Johnson, Mirmiran, & Thompson

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Calculated:			Date:	3/10/2025			_		
Checked:	CBY		Date:	3/13/2025	Stage Submission	:		inal	
Concurred:	PPA		Date:	3/14/2025	PID/Job No.:		113/5//2	20-03248-001	
Back Checked:	CBY		Date:	3/14/2025					
Released:	PPA/CBY	0.10	Date:	3/14/2025	Dridge No.			422-0312	
Project:	MAH-422-03			WICK AVE OVER US-422)	Bridge No.: SFN:			+22-0312 02109	
Subject:						o Deels Ar			\
	МАП-44	22-0312 Re	placeme	ent of Deck and Sub Repairs (4-Span Continuous Steel Beam With Reinford		LCULATED BY:		DATE:	3/10/2025
				ESTIMATED QUANTITIES (01/NHS/13)		CHECKED BY:	CBY	DATE: DATE:	3/13/2025
ITEM	EXT.	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SHT. REF.
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	P.2 / P.25
202	22900	339	SY	APPROACH SLAB REMOVED				339	
202	23500	1,201	SY	WEARING COURSE REMOVED			1,201		
	0.1000								
503	21300	LS	+	UNCLASSIFIED EXCAVATION					
509	10000	100 155		EPOXY COATED STEEL REINFORCEMENT	0 500		104 047		
509	10000	133,455	LB		8,508	+	124,947		┨─────┨
510	10001	612	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	612				P.2 / P.25
		0.2							,0
511	34447	359	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN			359		P.2 / P.25
511	44110	37	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	37				
511	46510	16	CY	CLASS QC1 CONCRETE, FOOTING				16	P.22 / P.25
512	10050	560	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	88		472		
512	10100	724	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	147	362	215		P.2 / P.25
512	74000	128	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	7	121			P.8 & P.9 / P.25
540	10000	201					004		
513 513	10200 20000	361 5,604	LB EACH	STRUCTURAL STEEL MEMBERS, LEVEL UF WELDED STUD SHEAR CONNECTORS			361 5,604		
513	20000 95030	<u> </u>	EACH	STRUCTURAL STEEL, MISC.: TUBULAR STEEL "Y"			5,604 4		P.19 / P.25
515	93030	4	LACIT				4		F.19/F.2J
516	11210	121	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL	121				
516	13600	170	SF	1" PREFORMED EXPANSION JOINT FILLER	121		170		
516	13900	35	SF	2" PREFORMED EXPANSION JOINT FILLER			35		
516	44200	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (16" X 16" X 1 1/2")	16				
516	44200	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (16" X 16" X 2 1/8")		16			
516	44200	8	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (16" X 22" X 2 1/8")		8			
516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN					P.3 / P.25
517	75123	495	FT	RAILING (CONCRETE PARAPET WITH TWIN STEEL TUBE RAILING AND VANDAL PROTECTION FENCE), AS PER PLAN		ļ	495		P.3 / P.25
518	21200	53	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	53				
510	21200	00			55				
519	11101	95	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	8	87			P.3 / P.25
526	15010	282	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=13")				282	
526	90010	133	FT	TYPE A INSTALLATION				133	
SPECIAL	40998000	338	SY	SEALING, MISC: ACRYLIC STAIN			338		P.19 / P.25
SPECIAL	53000200	LS		STRUCTURES, MISC: CHECK PROPOSED VERTICAL CLEARANCE				LS	P.3 / P.25
SPECIAL	53013000	3,030	SF					3,030	P.19 / P.25
007	00044	050	+					050	
607	39911	352	FT	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN			405	352	P.19 / P.25
SPECIAL	60740000	125	FT	VANDAL PROTECTION FENCE, 3' STRAIGHT, COATED FABRIC			125		P.19 / P.25

0313 Input	
177	
40	
47.75	
47.75	
40	
175.5	
55.13	btw. Fascia beams
60.00	
8	
7.88	
2.67	
2.67	
0.00	
10620.00	
60	
	177 40 47.75 47.75 40 175.5 55.13 60.00 8 7.88 2.67 2.67 0.00 10620.00

202	11203		LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN
	deck/barrier		10800	sf	
	barrier		540	sf	
	sidewalk		2035		
		\$	170,000.00		use \$15 / sf of deck area
	abut. Removal		60	ft	length
			1.75	ft	width
			3	ft	height
			2	ea	number of abutments
			630	sf	
			28.33	су	abutment removal CY (add 20% for beams)
		\$	5,666.67		use \$200 / cy
		^	40.000.00		
	misc.	\$	10,000.00		various incidentals such as end cross frames, scuppers, pier cap, etc
			100 001 75		
		\$	186,391.75		total
		\$	200,000.00		
202	22900		339	SY	APPROACH SLAB REMOVED
202	22900		1525	sf	flooded average area from microstation
			2	each	# of approach slabs
			339	sy	total
			000		
202	23500		1,201	SY	WEARING COURSE REMOVED
	bridge		180.0	ft	length
			48	ft	width toe to toe of curbs
			8640	sf	total
	approach		1185	sf	rear approach slab (measured in Microstation)
	slabs		988	sf	rear approach slab (Mmeasured in Microstation)
