



CLIENT ODOT District 12
 PROJECT CUY-8/10-2.24/8.69 (PID 113674)
 SUBJECT Bridge No. CUY-8-0226
Estimated Quantity Calculations

PROJECT NO. 2021-1002-00
 COMP. BY JG DATE 10/27/2022
 CHECKED BY MJL DATE 10/28/2022

REVISION HISTORY

Stage 1 Plans: COMP. BY JAM DATE 2/20/2022
 CHECKED BY TDA DATE 2/21/2022

Stage 3 Plans: REVISED BY JG DATE 10/27/2022
 CHECKED BY MJL DATE 10/28/2022

The initials and dates listed in the sheet header reflect the most recent revision of the estimated quantity calculations.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

Concrete Removal:	Factor		Volume (cy)		Cost / cy	=	\$	69,000.00	LS
	1.00	x	230	x	\$300.00				
Drainage Pipe Removal:	Factor		Length (ft)		Cost / ft	=	\$	4,362.00	LS
	1.00	x	2,181	x	\$2.00				
Fence Removal:	Factor		Length (ft)		Cost / ft	=	\$	17,700.00	LS
	1.00	x	3,540	x	\$5.00				
Expansion Joint Removal:	Factor		Length (ft)		Cost / ft	=	\$	6,800.00	LS
	1.00	x	340	x	\$20.00				
Drainage System Support Removal:	Factor		Weight (lb)		Cost / lb	=	\$	16,526.24	LS
	1.00	x	8,263	x	\$2.00				
Total:							\$	114,388.24	LS

Total for ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN: Say: \$ 120,000.00 LS

ITEM 509 - REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN

Superstructure: Say: 200 LB
 Total: 200 LB

Total for ITEM 509 - REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN: 200 LB



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ITEM 511 - CLASS QC2 CONCRETE, SIDEWALK WEARING SURFACE, AS PER PLAN

Rear Abutment:

		No.		Length (ft)		Width (ft)					
Sidewalk Wearing Surface, LT:	N/A (walk on grade)	0	x	0.00	x	6.00	/	1	=	0.00	SF
Sidewalk Wearing Surface, RT:		1	x	0.00	x	6.00	/	1	=	0.00	SF
Total:										0.00	SF
Total for Rear Abutment:										Say: <u>0</u>	SF

Forward Abutment:

		No.		Length (ft)		Width (ft)					
Sidewalk Wearing Surface, LT:	N/A (walk on grade)	0	x	0.00	x	6.00	/	1	=	0.00	SF
Sidewalk Wearing Surface, RT:		1	x	0.00	x	6.00	/	1	=	0.00	SF
Total:										0.00	SF
Total for Forward Abutment:										Say: <u>0</u>	SF

Superstructure:

		No.		Length (ft)		Width (ft)					
Sidewalk Wearing Surface, LT:		1	x	1607.00	x	6.00	/	1	=	9,642.00	SF
Sidewalk Wearing Surface, RT:		1	x	1607.00	x	6.00	/	1	=	9,642.00	SF
Total:										19,284.00	SF
Total for Superstructure:										Say: <u>19,290</u>	SF

Total for ITEM 511 - CLASS QC2 CONCRETE, SIDEWALK WEARING SURFACE, AS PER PLAN:

19,290 SF

ITEM 511 - CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET)

From Plan sheet 11 of 26:

		No.		Length (ft)		Width (ft)		Height (ft)			
Superstructure:											
Bridge Railing Reconstruction:		1	x	28.00	x	1.00	x	2.33	/	27	= 2.42 CY
Total:										2.42	CY
Total:										Say: <u>3.0</u>	CY

Total for ITEM 511 - CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET):

3.0 CY



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ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY):

Superstructure:

	No.		Length (ft)		Width (ft)					
Sidewalk Wearing Surface, LT:	1	x	1607.00	x	6.00	/	9	=	1,071.33	SY
Sidewalk Wearing Surface, RT:	1	x	1607.00	x	6.00	/	9	=	1,071.33	SY
Total:									2,142.67	SY
Total for Superstructure:								Say:	<u>2,143</u>	SY
Total for ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY)::									<u>2,143</u>	SY

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE):

Rear Abutment:

	No.		Length (ft)		Width (ft)					
Bridge Railing, LT:	1	x	18.50	x	8.53	/	9	=	17.54	SY
Bridge Railing, RT:	1	x	17.25	x	8.53	/	9	=	16.35	SY
Total:									33.89	SY
Total for Rear Abutment:								Say:	<u>34</u>	SY

Forward Abutment:

	No.		Length (ft)		Width (ft)					
Bridge Railing, LT:	1	x	244.58	x	8.53	/	9	=	231.84	SY
Bridge Railing, RT:	1	x	68.73	x	8.53	/	9	=	65.15	SY
Total:									296.99	SY
Total for Forward Abutment:								Say:	<u>297</u>	SY

Superstructure:

	No.		Length (ft)		Width (ft)					
Bridge Railing, LT:	1	x	1604.00	x	8.53	/	9	=	1,520.46	SY
Bridge Railing, RT:	1	x	1604.00	x	8.53	/	9	=	1,520.46	SY
Total:									3,040.92	SY
Total for Superstructure:								Say:	<u>3,041</u>	SY
Total for ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE):									<u>3,372</u>	SY



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ITEM 512 - CONCRETE REPAIR BY EPOXY INJECTION

Railing : See Tables on Sheet 11/16 Length (ft)
481.6 = 481.6 FT

Total: 481.6 FT

Total for Superstructure: Say: 482 FT

Total for ITEM 512 - CONCRETE REPAIR BY EPOXY INJECTION: 482 FT

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

Superstructure:

	No.		Length (ft)		Width (ft)		Height (ft)		Weight (pcf)		
Additional Stiffener Plate,"A" see sheet 12:	2	x	0.03	x	0.625	x	2.54	x	490	=	48.65 LB
Additional Stiffener Plate,"B" see sheet 12:	2	x	0.03	x	0.625	x	2.54	x	490	=	48.65 LB
Additional Stiffener Plate,"C" see sheet 12:	1	x	0.03	x	0.688	x	1.25	x	490	=	13.16 LB
Additional End Cross Frame (Horiz.), Rear. Abut:	6	x	9.67	x	0.500	x	0.03	x	490	=	370.05 LB
Additional End Cross Frame (Horiz.), Fwd. Abut:	6	x	9.67	x	0.500	x	0.03	x	490	=	370.05 LB
Additional End Cross Frame (Dia.), Rear. Abut:	12	x	10.02	x	0.500	x	0.03	x	490	=	766.91 LB
Additional End Cross Frame (Dia.), Fwd. Abut:	12	x	10.02	x	0.500	x	0.03	x	490	=	766.91 LB
W18X46 to be replaced both Abutment:	12	x	9.67					x	46	=	5,336.00 LB
Total:											7,720.37 LB

Total for Superstructure: Say: 7,730 LB

Total for ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN: 7,730 LB



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ITEM 514 - SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL
ITEM 514 - FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT
ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT
ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT

Superstructure:

			Number		Perimeter (ft)		Length (ft)		
Girder Ends at Rear Abutment:	Plate Girders		7	x	9.98	x	10.00	=	698.54 SF
Cross Beam at Rear Abutment:	W18x46	X-Frames: 6	6	x	4.53	x	9.67	=	262.84 SF
Cross Frame (Dia.) at Rear Abutment:	3"x3"x5/16"		12	x	1.05	x	10.02	=	126.46 SF
Cross Frame (Straight) at Rear Abutment:	3"x3"x5/16"		6	x	1.05	x	9.67	=	61.02 SF
Girder Ends at Pier 1 Joint, Span 1:	Plate Girders		7	x	13.78	x	10.00	=	964.63 SF
Cross Beam at Pier 1 Joint, Span 1:	W18x46	X-Frames: 6	6	x	4.53	x	9.67	=	262.84 SF
Girder Ends at Pier 1 Joint, Span 2:	Plate Girders		7	x	16.42	x	10.00	=	1,149.17 SF
Cross Beam at Pier 1 Joint, Span 2:	W18x46	X-Frames: 6	6	x	4.53	x	9.67	=	262.84 SF
Girder Ends at Span 4 Joint, Rear:	Plate Girders		7	x	15.17	x	9.01	=	956.61 SF
Girder Ends at Span 4 Joint, Top at Hinge:	Plate Girders		7	x	8.42	x	1.78	=	104.95 SF
Cross Beam at Span 4 Joint, Rear:	W18x46	X-Frames: 6	6	x	4.53	x	9.67	=	262.84 SF
Girder Ends at Span 4 Joint, Bot. at Hinge:	Plate Girders		7	x	10.00	x	1.78	=	124.69 SF
Girder Ends at Span 4 Joint, Forward:	Plate Girders		7	x	15.17	x	8.89	=	943.34 SF
Cross Beam at Span 4 Joint, Forward:	W18x46	X-Frames: 6	6	x	4.53	x	9.67	=	262.84 SF
Girder Ends at Span 8 Joint, Rear:	Plate Girders		7	x	15.17	x	9.01	=	956.61 SF
Girder Ends at Span 8 Joint, Top at Hinge:	Plate Girders		7	x	8.42	x	1.78	=	104.95 SF
Cross Beam at Span 8 Joint, Rear:	W18x46	X-Frames: 6	6	x	4.53	x	9.67	=	262.84 SF
Girder Ends at Span 8 Joint, Bot. at Hinge:	Plate Girders		7	x	8.42	x	1.78	=	104.95 SF
Girder Ends at Span 8 Joint, Forward:	Plate Girders		7	x	15.17	x	8.89	=	943.34 SF
Cross Beam at Span 8 Joint, Forward:	W18x46	X-Frames: 6	6	x	4.53	x	9.67	=	262.84 SF
Girder Ends at Forward Abutment:	Plate Girders		7	x	11.71	x	10.00	=	819.58 SF
Cross Beam at Forward Abutment:	W18x46	X-Frames: 6	6	x	4.53	x	9.67	=	262.84 SF
Cross Frame (Dia.) at Rear Abutment:	3"x3"x5/16"		12	x	1.05	x	10.02	=	126.46 SF
Cross Frame (Straight) at Rear Abutment:	3"x3"x5/16"		6	x	1.05	x	9.67	=	61.02 SF

Subtotal: 10,348.98 SF

Prop. Crossframes: Deduct for prime coat in the shop: = - SF

Subtotal, Deductions for Surface Prep and Prime Coat: = - SF

Total for Superstructure, Existing (for Surface Preparation and Prime Coat): Say: 10,400 SF
 Total for Superstructure, Existing and Proposed (for Intermediate Coat and Finish Coat): Say: 10,400 SF

Total for ITEM 514 - SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL: 10,400 SF
Total for ITEM 514 - FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT: 10,400 SF
Total for ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT: 10,400 SF
Total for ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT: 10,400 SF

ITEM 514 - GRINDING FINNS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL

Total for Superstructure: Per 2020 BDM, Section 404.1.11, 1 minute per 1' of beam/girder to be coated. Say: 24 MNHR

Total for ITEM 514 - GRINDING FINNS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL: 24 MNHR

ITEM 514 - FINAL INSPECTION REPAIR

Total for Superstructure: Per CMS 514.21, 1 location per 150' of beam lines + 5% of crossframes. Say: 13 EACH

