



Project: 20241009 (FRA-70-0794)	Job No.
Subject: Quantity Calc	
Computed by: AI	Date: 5/28/2025
Checked by: RJE	Date: 6/11/2025

**ITEM 202E11501 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN (MAIN MEMBERS)**

# OF MAIN MEMBERS TO BE PARTIALLY REMOVED = 1 EACH (ONLY PORTIONS OF FASCIA BEAM WILL BE REPLACED)

**TOTAL COST = 1 EACH SAY = 1 EACH**

**ITEM 202E11501 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN (SECONDARY MEMBERS)**

# OF MAIN SECONDARY MEMBERS TO BE PARTIALLY REMOVED = 8 EACH

**TOTAL COST = 8 EACH SAY = 8 EACH**

**ITEM 513E10201 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN**

**MAIN MEMBER: GIRDER 1**

**FLANGE:**

LENGTH = 9.00 FT  
FLANGE PLATE WIDTH = 1.08 FT  
FLANGE THICKNESS = 0.09 FT  
VOLUME = 0.86 CF  
STEEL DENSITY = 490.00 PCF

FLANGE WEIGHT = 423.007813 LBS

**WEB:**

LENGTH = 9.00 FT  
WEB PLATE HEIGHT = 0.91 FT  
WEB PLATE THICKNESS = 0.03 FT  
VOLUME = 0.26 CF  
STEEL DENSITY = 490.00 PCF

WEB WEIGHT = 125.610352 LBS

**SECONDARY MEMEBERS: CROSSFRAMES**

(CROSSFRAMES ARE NUMBERED STARTING AT PIER 2. THERE ARE TWO CROSSFRAMES IN BEAM HEAT STRAIGHTENING AREA WHICH WE ARE ASSUMING WILL NEED TO BE REPLACED.)

GIRDER SPACING = 8.67 FT  
BEAM WEB HEIGHT = 4.67 FT  
HORIZONTAL STRUT LENGTH = 8.33 FT  
DIAGONAL STRUT LENGTH = 9.69 FT

EACH CROSS FRAME HAS TWO DIAGONAL AND ONE HORIZONTAL STRUT:

LENGTH = 27.71 FT  
NUMBER OF CROSS FRAMES = 2.00 EACH  
NUMBER OF UTILITY SUPPORTS = 2.00 EACH  
TOTAL LENGTH = 72.09 FT  
WEIGHT OF L3x3x5/16 = 6.10 LBS/FT  
TOTAL WEIGHT = 439.76 LBS

**PER FIELD REPAIR OF STIFFENER BC-1: TWO STIFFENERS THAT ARE IN THE BEAM SECTION REPAIR AREA WILL BE REPAIRED  
PER FIELD REPAIR STIFFENER BC1-5**

No. OF STIFFENERS = 4.00 EACH (TWO ON EACH SIDE)  
STIFFENER HEIGHT = 0.91 FT  
STIFFENER THICKNESS = 0.03 FT  
STIFFENER WIDTH = 0.42 FT  
VOLUME = 0.05 CF

STEEL DENSITY = 490.00 PCF

STIFFENER WEIGHT = 23.26 LBS

**PER FIELD REPAIR OF STIFFENER WC2-6: ONE THAT IS BY THE WEB TEAR, WILL BE REPAIRED PER WC2-6**

No. OF STIFFENERS = 2.00 EACH (ONE ON EACH SIDE)  
STIFFENER HEIGHT = 0.67 FT (MIN 8")  
STIFFENER THICKNESS = 0.03 FT  
STIFFENER WIDTH = 0.42 FT  
VOLUME = 0.02 CF

STEEL DENSITY = 490.00 PCF

STIFFENER WEIGHT = 8.51 LBS

**TOTAL COST = 1020.15 LBS SAY = 1030 LBS**

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**ITEM 513E95000 - STRUCTURAL STEEL, MISC., REPAIR OF DAMAGED MEMBERS, COMPLETE PENETRATION WELDING**