			1,201	sy	total

503	21300	LS		UNCLASSIFIED EXCAVATION
	REAR ABUT	60.42	ft	length
		2.00	ft	width
		5.90	ft	depth to bottom of new porous backfill
		713	cf	subtotal
		715	CI	Subiotal
	FWD ABUT	58.00	4	longth
	FWD ADUT	2.00	ft #	length width
			ft	
		5.90	ft	depth to bottom of new porous backfill
		684	cf	subtotal
		1007	. f	
		1397	cf	TOTAL
	(0000	52	су	
509	10000	133,455	LB	EPOXY COATED STEEL REINFORCEMENT
		108,010	lb	Deck, Sidewalk, and Haunch
		11,516	lb	Railing on Bridge
		5,421	lb	Approach Rails
		124,947	lb	SUPERSTRUCTURE TOTAL
		8,508	lb	Abutments
		133,455	lb	total
510	10001	612	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN
	prop beam	244	each	RA (A505 and A603)
	seats	234	each	FA (A505 and A603)
		478	each	PROPOSED ABUTMENT TOTAL
		-		
dowel i	nto ex WW	134	each	number of W507 dowels on approach barrier into ex WW
		612	each	ABUTMENT TOTAL
		012	Cuon	
511	34447			CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN
511 deck	34447	359	СҮ	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN deck width between overhangs
511 deck	34447	359 55.13	CY ft	deck width between overhangs
	34447	359 55.13 177.00	CY ft ft	deck width between overhangs deck length (brg to brg + distance to face of backwall - strip seals)
	34447	359 55.13 177.00 8.50	CY ft ft in	deck width between overhangs deck length (brg to brg + distance to face of backwall - strip seals) nominal deck thickness
	34447	359 55.13 177.00 8.50 8	CY ft ft in each	deck width between overhangs deck length (brg to brg + distance to face of backwall - strip seals) nominal deck thickness number of beams
	34447	359 55.13 177.00 8.50 8 0.93	CY ft ft in each in	deck width between overhangs deck length (brg to brg + distance to face of backwall - strip seals) nominal deck thickness number of beams largest top flange thickness, to be conservative (W30x124 > W30x116)
	34447	359 55.13 177.00 8.50 8 0.93 10.515	CY ft ft in each in in	deck width between overhangs deck length (brg to brg + distance to face of backwall - strip seals) nominal deck thickness number of beams largest top flange thickness, to be conservative (W30x124 > W30x116) largest top flange width, to be conservative (W30x124 > W30x116)
	34447	359 55.13 177.00 8.50 8 0.93 10.515 4.97	CY ft ft in each in in in	deck width between overhangs deck length (brg to brg + distance to face of backwall - strip seals) nominal deck thickness number of beams largest top flange thickness, to be conservative (W30x124 > W30x116) largest top flange width, to be conservative (W30x124 > W30x116) average haunch from deck elevation spreadsheet
	34447	359 55.13 177.00 8.50 8 0.93 10.515 4.97 10.52	CY ft ft in each in in in in in	deck width between overhangs deck length (brg to brg + distance to face of backwall - strip seals) nominal deck thickness number of beams largest top flange thickness, to be conservative (W30x124 > W30x116) largest top flange width, to be conservative (W30x124 > W30x116) average haunch from deck elevation spreadsheet haunch width
	34447	359 55.13 177.00 8.50 8 0.93 10.515 4.97 10.52 2.44	CY ft ft in each in in in in ft	deck width between overhangs deck length (brg to brg + distance to face of backwall - strip seals) nominal deck thickness number of beams largest top flange thickness, to be conservative (W30x124 > W30x116) largest top flange width, to be conservative (W30x124 > W30x116) average haunch from deck elevation spreadsheet haunch width left overhang length
	34447	359 55.13 177.00 8.50 8 0.93 10.515 4.97 10.52 2.44 2.44	CY ft ft in each in in in ft ft	deck width between overhangs deck length (brg to brg + distance to face of backwall - strip seals) nominal deck thickness number of beams largest top flange thickness, to be conservative (W30x124 > W30x116) largest top flange width, to be conservative (W30x124 > W30x116) average haunch from deck elevation spreadsheet haunch width left overhang length right overhang length
	34447	359 55.13 177.00 8.50 8 0.93 10.515 4.97 10.52 2.44 2.44 11.63	CY ft ft in each in in in ft ft in	deck width between overhangs deck length (brg to brg + distance to face of backwall - strip seals) nominal deck thickness number of beams largest top flange thickness, to be conservative (W30x124 > W30x116) largest top flange width, to be conservative (W30x124 > W30x116) average haunch from deck elevation spreadsheet haunch width left overhang length right overhang length overhang thickness from plans