Total for ITEM 514 - FINAL INSPECTION REPAIR: 13 EACH



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ITEM 516 - STRIP SEAL EXPANSION JOINT ANCHORED WITH ELASTOMERIC CONCRETE

Superstructure:

Rear Abutment Joint:	=	67.15	FT
Pier 1 Joint:	=	66.00	FT
Span 4 Joint:	=	66.00	FT
Span 8 Joint:	=	66.00	FT
Forward Abutment Joint:	=	66.00	FT
Total:		331.15	FT
Total for Superstructure:	Say:	<u>340</u>	FT

Total for ITEM 516 - STRIP SEAL EXPANSION JOINT ANCHORED WITH ELASTOMERIC CONCRETE: 340 FT

ITEM 518 - 8" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN

Superstructure:

	No. of Spans		No. per Span		Length (ft)		
Scupper Downspouts Along Girders, LT:	9	x	4	x	5.29	=	190.50 FT
Scupper Downspouts Along Girders, RT:	9	x	4	x	5.29	=	190.50 FT
Total:							381.00 FT
Total for Superstructure:						Say:	<u>381</u> FT

Total for ITEM 518 - 8" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN: 381 FT



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ITEM 518 - PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN, 10"

Superstructure:

	No. of Spans		No. of Loc./Span		Length (ft)	=		
Horizontal Pipe Along Girder, LT:	9	x	1	x	36.00	=	324.00	FT
Horizontal Pipe Along Girder, RT:	9	x	1	x	36.00	=	324.00	FT
Downspout Pipe From Girder, LT:	9	x	1	x	4.50	=	40.50	FT
Downspout Pipe From Girder, RT:	9	x	1	x	4.50	=	40.50	FT
Horizontal Pipe Along Pier:	9	x	1	x	16.20	=	145.80	FT
Pier 2, Downspout Pipe to Outlet:			46.03	+	54.78	=	100.80	FT
Pier 3, Downspout Pipe to Outlet:			46.07	+	54.82	=	100.89	FT
Pier 4, Downspout Pipe to Outlet:			66.23	+	74.98	=	141.21	FT
Pier 5, Downspout Pipe to Outlet:			66.20	+	74.95	=	141.15	FT
Pier 6, Downspout Pipe to Outlet:			56.36	+	65.11	=	121.47	FT
Pier 7, Downspout Pipe to Outlet:			66.50	+	75.25	=	141.75	FT
Pier 8, Downspout Pipe to Outlet:			33.84	+	42.59	=	76.43	FT
Pier 9, Downspout Pipe to Outlet:			3.30	+	12.05	=	15.35	FT
Pier 10, Downspout Pipe to Outlet:			4.30	+	13.05	=	17.35	FT
Subtotal:							1,731.20	FT
Total:							1,731.20	FT
Total for Superstructure:						Say:	<u>1,800</u>	FT
Total for ITEM 518 - PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN, 10":							<u>1,800</u>	FT

ITEM 518 - STRUCTURE DRAINAGE, MISC.: GUTTER TROUGH CLEANOUT

This item paid as a **LUMP SUM**.

ITEM 530 - SPECIAL - CURB PLATE SURFACE COATING

Rear Abutment:

Bridge Railing, LT:	18.50	FT
Bridge Railing, RT:	17.25	FT
Total:	35.75	FT
Total for Forward Abutment:	Say: <u>36</u>	FT

Superstructure

Bridge Railing, LT:	1,604.00	FT
Bridge Railing, RT:	1,604.00	FT
Total:	3,208.00	FT
Total for Forward Abutment:	Say: <u>3,208</u>	FT

Forward Abutment:

Bridge Railing, LT:	244.58	FT
Bridge Railing, RT:	68.73	FT
Total:	313.31	FT
Total for Forward Abutment:	Say: <u>314</u>	FT

Total for ITEM 530 - SPECIAL - CURB PLATE SURFACE COATING 3,558 FT



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ITEM 601 - CRUSHED AGGREGATE SLOPE PROTECTION

