CONTRACT CHANGE ORDER

Change Requested by: Engineer

CCO: 21	Suppl. No. 0	Contract No. 04 - 0120F4	Road SF-80-13.2/13.9	FED. AID LOC.:

To: **AMERICAN BRIDGE/FLUOR ENTERPRISES INC A JOINT VENT**

You are directed to make the following changes from the plans and specifications or do the following described work not included in the plans and specifications for this contract. ***NOTE: This change order is not effective until approved by the Engineer.***

Description of work to be done, estimate of quantities and prices to be paid. (Segregate between additional work at contract price, agreed price and force account.) Unless otherwise stated, rates for rental of equipment cover only such time as equipment is actually used and no allowance will be made for idle time. This last percentage shown is the net accumulated increase or decrease from the original quantity in the Engineer's Estimate.

Increase size of Cross Beam Stiffeners, change the tower field splices, add seal welds to the tower struts and install tower intermediate stiffener plates at Skin Plate "D" as shown in this change order:

The following revised and supplemental plan sheets detail the changes addressed in this change order:

Revised Contract Plan Sheets: 532R1, 538R2, 539R2, 541R1, 542R1, 543R1, 544R1, 545R1, 546R1, 547R1, 548R1, 549R1, 550R1, 551R1, 552R1, 553R1, 554R1, 555R1, 556R1, 557R1, 558R1, 559R1, 560R1, 561R1, 570R1, 578R1, 579R1, 580R1, 581R1, 583R1, 584R1, 585R1, 586R1, 587R1, 588R1, 597R1, 598R1, 608R1, 609R1, 611R1, 612R1, 656R1, 659R1 and 661R1 (of 1204).

Added Supplemental Contract Plan Sheets: 541S1 and 561S1 (of 1204).

Revise the third paragraph of Section 5-1.01, "WORKING DRAWINGS" in the Special Provisions as shown on Sheet 4 of this change order.

Revise the fourth paragraph of Section 10-1.59, "STEEL STRUCTURES", subsection "ASSEMBLY", subsection "Tower", in the Special Provisions as shown on Sheet 4 of this change order.

Revise the seventh paragraph of Section 10-1.59, "STEEL STRUCTURES", subsection "MATERIALS", in the Special Provisions as shown on Sheet 4 of this change order.

Revise the third paragraph of Section 10-1.59, "STEEL STRUCTURES", subsection "FABRICATION", subsection "Hinge K Pipe Beam" in the Special Provisions as shown on Sheet 4 of this change order.

Revise the fourth paragraph of Section 10-1.59, "STEEL STRUCTURES", subsection "FABRICATION", subsection "Bolted Connections" in the Special Provisions as shown on Sheet 5 of this change order.

Revise Special Provisions, Section 10-1.59, "STEEL STRUCTURES", subsection "SHOP WELDING", subsection "Design Details", Item G.4.l as shown on Sheet 5 of this change order.

This change order resolves the costs associated with Contractor Request For Information (RFI) Nos. 69 and 143 with respect to changes listed above.

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Change Requested by: Engineer

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Estimate of Increase in Contract Item at Contract Price:

Item No. 55: FURNISH STRUCTURAL STEEL (BRIDGE) (BOX GIRDER)
183794 KG (+0.63%) @ $9.00 /KG = +$1,654,146.00 (+0.63%)

Item No. 56: ERECT STRUCTURAL STEEL (BRIDGE) (BOX GIRDER)
183794 KG (+0.63%) @ $1.00 /KG = +$183,794.00 (+0.63%)

The quantity increase shown herein for Item #55, FURNISH STRUCTURAL STEEL (BRIDGE) (BOX GIRDER), when combined with the quantity shown in the Engineer's Estimate, and as modified by any previous change orders or revisions to dimensions made by the Engineer, shall be the final quantity for which payment will be made.

The quantity increase shown herein for Item #56, ERECT STRUCTURAL STEEL (BRIDGE) (BOX GIRDER), when combined with the quantity shown in the Engineer's Estimate, and as modified by any previous change orders or revisions to dimensions made by the Engineer, shall be the final quantity for which payment will be made.