	34447	359 55.13 177.00 8.50 8 0.93 10.515 4.97 10.52 2.44 2.44 11.63 6911.30	CY ft ft in each in in in ft ft ft cf	deck width between overhangs deck length (brg to brg + distance to face of backwall - strip seals) nominal deck thickness number of beams largest top flange thickness, to be conservative (W30x124 > W30x116) largest top flange width, to be conservative (W30x124 > W30x116) average haunch from deck elevation spreadsheet haunch width left overhang length right overhang length overhang thickness from plans nominal deck volume
	34447	359 55.13 177.00 8.50 8 0.93 10.515 4.97 10.52 2.44 2.44 2.44 11.63 6911.30 513.89	CY ft ft in each in in in ft ft ft cf	deck width between overhangs deck length (brg to brg + distance to face of backwall - strip seals) nominal deck thickness number of beams largest top flange thickness, to be conservative (W30x124 > W30x116) largest top flange width, to be conservative (W30x124 > W30x116) average haunch from deck elevation spreadsheet haunch width left overhang length right overhang length overhang thickness from plans nominal deck volume haunch volume
	34447	359 55.13 177.00 8.50 8 0.93 10.515 4.97 10.52 2.44 2.44 11.63 6911.30 513.89 685.66	CY ft ft in each in in in in ft ft ft cf cf	deck width between overhangs deck length (brg to brg + distance to face of backwall - strip seals) nominal deck thickness number of beams largest top flange thickness, to be conservative (W30x124 > W30x116) largest top flange width, to be conservative (W30x124 > W30x116) average haunch from deck elevation spreadsheet haunch width left overhang length right overhang length overhang thickness from plans nominal deck volume haunch volume overhang volume
	34447	359 55.13 177.00 8.50 8 0.93 10.515 4.97 10.52 2.44 2.44 2.44 11.63 6911.30 513.89	CY ft ft in each in in in ft ft ft cf	deck width between overhangs deck length (brg to brg + distance to face of backwall - strip seals) nominal deck thickness number of beams largest top flange thickness, to be conservative (W30x124 > W30x116) largest top flange width, to be conservative (W30x124 > W30x116) average haunch from deck elevation spreadsheet haunch width left overhang length overhang length overhang thickness from plans nominal deck volume
	34447	359 55.13 177.00 8.50 8 0.93 10.515 4.97 10.52 2.44 2.44 11.63 6911.30 513.89 685.66 8110.84	CY ft ft in each in in in in ft ft ft ft cf cf cf	deck width between overhangs deck length (brg to brg + distance to face of backwall - strip seals) nominal deck thickness number of beams largest top flange thickness, to be conservative (W30x124 > W30x116) largest top flange width, to be conservative (W30x124 > W30x116) average haunch from deck elevation spreadsheet haunch width left overhang length overhang thickness from plans nominal deck volume haunch volume overhang volume
	34447	359 55.13 177.00 8.50 8 0.93 10.515 4.97 10.52 2.44 2.44 11.63 6911.30 513.89 685.66	CY ft ft in each in in in in ft ft ft cf cf	deck width between overhangs deck length (brg to brg + distance to face of backwall - strip seals) nominal deck thickness number of beams largest top flange thickness, to be conservative (W30x124 > W30x116) largest top flange width, to be conservative (W30x124 > W30x116) average haunch from deck elevation spreadsheet haunch width left overhang length right overhang length overhang thickness from plans nominal deck volume haunch volume
deck		359 55.13 177.00 8.50 8 0.93 10.515 4.97 10.52 2.44 2.44 11.63 6911.30 513.89 685.66 8110.84 301	CY ft ft in each in in in ft ft in in ft ft ft ft ft cf	deck width between overhangs deck length (brg to brg + distance to face of backwall - strip seals) nominal deck thickness number of beams largest top flange thickness, to be conservative (W30x124 > W30x116) largest top flange width, to be conservative (W30x124 > W30x116) average haunch from deck elevation spreadsheet haunch width left overhang length right overhang length overhang thickness from plans nominal deck volume haunch volume overhang volume deck total
	34447	359 55.13 177.00 8.50 8 0.93 10.515 4.97 10.52 2.44 2.44 11.63 6911.30 513.89 685.66 8110.84 301 177.00	CY ft ft in each in in in ft ft in in ft ft ft cf cf cf cf ft ft	deck width between overhangs deck length (brg to brg + distance to face of backwall - strip seals) nominal deck thickness number of beams largest top flange thickness, to be conservative (W30x124 > W30x116) largest top flange width, to be conservative (W30x124 > W30x116) average haunch from deck elevation spreadsheet haunch width left overhang length right overhang length overhang thickness from plans nominal deck volume haunch volume overhang volume deck total