Piers:

	No.		Length (ft)		Width (ft)		Height (ft)						
Pier 2, Below Pipe RT & LT:	2	x	4.00	x	4.00	x	1.00	/	27	=	1.19	CY	
Pier 3, Below Pipe LT:	2	x	4.00	x	4.00	x	1.00	/	27	=	1.19	CY	
Pier 6, Below Pipe LT:	1	x	4.00	x	4.00	x	1.00	/	27	=	0.59	CY	
Pier 7, Below Pipe LT:	1	x	4.00	x	4.00	x	1.00	/	27	=	0.59	CY	
Pier 9, Below Pipe RT:	1	x	4.00	x	4.00	x	1.00	/	27	=	0.59	CY	
Pier 10, Below Pipe RT:	1	x	4.00	x	4.00	x	1.00	/	27	=	0.59	CY	
											4.74	CY	

Total for Piers: Say: 5 CY

Total for ITEM 601 - CRUSHED AGGREGATE SLOPE PROTECTION: 5 CY

ITEM 601 - ROCK CHANNEL PROTECTION, TYPE A WITH GEOTEXTILE FABRIC

Piers:

Pier 4:							AD Area (s ²)		Height (ft)				
							9,626.00	x	4.00	/	27	=	1,426.07 CY
													Say: <u>1,500</u> CY

Total for ITEM 601 - ROCK CHANNEL PROTECTION, TYPE A WITH GEOTEXTILE FABRIC: 1,500 CY

ITEM 601 - ROCK CHANNEL PROTECTION, TYPE B WITH GEOTEXTILE FABRIC

Piers:

Pier 5:							AD Area (s ²)		Height (ft)				
							7,464.00	x	2.50	/	27	=	691.11 CY
													Say: <u>700</u> CY

Total for ITEM 601 - ROCK CHANNEL PROTECTION, TYPE B WITH GEOTEXTILE FABRIC: 700 CY



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ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC

Rear Abutment:

Fence Rebuilt, LT: Say, length of bridge railing minus 1'-0" = = **17.50** FT
 Fence Rebuilt, RT: Say, length of bridge railing minus 1'-0" = = **16.25** FT
 Total: **33.75** FT
 Total for Rear Abutment: Say: **34** FT

Forward Abutment:

Fence Rebuilt, LT: Say, length of bridge railing minus 1'-0" = = **242.58** FT
 Fence Rebuilt, RT: Say, length of bridge railing minus 1'-0" = = **66.73** FT
 Total: **309.31** FT
 Total for Forward Abutment: Say: **310** FT

Superstructure:

Fence Rebuilt, LT: Say, length of bridge railing = = **1,598.00** FT
 Fence Rebuilt, RT: Say, length of bridge railing = = **1,598.00** FT
 Total: **3,196.00** FT
 Total for Superstructure: Say: **3,196** FT

Total for ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC: 3,540 FT

ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN

Rear Abutment:

	No.		Length (ft)		Width (ft)				
Backwall Repair:	1	x	0.00	x	0.00	/	1	=	0.00 SF
Bridge Railing Repair (see "Railing" tab):								=	0.00 SF
Total:									0.00 SF
Total for Rear Abutment:		Increase by:	50%		for future deterioration...		Say:		0 SF

Forward Abutment:

	No.		Length (ft)		Width (ft)				
Backwall Repair:	1	x	6.71	x	1.25	/	1	=	8.39 SF
Bridge Railing Repair (see "Railing" tab):								=	25.00 SF
Total:									33.39 SF
Total for Forward Abutment:		Increase by:	50%		for future deterioration...		Say:		51 SF

Superstructure:

Railing : See Tables on Sheet 11/16 Area (sf)
416.0 = 416.0 SF
 Total: 416.0 SF
 Total for Superstructure: Say: **416** SF

Total for ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN: 467 SF