Total cost for Increase in Contract Item.....$1,837,940.00

Estimate of Decrease in Contract Item at Contract Price:

Item No. 52: FURNISH STRUCTURAL STEEL (BRIDGE) (TOWER)
-45472 KG (–0.35%) @ $10.00 /KG = –$454,720.00 (–0.35%)

Item No. 53: ERECT STRUCTURAL STEEL (BRIDGE) (TOWER)
-45472 KG (–0.35%) @ $1.00 /KG = –$45,472.00 (–0.35%)

The quantity decrease shown herein for Item #52, FURNISH STRUCTURAL STEEL (BRIDGE) (TOWER), when combined with the quantity shown in the Engineer's Estimate, and as modified by any previous change orders or revisions to dimensions made by the Engineer, shall be the final quantity for which payment will be made.

The quantity decrease shown herein for Item #53, ERECT STRUCTURAL STEEL (BRIDGE) (TOWER), when combined with the quantity shown in the Engineer's Estimate, and as modified by any previous change orders or revisions to dimensions made by the Engineer, shall be the final quantity for which payment will be made.

Total cost for Decrease in Contract Item.....<$500,192.00>

CONTRACT CHANGE ORDER

Change Requested by: Engineer

CCO: 21	Suppl. No. 0	Contract No. 04 - 0120F4	Road SF-80-13.2/13.9	FED. AID LOC.:

Adjustment of Compensation at Lump Sum:

1. Reimburse the Contractor for additional caulking, paint repair due to additional field welding, bolt touch-up and a decrease for cap screws associated with this change order. For this work, the contractor will be paid the sum of $73,912.00. This sum constitutes full compensation, including markups, for this change.

2. Reimburse the Contractor for additional detailing associated with this change order. For this work, the contractor will be paid the sum of $26,510.00. This sum constitutes full compensation, including markups, for this change.

3. Reimburse the Contractor for additional field erection changes to the OBG associated with this change order. For this work, the contractor will be paid the sum of $329,167.00. This sum constitutes full compensation, including markups, for this change.

4. For the changes in character of work for field erection changes to the tower as a result of this change order, the Department shall receive a credit of <$195,436.00>. This sum constitutes full compensation, including markups, for this change.

5. For the changes in character of work to Clean and Paint the Structural Steel (Tower) as a result of this change order, the Department shall receive a credit of <$10,417.00>. This sum constitutes full compensation, including markups, for this change.

6. For the changes in character of work to Clean and Paint the Structural Steel (Box Girder) as a result of this change order, the Contractor will be paid the sum of $62,868.00. This sum constitutes full compensation, including markups, for this change.

Estimated Cost of Adjustment of Compensation at Lump Sum $286,604.00

Consideration of a time adjustment will be deferred until completion of the work specified herein. Determination of a commensurate time adjustment will be made in accordance with Section 10-1.13, "PROGRESS SCHEDULE (CRITICAL PATH METHOD)" and Section 10-1.14, "TIME-RELATED OVERHEAD" of the Special Provisions, as well as Section 8-1.07, "LIQUIDATED DAMAGES", of the Standard Specifications.

Estimated Cost: Increase ☑ Decrease ☐ **$1,624,352.00**

By reason of this order the time of completion will be adjusted as follows: Deferred

Submitted by

Signature	Resident Engineer Gary Pursell, P.E., Sup.T.E.	Date 8/28/07

Approval Recommended by

Signature	Supervising Bridge Engineer Richard Morrow, P.E., Sup. BE	Date 8/28/07

Engineer Approval by

Signature	Principal Bridge Enigneer Peter Siegenthaler, P.E., Prin. BE	Date 8/28/07

We the undersigned contractor, have given careful consideration to the change proposed and agree, if this proposal is approved, that we will provide all equipment, furnish the materials, except as may otherwise be noted above, and perform all services necessary for the work above specified, and will accept as full payment therefor the prices shown above.

NOTE: If you, the contractor, do not sign acceptance of this order, your attention is directed to the requirements of the specifications as to proceeding with the ordered work and filing a written protest within the time therein specified.

