26(b) Non-Bridge Structures - Replace this subsection, except for the subsection number and title, with the following:

All welding, welder qualifications, prequalification of weld details and inspection of welds for non-Bridge Structures is according to AWS D1.1. Non-Bridge Structures include bridge railing posts, railing splices, deck expansion joints, ~~earthquake restraints~~ and similar Structures. Submit all welding procedure specifications to the Engineer for approval.

~~Test earthquake restraint welds radiographically or ultrasonically. Testing will be witnessed by the Engineer. Include the following additional inspection for earthquake restraint welds:~~

- ~~• Ultrasonic inspection of 100 percent of the complete penetration welds using a straight beam transducer. A weld is acceptable if it has no indications of cracks and no indications of lack of fusion between adjacent layers of weld metal and between weld metal and base metal.~~
- ~~• Magnetic particle inspection of 10 percent of the fillet welds.~~

00560.27(a) Punched Holes - Replace this subsection, except for the subsection number and title, with the following:

Use a die with a diameter not exceeding the diameter of the punch by more than 1/16 inch. Ream any holes that are required to be enlarged to admit the bolts. Make clean cut holes without torn or ragged edges. Poor matching of holes is cause for rejection.

00560.27(b) Drilled or Reamed Holes - Replace the paragraph that begins "Poor matching of holes ..." with the following paragraph:

Poor matching of holes is cause for rejection.

00560.27(c) Accuracy of Punched and Drilled Holes - Replace this subsection, except for the subsection number and title, with the following:

Locate all holes punched full size, subpunched, or subdrilled so accurately that after assembling (before any reaming is done) a cylindrical pin 1/8 inch smaller in diameter than the nominal size of the punched hole may be entered perpendicular to the face of the member, without drifting, in at least 75 percent of the connecting holes in the same plane. Non-conforming pieces are rejected. If any hole will not pass a pin 3/16 inch smaller than the nominal size of the hole, the non-conforming pieces are rejected.

00560.27(d) Accuracy of Drilled and Reamed Holes - Replace the paragraph that begins "When holes are drilled ..." with the following paragraph:

When holes are drilled or reamed, do not allow an offset greater than 1/32 inch between adjacent thicknesses of metal in 85 percent of the holes in any connecting group, after drilling or reaming.

00560.27(h)(2) Numerically Controlled Punched or Drilled Field Connections - Replace the paragraph that begins "If numerically controlled punching..." with the following paragraph:

If numerically controlled punching or drilling Equipment is used, the Engineer may require the Contractor, by means of check assemblies, to demonstrate that this punching or drilling procedure consistently produces holes and connections according to 00560.27(g) and 00560.43.

00560.28 Carbon Steel Bolt Connections - Replace the paragraph that begins "Unless otherwise shown or specified..." with the following paragraph:

Unless otherwise shown or specified, make connections with unfinished carbon steel bolts nuts and washers according to Section 02560. Use holes according to 00560.27.

00560.28(a) Turned Bolts - Replace this subsection, except for the subsection number and title, with the following:

Furnish and install turned bolts as follows:

- The body surface with a surface roughness of 125 microinches, or less, according to ANSI B46.1.
- The unthreaded body equals the total thickness of connected parts.
- The outer thread diameter equals the nominal diameter of the bolt specified.
- Hexagonal heads and nuts with standard dimensions for bolts of the nominal size specified or the next larger nominal size.
- Install bolts in carefully reamed holes with a tight driving fit.

00560.28(b) Ribbed Bolts - Replace this subsection, except for the subsection number and title, with the following:

Furnish and install ribbed bolts as follows:

- The body has an approved form with continuous longitudinal ribs.
- The diameter of the body, measured on a circle through the points of the ribs, is 5/64 inch greater than the nominal bolt diameter specified.
- Round heads meeting ASME B 18.5 unless otherwise specified.
- Ribbed bolts making a driving fit with the holes.
- The hardness of the ribs are such that the ribs do not permit the bolts to turn in the holes during tightening.
- If for any reason the bolt twists before drawing tight, ream the hole and use an oversized bolt as a replacement.

- Nuts that are hexagonal, with standard dimensions for bolts of nominal size specified or the next larger nominal size.

00560.28(d) Nuts - Replace this subsection, except for the subsection number and title, with the following:

Use single self-locking nuts or double nuts unless otherwise shown or specified. Ensure the finished side is against the washer or plate.

00560.29(a) General - Replace the paragraph that begins “When shown or specified...” with the following paragraph:

When shown or specified, assemble structural joint connections with high-strength bolts according to ASTM F3125, Grade A325 or Grade F1852 or equivalent fastener using bolts, nuts, and washers according to Section 02560 and in holes according to 00560.27.

