TO:

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ENGINEERING INSTRUCTION

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

SUBJECT: Bridge Design Manual - Design Criteria for Bridges: Item 15587.0501 - Steel Bridge Railing Replacement Clamp

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It has been brought to our attention that the work of replacing steel bridge railing clamps is sometimes hampered by the placement of the post connection angles. The placement of these angles sometimes prevents a tight fit between the railing tube and the railing post. The situation is corrected by inserting shims between the rail tube and the post to provide a firm bearing surface.

Since the present specification for this work, Item 15587.05 - Steel Bridge Railing Replacement Clamp, does not allow for shimming work, shimming must be done by order-on-contract. The order-on-contract procedure increases the final cost, delays payment to the Contractor, and increases the Engineer's paper work.

Accordingly, we have prepared Item 15587.0501 - Steel Bridge Railing Replacement Clamp, which includes shimming work as part of the item cost. Item 15587.0501 will eliminate, or mitigate, the problems noted above.

Item 15587.0501 is effective immediately and will be stocked as a Main Office insert. Projects requiring Item 15587.05 which are too far advanced to be changed by standard methods will be changed by ammendment. Item 15587.05 is no longer an acceptable item.

ITEM NO. 15587.0501 - STEEL BRIDGE RAILING REPLACEMENT CLAMP

Description - This work shall consist of removal and disposal of existing bridge railing clamps and installation of replacement clamps.

Materials - Materials used for this work shall conform to the requirements listed below:

A. Rail Clamp - ASTM Designation A500 Grade B; A-36; A-588; A-441; or A-572 Grade 50.

B. Bolts, Nuts, and Washers - ASTM Designation A-325, Type I or Type III.

C. All parts of the clamp and connection assembly shall be galvanized after fabrication in accordance with Material Specification 719-01.

D. All bolts shall have a Class 2A thread fit prior to galvanizing. Nuts to have standard oversize tap to allow for galvanizing.

E. All damage to the galvanizing, either on the clamp, connection assembly, or tube, shall be repaired according to the provisions of Material Specification 719-01.

F. Shims. Shims, if used, shall conform to the following requirements:

1.	Steel	- ASTM A36
2.	Length	- 2-1/2" ± 1/4"
3.	Width	- 3/4" ± 1/16"
4.	Thickness	- 1/4" min.

Construction Details - Replacement clamps shall be new. They shall be the size and dimensions shown on the Contract Plans.

The existing bridge rail clamp shall be carefully removed in a manner satisfactory to the Engineer so as not to damage hardware that is to remain.

All welding shall conform to the requirements of the N.Y.S. Department of Transportation's Steel Construction Manual.

All components of the existing bridge railing system which are damaged due to the Contractors operation shall be repaired or replaced to the satisfaction of the Engineer at no cost to the State. Such damaged material shall be repaired or replaced according to the provisions of Section 568-"Bridge And Culvert Railing."

At no time shall the bridge rail tubes be removed from the posts unless maintenance and protection of traffic, acceptable to the Engineer, is provided.

Wherever the railing does not fit tightly to the post, due to the location of the connection angle, or plate, it will be necessary to weld shims to the post to provide a tight fit between rails and posts.

Construction Details (cont'd)

Shims shall be seal welded in their proper location by means of a 1/2 inch weld on each side of the shim. If more than one shim is required at a given location, then shims shall be welded together by means of a 1/2 inch seal weld on either side of the interface between shims. All welding work shall be done in accordance with the requirements of the N.Y.S. Steel Construction Manual.

All welding locations, and shims, shall be wire brush cleaned, or otherwise cleaned in a manner satisfactory to the Engineer, after welding is completed. The galvanizing shall then be repaired, and the shim painted, in accordance with the requirements of 719-01.

It is the Contractor's responsibility to determine the number of locations requiring shimming. No additional payment will be made for shimming work.

Upon the completion of clamp replacement work, the bridge railing shall conform to the original line and elevation unless otherwise ordered by the Engineer.

During non-working hours, all bridge railing tube shall be securely fastened to the existing posts in a manner acceptable to the Engineer.

Method of Measurement - Measurement will be made as the number of railing clamps replaced. No deduction shall be made for missing clamps.

Basis of Payment - The unit price bid per clamp shall include the cost of furnishing all labor, materials, and equipment necessary to complete the work. Shimming, where necessary, shall be included as part of this work.

All maintenance and protection of traffic work shall be paid for under its' respective item.