BRIDGE: CUY-90-0758 SFN: 1808567

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

CARPENTER MARTY transportation

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	DESCRIPTION
514E00050		SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL

Girders

Span	Web area from CAD	Sides	Total Area	Length	Average height
1	1,160.13 SF	2	2,320.26 SF	130.00 ft	8.92 ft
2	1,568.44 SF	2	3,136.88 SF	175.00 ft	8.96 ft
3	1,742.56 SF	2	3,485.12 SF	195.00 ft	8.94 ft
4	1,568.44 SF	2	3,136.88 SF	175.00 ft	8.96 ft
5	1,160.13 SF	2	2,320.26 SF	130.00 ft	8.92 ft
		Total =	14,399.40 SF		
		# of girders =	10		
		Grand total =	143,994.00 SF		

Flange width = 20.00 in
Length along top flange = 806.67 ft
Length along bottom flange = 808.24 ft
Flange area = 4,038.58 SF
Number of girders = 10
Grand total = 40,385.78 SF

18WF45 Longitudinal

d = 17.90 in
bf = 7.49 in
Length = 806.67 ft
# of beams = 8
Grand total = 31,339.54 SF

ST7WF21.5 Diagonals 1/2 of 14WF43

d = 6.84 in
bf = 8.03 in
Area per ft = 2.48 SF
# of beams per bay = 58
# of bays = 4
Length per diagonal = 22.11 ft
Grand total = 12,716.25 SF

8WF28 Top Crossframe Member

d = 8.06 in
bf = 6.65 in
Area per ft = 3.56 SF
Length = 16.25 ft
Number of crossframes per bay = 59
# of bays = 8
Grand total = 27,305.20 SF

8WF28 Bottom Crossframe Member

d = 8.06 in
bf = 6.65 in
Area per ft = 3.56 SF
Length = 16.25 ft
Number of crossframes per bay = 59
# of bays = 8
Grand total = 27,305.20 SF

ST6WF18 Diagonal Crossframe Member 1/2 of 12WF36

d = 6.12 in
bf = 6.57 in
Area per ft = 2.11 SF

Span =	1	2	3	4	5	Average
Average vertical height of web =	8.92 ft	8.96 ft	8.94 ft	8.96 ft	8.92 ft	8.94 ft
Distance down from top =	1.92 ft	1.92 ft	1.92 ft	1.92 ft	1.92 ft	
Distance up from bottom =	0.29 ft	0.29 ft	0.29 ft	0.29 ft	0.29 ft	
Vertical dimension of diagonal =	6.72 ft	6.75 ft	6.73 ft	6.75 ft	6.72 ft	6.73 ft
1/2 Girder spacing =	8.13 ft					
Length per diagonal =	10.54 ft	10.57 ft	10.55 ft	10.57 ft	10.54 ft	
Average length per diagonal =	10.55 ft					
Number of crossframes per bay =	59					
# of bays =	8					
Number of diagonals =	2					
Grand total =	21,065.49 SF					

Intermediate Stiffeners		End Stiffeners	
Width =	9.00 in	Width =	9.00 in
Height =	8.94 ft	Height =	7.00 ft
Thickness =	0.75 in	Thickness =	0.75 in
Area of one stiffener =	13.97 SF	Area of one stiffener =	10.94 SF
# of stiffeners per girder =	64	# of stiffeners per girder =	20
# of sides per girder =	2	# of sides per girder =	2
Number of girders =	10	Number of girders =	10
Grand total =	17,883.76 SF	Grand total =	4,375.00 SF

Total area = 326,370.21 ft^2
Additional for misc. (5%) = 16,318.51 ft^2
Total with contingency = 342,688.72 ft^2

Total Quantity = 342,700 SF

514E00056	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT

Total Quantity = 342,700 SF

514E00060	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT

Total Quantity = 342,700 SF

514E00066	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT

Total Quantity = 342,700 SF

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

Total length of girders to grind = 14503.33 ft

Total time for griding = 241.72 manhours *1 minute per linear foot of girder er BDM 404.1.11*

Total Quantity = 250 MNHR

514E10000	FINAL INSPECTION REPAIR

Length of girders to inspect = 14503.33 ft
Per CMS, inspection every = 150.00 ft
Quantity of inspections for beams = 97 each

Number of cross frames = 472 each
Per CMS, inspection for 5% of cross frames = 5%
Quantity of inspections for cross frames = 24 each

Total Quantity = 130 EACH