Replace the bullet that begins "Provide all steel ..." with the following bullet:

- Furnish all steel Material within the grip of high-strength bolts (no compressible material such as gaskets or insulation).

00560.29(b) Washer Requirements - Replace the bullet that begins "Where ASTM F3125, Grade A325 or Grade F1852 bolts of any diameter are to be installed in standard ..." with the following bullet:

- Where ASTM F3125, Grade A325 or Grade F1852 bolts of any diameter are to be installed in standard, oversize, or short slotted hole in an outer ply, furnish a hardened washer under the element of the fastener (nut or bolt head) turned in tightening.

Replace the bullet that begins "Where ASTM F3125, Grade A325 or Grade F1852 bolts of any diameter are to be installed in a long ..." with the following bullet:

- Where ASTM F3125, Grade A325 or Grade F1852 bolts of any diameter are to be installed in a long-slotted hole in an outer ply, use plate washers or continuous bars of at least 5/16-inch thickness with standard holes. Furnish washers or bars with sufficient size to completely cover the slot after installation. Make the plate washer from structural grade steel. In addition to a plate washer, furnish a hardened washer under element of the fastener (nut or bolt head) turned in tightening.

00560.29(c)(2) Non-Coated Weathering Steel Members - Replace the paragraph that begins “Prior to final bolting ...” with the following paragraph:

Prior to final bolting, ensure all steel-to-steel contact surfaces have maintained the minimum requirements of SSPC-SP 6 *Commercial Blast Cleaning*. Provide the minimum appearance of the surface that approximates Pictorial Standard Sa 2 of SSPC-VIS 1, Pictorial Surface Preparation Standards for Painting Steel Surfaces. Hand tool or re-blast surfaces that do not meet the requirements of SSPC-SP 6 until the appearance of the blast-cleaned surface closely resembles Pictorial Standard Sa 2-1/2 of SSPC-VIS 1 as determined by the Engineer.

00560.29(d) Verification Testing, Installation, and Inspection - Delete the paragraph and bullets that begin “The Engineer will do the following...”

00560.29(d)(1)(a)(2) Verification Testing - Replace the paragraph that begins “First, demonstrate the method...” with the following paragraph:

First, use a calibrated torque wrench to estimate the snug-tight condition to be used on the final product. Record the snug-tight tension and the torque used to achieve tension. Calibrate the torque wrench annually.

00560.29(d)(1)(c) Inspection - Replace the paragraph that begins “Select at random 10 percent ...” with the following paragraph:

Select at random 10 percent or at least two, whichever is greater, of the tensioned bolts and nuts on the Structure for each separate connection. Apply the Inspection Torque to each nut in the tensioning direction. If the Inspection Torque does not turn the bolt or nut, the connection is considered properly tensioned. If the Inspection Torque turns the bolt or nut, apply the Inspection Torque to all the bolts and nut in the connection. Re-tension and re-inspect all bolts and nuts that turned at this inspection. The Contractor may re-tension all the bolts in the connection and resubmit it for inspection, provided fasteners assemblies are not damaged.

00560.29(d)(2)(a)(2) Verification Testing - Replace the paragraph that begins “First, demonstrate the method...” with the following paragraph:

First, use a calibrated torque wrench to estimate the snug-tight condition to be used on the final product. Record the snug-tight tension and the torque used to achieve tension. Calibrate the torque wrench annually. Match mark the bolt, nut, and plate.

00560.29(d)(2)(c) Inspection – Replace the paragraph that begins “Select at random 10 percent ...” with the following paragraph:

Select at random 10 percent or at least two, whichever is greater, of the tensioned bolts and nuts on the Structure for each separate connection. Apply the Inspection Torque to each nut the tensioning direction. If the Inspection Torque does not turn the bolt or nut, the connection is considered properly tensioned. If the Inspection Torque turns the bolt or nut, apply the Inspection Torque to all bolts in the connection. Re-tension and re-inspect all bolts and nuts that turned at this inspection. The Contractor may re-tension all the bolts in the connection and resubmit it for inspection, provided fastener assemblies are not damaged.

Replace Table 00560-3 with the following table:

Table 00560-3
Nut Rotation from Snug-Tight Condition ^{1,2}
Disposition of Outer Faces of Bolted Parts

Bolt Length³ (underside of head to end of bolt)	Both faces normal to bolt axis	One face normal to bolt axis and other sloped not more than 1:20 (beveled washer not used)	Both Faces sloped not more than 1:20 from normal to bolt axis (beveled washer not used)
Up to and including 4 diameters	1/3 turn	1/2 turn	2/3 turn
Over 4 diameters but not exceeding 8 diameters	1/2 turn	2/3 turn	5/6 turn
Over 8 diameters but not exceeding 12 diameters	2/3 turn	5/6 turn	1 turn

¹ Nut rotation is relative to bolt, regardless of the element (nut or bolt) being turned. For all required nut rotations, the tolerance is plus 60 degrees (1/6 turn) and minus 0 degrees.