Contractor Acceptance by

Signature	(Print name and title)	Date

In the Special Provisions, Section 5-1.01, "WORKING DRAWINGS," in the third paragraph, revise Item B as follows:

"B. Drawings shall be 559 mm x 864 mm, or 419 mm x 648 mm, or 279 mm x 432 mm in size, at the option of the Engineer. Supplements and calculations shall be 215 mm x 280 mm in size."

Revise Special Provisions, Section 10-1.59, "STEEL STRUCTURES," subsection "ASSEMBLY," subsection "Tower," the fourth paragraph as follows:

"Corners of contacting plates of bolted connections may be beveled up to 6 mm to clear weld beads subject to approval of the Engineer."

Revise Special Provisions, Section 10-1.59, "STEEL STRUCTURES," subsection "MATERIALS," the seventh paragraph as follows:

"Steel plate designated as Pipe Beam Grade 485 and Shear Link Grade 485 on the plans shall conform to the requirements in ASTM Designation: A 709M, Grade HPS 485W with Supplementary Requirement S8, "Ultrasonic Evaluation," Supplementary Requirement S84 "Fracture-Critical, F, Material; Toughness Testing and Marking" tested for Zone 3; and Supplementary Requirement S93, "Limitations on Weld Repair (Fracture Critical Material Only)." Charpy V-Notch tests for the as-fabricated pipe beam and shear link heat affected zone (HAZ) shall meet 48 joules (J) minimum average, and 38 J minimum individual at – 18° C."

Revise Special Provisions, Section 10-1.59, "STEEL STRUCTURES," subsection "FABRICATION," subsection "Hinge K Pipe Beam," the third paragraph as follows:

"The Contractor may select a different thickness and Grade for the pipe beam tubulars subject to review and approval of the Engineer. The thickness and Grade shall be such that the yield capacity in shear and flexure of the tubulars is between 100% and 110% of the design capacity as calculated from what is shown on the plans. The exterior radius shall remain 950 mm. Alternative grades shall meet 20% minimum tensile elongation and ASTM A508M, Grade 4N Charpy Impact requirements unless otherwise approved by the Engineer. "

Revise Special Provisions, Section 10-1.59, "STEEL STRUCTURES," subsection "FABRICATION," subsection "Bolted Connections," the fourth paragraph as follows:

"Alignment and contact for the tower shaft bolted splice shall conform to the requirements of AWS D1.5, Section 3.5.1.14, except that filler plates will not be permitted between the exterior face of the skin plates and the exterior splice plates. Attention is directed to section 10-1.59, "STEEL STRUCTURES," subsection "FABRICATION," subsection "Fabrication/Erection Procedure and Mock-Ups." The tower lift erection splice mock-up(s) shall demonstrate such contact. Splice plates may be heat bent to achieve contact. At the option of the Contractor, tower lift ends shall be milled to bear or shimmed such that the gap shall be no greater than 2 mm. Thermal cut surfaces shall meet the requirements of AWS D1.5, Section 3.2.2. Shimming of up to 5 mm thickness will be permitted. At any given location, the shim shall be a single thickness of steel. Gaps between shims and skin plates shall be filled with silicone caulk prior to installation of the exterior splice plates. Over-size holes will not be permitted. The Contractor shall prepare a work plan that describes the procedure for meeting these requirements and that shall be approved by the Engineer before use. The work plan shall be demonstrated on the mock-up required above. The mating segments of each lift shall be mated at the fabrication site, and the required fit-up demonstrated, before moving each lift to the final assembly site. Bolted connections shall conform to the requirements in the Research Council on Structural Connections, "Specification for Structural Joints Using ASTM A325 or A490 Bolts," 2000 (RCSC Specification), with the following revisions:"

Revise Special Provisions, Section 10-1.59, "STEEL STRUCTURES," subsection "SHOP WELDING," subsection "Design Details," Item G.4.I as follows:

"I. The tolerance of the gap in the vertical direction for longitudinal stiffener bolted splice is ± 5 mm."