COMPLETE PENETRATION WELDING WILL BE DONE AT WC2-3, WC2-6, AND BC1-2 DETAILS

TOTAL LENGTH = 14.33 FT

**TOTAL COST = 14.33 FT**

**SAY = 14.3326667 FT**

**ITEM 513E95000 - STRUCTURAL STEEL, MISC., REPAIR OF DAMAGED MEMBERS, FILLET WELDING**

STIFFENERS AT BEAM REMOVAL AREA (BC1-5)

NO OF STIFFENERS = 4.00 EACH (TWO ON EACH SIDE)  
WELD LENGTH = 0.69 FT

SEE WC2-6

NO OF STIFFENERS = 2.00 FT  
WELD LENGTH = 1.17 FT

**TOTAL LENGTH = 7.83 FT**

**SAY = 8 FT**

**ITEM 513E95030 - STRUCTURAL STEEL, MISC., REPAIR OF DAMAGED MEMBERS, DRILLING**

PER WC2-3: TWO TEMPORARY SMALL 1" HOLE WILL BE DRILLED TO ARREST 4" CRACK  
PER BC1: 4 DRILLED HOLES

NO OF HOLES TO BE DRILLED = 6 EACH

**TOTAL COST = 6 EACH**

**SAY = 6 EACH**

**ITEM 513E95030 - STRUCTURAL STEEL, MISC., REPAIR OF DAMAGED MEMBERS, COPE HOLES**

PER BC1-1: TWO TOP COPE HOLES TO SQUARE OFF REMOVAL LIMITS  
PER WC2-5: ONE COPE HOLE

NO OF COPE HOLES = 3 EACH

**TOTAL COST = 3 EACH**

**SAY = 3 EACH**

**ITEM 514E20001 - FIELD PAINTING OF DAMAGED STRUCTURAL STEEL, AS PER PLAN (TWO COAT)**

BEAM 1 HEAT STRAIGHTENING LIMIT PLUS 2 FT= 23.50 FT  
FLANG WIDTH = 1.08 FT  
FLANGE THICKNESS = 0.09 FT  
WEB HEIGHT TO BE PAINTED = 4.67 FT  
WEB THICKNESS = 0.03 FT  
PERIMETER = 11.56 FT

AREA = 271.60 SF

CROSS FRAMES:

LENGTH = 27.71 FT  
PERIMETER = 1.00 FT  
NO OF BAYS = 2.00  
AREA = 55.43 SF

UTILITY SUPPORTS:

LENGTH = 8.33 FT  
PERIMETER = 1.00 FT  
NO OF BAYS = 2.00  
AREA = 16.67 SF

STIFFENERS: ALL STIFFENERS IN HEAT STRAIGHTENING AREA NEEDS TO BE PAINTED

STIFFENER HEIGHT = 4.56 FT  
STIFFENER WIDTH = 0.42 FT  
STIFFENER THICKNESS = 0.03 FT  
AREA = 3.94 SF  
NO OF STIFFENERS = 10.00 EACH (SEE SCREENSHOT: AREA HEAT STRAIGHTENED HAS 5 STIFFENERS ON EACH SIDE)  
AREA = 39.45 SF  
**TOTAL AREA = 366.47 SF**

**SAY = 367 SF**

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ITEM 849E10000 - DAMAGE ASSESSMENT

TOTAL = 1.00 LS SAY = 1.00 LS

ITEM 849E10500 - SURFACE PREPARATION

TOTAL = 1.00 LS SAY = 1.00 LS

ITEM 849E10600 - REPAIRING DAMAGED MEMBERS BY GRINDING

TOTAL HOURS = 4 HOUR (ASSUMED)  
TOTAL = 4.00 HOUR SAY = 4.00 HOUR

ITEM 849E10700 - STRAIGHTENING DAMAGED MEMBERS

LENGTH OF HEAT STRAIGHTENING = 21.5 FT  
  
LUMP = 1.00 LS SAY = 1 LS

ITEM 530E00200 - SPECIAL - STRUCTURES (TEMPORARY UTILITY SUPPORT)

TOTAL = 1.00 LS SAY = 1.00 LS