² Applicable only to joints where all material within the grip is steel.

³ No research has been performed by the Research Council on Structural Connections to establish the turn-of-nut procedure for bolt lengths exceeding 12 diameters. Therefore, the required rotation is determined by actual test in a suitable tension measuring device according to 00560.29(d)(2).

00560.30 Fabricators - Replace this subsection, except for the subsection number and title, with the following:

Provide structural steel Bridge fabricators having an American Institute of Steel Construction (AISC) Certified Bridge Fabricator - Intermediate (IBR) certification. For fracture critical Structures, provide a fabricator with an AISC Fracture Critical Endorsement (FC). For earthquake restraints provide fabricators that have either a current AISC IBR certification or a Certified Bridge Fabricator - Simple (SBR) certification.

00560.40(c) Stiffeners - Replace this subsection, except for the subsection number and title, with the following:

Fabricate end stiffeners of girders and stiffeners intended as supports for concentrated loads to have full bearing (either milled, ground, or on weldable steel in compression areas of flanges, welded as specified) on the flanges where they transmit load or from where they receive load. Fabricate stiffeners not intended to support concentrated loads, according to AWS D1.5, unless specified otherwise.

00560.40(d) Abutting Members - Replace this subsection, except for the subsection number and title, with the following:

Mill, sawcut or flame cut abutting members carrying compression at joints in trusses, columns and girder flanges, to give a square joint and uniform bearing. Do not exceed 1/4 inch at joints not required to be faced.

00560.40(e) Annealing and Stress Relieving - Replace the paragraph that begins “Perform finished machining, boring ...” with the following paragraph:

Perform finished machining, boring and straightening on structural members that are specified to be annealed or normalized subsequent to heat treatment. Normalize and anneal (full annealing) according to ASTM A941. Maintain the temperatures uniformly throughout the furnace during the heating and cooling so the temperature at no two points on the member will differ by more than 100 °F at any one time.

00560.40(f) Facing of Bearing Surfaces - Replace the paragraph that begins “The surface finish of bearing ...” with the following paragraph:

Conform the surface finish of bearing and base plates and other bearing surfaces that are to come in contact with each other or with concrete to ANSI surface roughness requirements of ANSI B46.1, Surface Roughness, Waviness and Lay, Part I, and the following table:

00560.40(g) Pins and Rollers - Replace the paragraph that begins “Turn pins and rollers ...” with the following paragraph:

Turn pins and rollers to the dimensions shown. Make them straight, smooth and free from flaws. Furnish pins and rollers more than 9 inches in diameter that are forged and annealed carbon-steel shafting. Pins and rollers 9 inches or less in diameter may be cold-finished or forged and annealed carbon-steel shafting.

00560.40(h) Pin Holes - Replace the paragraph that begins “The diameter of the pin ...” with the following paragraph:

Do not allow the diameter of the pin hole to be larger than the pins by more than 0.02 inch for pins 5 inches or less in diameter, or by 0.03 inch for larger pins.

Replace the paragraph that begins “The distance outside ...” with the following paragraph:

Do not vary more than 1/32 inch the distance outside-to-outside of end holes in tension members and inside-to-inside of end holes in compression members from that specified. Bore holes in built-up members after the fabrication is completed.

Add the following subsection:

00560.40(j) Surface Finish (Non-Coated Weathering Steel Only) -

(1) Sandblast and Mill Scale Removal - Sandblast all exposed surfaces of AASHTO M 270 (ASTM A709), non-coated weathering steel, according to SSPC-SP6, *Commercial Blast Cleaning*, SSPC's *Steel Structures Painting Manual*. Visually verify the appearance of the blast-cleaned surface using Pictorial Standard Sa 2 of SSPC-VIS 1, *Pictorial Surface Preparation Standards for Painting Steel Surfaces*.

(2) Exterior Face of Fascia Girders - Brush-off blast clean, according to SSPC-SP7, *Brush-Off Blast Cleaning*, SSPC's *Steel Structures Painting Manual* to achieve a uniform surface finish and patina immediately after fabrication and prior to environmental exposure. After brush-off blast, and prior to environmental exposure or shipping, pressure wash exterior faces of fascia girders with a stream of potable water to ensure uniform weathering and patina.

(3) All Non-Coated Weathering Steel - Prior to environmental exposure, clean all exposed surfaces that do not receive a brush-off blast clean according to SSPC-SP 1, *Solvent Cleaning*, SSPC's *Steel Structures Painting Manual* to remove all visible oil, grease, dust, dirt, drawing and cutting compounds, and other visible contaminants.

