

BRIDGE: CUY-90-1372

SFN: 1807870

CALCULATED BY: GDJ  
CHECKED BY: AMRDATE: 09/09/21  
DATE: 09/09/21

## ESTIMATED QUANTITIES

ITEM	ITEM EXT.	DESCRIPTION																																																																																																																																				
513E21501		REPLACEMENT OF DETERIORATED END CROSSFRAMES, AS PER PLAN																																																																																																																																				
<b>End cross frames</b> Total length of angles replaced rear abutment = 215.42 ft Total length of angles replaced forward abutment = 143.87 ft Weight of angles/ft = 8.20 lbs/ft Total weight = 2946.20 lbs  Total Quantity = 3000 LB																																																																																																																																						
513E95020		STRUCTURAL STEEL MISC.: RE-WELD END CROSSFRAME MEMBERS																																																																																																																																				
Number of locations = 23 each Cost/location = \$600 Total cost = \$13,800  Total Quantity = LS																																																																																																																																						
513E95030		STRUCTURAL STEEL MISC.: REPAIR OF DAMAGED MEMBERS - DRILLING																																																																																																																																				
Number of locations = 2 each Cost/location = \$1,000  Total Quantity = 2 EACH																																																																																																																																						
514E00050		SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL																																																																																																																																				
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**L4x4x5/16 Bottom Crossframe Member**

leg length = 4.00 in  
Area per ft = 1.33 SF  
Length = 10.00 ft  
Number of crossframes with top and bot = 504  
Grand total = 6,720.00 SF

**L4x4x5/16 Top and Bottom Crossframe Member Ends**

leg length = 4.00 in  
Area per ft = 1.33 SF  
Length = 13.86 ft  
Number of crossframes = 34  
Grand total = 1,256.64 SF

**Intermediate Stiffeners**

Width = 6.00 in  
Height = 6.00 ft  
Thickness = 0.38 in  
Area of one stiffener = 6.19 SF  
Number of crossframes = 555  
Number of stiffeners for crossframes = 1110  
Number of additional stiffeners on fascias = 131  
Total number of stiffeners = 1241  
Grand total = 7,678.69 SF

**L4x4x5/16 Diagonal Crossframe Member Ends**

leg length = 4.00 in  
Area per ft = 1.33 SF  
Average vertical height of web = 6.00 ft  
Distance down from top = 0.46 ft  
Distance up from from bottom = 0.46 ft  
Vertical dimension of diagonal = 5.08 ft  
Girder spacing along skew = 13.86 ft  
Length per diagonal = 14.76 ft  
Number of crossframes = 34  
Number of diagonals = 2  
Grand total = 1,338.49 SF

**Bearing Stiffeners**

Average width = 9.00 in  
Height = 6.00 ft  
Thickness = 0.75 in  
Area of one stiffener = 9.38 SF  
Total number of stiffeners = 224  
Grand total = 2,100.00 SF

Total girder area = 200,881.63 ft^2  
Additional for misc. (5%) = 10,044.08 ft^2  
Total with misc. = 210,925.72 ft^2  
Reduce for new steel pieces = 479.06 ft^2  
Total existing = 210,446.66 ft^2

Total Quantity = 210,500 SF

514E00056 | FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT

Total Quantity = 210,500 SF

514E00060 | FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT

Total Quantity = 211,000 SF

514E00066 | FIELD PAINTING STRUCTURAL STEEL, FINISH COAT

Total Quantity = 211,000 SF

514E00504 | GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL

Total length of beams for grinding = 9786.60 ft  
Total time for griding = 163.11 manhours  
Total Quantity = 170 MNHR

514E10000 | FINAL INSPECTION REPAIR

Length of beam to inspect = 9786.60 ft  
Per CMS, inspection every = 150.00 ft  
Quantity of inspections for beams = 66 each  
Number of cross frames = 589 each  
Per CMS, inspection for 5% of cross frames = 5%  
Quantity of inspections for cross frames = 30 each  
Total Quantity = 100 EACH