(4) Post-Fabrication Sandblast - If, as determined by the Engineer, the uniform weathering properties of the steel have been compromised and solvent cleaning is unable to adequately clean the surface, sandblast all exposed surfaces after fabrication and prior to shipment according to SSPC-SP 6. Pressure wash sandblasted surfaces with a stream of potable water to ensure uniform weathering and patina.

00560.42 Cambering - Replace the paragraph that begins "Camber roll beams in ..." with the following paragraph:

Camber roll beams in the fabricating shop by use of heat or hydraulic jacks. Do not exceed 1,200 °F temperature for the heated area, as controlled by pyrometric stick (temperature crayon) or thermometers. Do not quench to accelerate cooling.

00560.43(a) General - Replace the paragraph that begins "Furnish a Camber diagram ..." with the following paragraph:

Provide a Camber diagram, prepared by the fabricator, showing the Camber at each panel point in the cases of trusses or arch ribs, and at the location of field splices and fractions of span length (quarter points minimum, tenth points maximum) in the cases of continuous beam and girders or rigid frames. When the shop assembly is Full Truss or Girder Assembly or Complete Structure Assembly, show the Camber measured in assembly. When any of the other methods of shop assembly is used, show calculated Camber.

00560.43(g) Check Assemblies with Numerically Controlled Punched and Drilled Field Connections - Replace the paragraph that begins "A check assembly consists ..." with the following paragraph:

A check assembly consists of at least three connecting shop sections, or in a truss, all members in at least three connecting panels, but not less than the number of panels in three connecting chord lengths; that is, the length between field splices. Base check assemblies on the proposed order of erection, joints in bearings, special complex points such as the portals of skewed trusses, and similar considerations, as directed. Fabricate check assemblies first for each major structural type to be fabricated.

00560.43(h) Match-Marking - Replace this subsection with the following subsection:

Match-mark connecting parts assembled in the shop for the purpose of reaming holes in field connections, and provide a diagram showing such marks to the Engineer.

00560.45 Marking and Transporting to Site - Replace the bullet that begins "Mark each member with ..." with the following bullet:

- Mark each member with an erection mark for identification and provide an erection diagram showing the erection marks.

Replace the bullet that begins "Furnish as many copies of material ..." with the following bullet:

- Provide as many copies of material orders, shipping statements and erection diagrams as directed and show the weights of the individual members on the statements.

Replace the bullet that begins "Furnish the Engineer stamped detail ..." with the following bullet:

- Provide the Engineer stamped detail Plans of loading, unloading, supporting and bracing of the steel plate girders on trucks or cars for shipment to the Project Site, according to 00150.35. The review will not relieve the Contractor of responsibility for safe transportation of steel members.

00560.46(e) Bearings and Anchorages - Replace the bullet that begins "Locate anchors and set rockers ..." with the following bullet:

- Locate anchors and set rockers or rollers considering variation from mean temperature at the time of setting, and anticipated lengthening of bottom chord or bottom flange due to dead load after setting. As nearly as practicable, at mean temperature and under dead load, ensure the rockers and rollers stand vertically and anchor bolts at expansion bearings center their slots.

00560.46(f) Assembling Steel - Replace the paragraph that begins "Handle the Material carefully ..." with the following paragraph:

Handle the Material carefully so no parts are bent, broken or otherwise damaged.

Replace the paragraph that begins "Do not perform hammering ..." with the following paragraph:

Do not perform hammering that will injure or distort the members.

00560.46(h) Misfits - Replace this subsection with the following subsection:

The correction of minor misfits involving small amounts of reaming, cutting, and chipping is considered a legitimate part of the erection. However, immediately report to the Engineer any error in the shop fabrication or deformation resulting from handling, storage and transportation that prevents the proper assembling and fitting up of parts by the moderate use of drift pins, or by a moderate amount of reaming and slight chipping or cutting. Make the necessary corrections and replacements in the presence of the Engineer as approved or directed. The Contractor shall be responsible for all misfits, errors and injuries.

00560.70 Finish (Non-Coated Weathering Steel Only) - Replace this subsection with the following subsection:

00560.70 Surface Finish Cleanup (Non-Coated Weathering Steel Only) - At all times during fabrication, shipping, and installation, promptly clean exposed surfaces of steel contaminated with stains, oil or foreign material to preserve conditions for uniform weathering of steel. The use of acids to remove scale and stains in the field is not allowed.

(Use the following subsection .80 to list the estimated quantities of structural steel. Obtain information from the Bridge Designer.)

00560.80 Measurement - Add the following to the end of this subsection:

The estimated quantity of structural steel is:

(Use the appropriate bid item name as the "Steel Type". List each bridge separately.)

Structure	Steel Type	Quantity (Pound)
Bridge No. _____		

00560.90 Payment - Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.