deck		359 55.13 177.00 8.50 8 0.93 10.515 4.97 10.52 2.44 2.44 11.63 6911.30 513.89 685.66 8110.84 301 177.00 0.71	CY ft ft in each in in in in in in in in in ch ft cf cf cf cf cf ft ft ft	deck width between overhangs deck length (brg to brg + distance to face of backwall - strip seals) nominal deck thickness number of beams largest top flange thickness, to be conservative (W30x124 > W30x116) largest top flange width, to be conservative (W30x124 > W30x116) average haunch from deck elevation spreadsheet haunch width left overhang length right overhang length overhang length nominal deck volume haunch volume overhang volume deck total
deck		359 55.13 177.00 8.50 8 0.93 10.515 4.97 10.52 2.44 2.44 11.63 6911.30 513.89 685.66 8110.84 301 177.00 0.71 6.17	CY ft ft in each in ft cf cf cf cf cf ft ft ft	deck width between overhangs deck length (brg to brg + distance to face of backwall - strip seals) nominal deck thickness number of beams largest top flange thickness, to be conservative (W30x124 > W30x116) largest top flange width, to be conservative (W30x124 > W30x116) largest top flange width, to be conservative (W30x124 > W30x116) average haunch from deck elevation spreadsheet haunch width left overhang length right overhang length overhang thickness from plans nominal deck volume haunch volume overhang volume deck total deck total deck total deck total width
deck		359 55.13 177.00 8.50 8 0.93 10.515 4.97 10.52 2.44 2.44 11.63 6911.30 513.89 685.66 8110.84 301 177.00 0.71 6.17 2	CY ft ft in each in ft cf cf cf cf cf ft ft ft ea	deck width between overhangs deck length (brg to brg + distance to face of backwall - strip seals) nominal deck thickness number of beams largest top flange thickness, to be conservative (W30x124 > W30x116) largest top flange width, to be conservative (W30x124 > W30x116) average haunch from deck elevation spreadsheet haunch width left overhang length right overhang length overhang thickness from plans nominal deck volume haunch volume overhang volume deck total deck total uest uest uest uest uest uest nominal deck total uest uest nominal deck volume haunch volume overhang volume deck total uest uest uest uest uest uest nominal deck volume haunch volume uest uest uest
deck		359 55.13 177.00 8.50 8 0.93 10.515 4.97 10.52 2.44 2.44 11.63 6911.30 513.89 685.66 8110.84 301 177.00 0.71 6.17	CY ft ft in each in ft cf cf cf cf cf ft ft ft	deck width between overhangs deck length (brg to brg + distance to face of backwall - strip seals) nominal deck thickness number of beams largest top flange thickness, to be conservative (W30x124 > W30x116) largest top flange width, to be conservative (W30x124 > W30x116) largest top flange width, to be conservative (W30x124 > W30x116) average haunch from deck elevation spreadsheet haunch width left overhang length right overhang length overhang thickness from plans nominal deck volume haunch volume overhang volume deck total deck total deck total deck total width
deck		359 55.13 177.00 8.50 8 0.93 10.515 4.97 10.52 2.44 2.44 11.63 6911.30 513.89 685.66 8110.84 301 177.00 0.71 6.17 2 1546.29	CY ft ft in each in ft cf cf cf cf cf ft ft ft ea	deck width between overhangs deck length (brg to brg + distance to face of backwall - strip seals) nominal deck thickness number of beams largest top flange thickness, to be conservative (W30x124 > W30x116) largest top flange width, to be conservative (W30x124 > W30x116) average haunch from deck elevation spreadsheet haunch width left overhang length right overhang length overhang thickness from plans nominal deck volume haunch volume overhang volume deck total
deck		359 55.13 177.00 8.50 8 0.93 10.515 4.97 10.52 2.44 2.44 11.63 6911.30 513.89 685.66 8110.84 301 177.00 0.71 6.17 2	CY ft ft in each in ft cf cf cf cf cf ft ft ft ea	deck width between overhangs deck length (brg to brg + distance to face of backwall - strip seals) nominal deck thickness number of beams largest top flange thickness, to be conservative (W30x124 > W30x116) largest top flange width, to be conservative (W30x124 > W30x116) average haunch from deck elevation spreadsheet haunch width left overhang length right overhang length overhang thickness from plans nominal deck total deck total
deck		359 55.13 177.00 8.50 8 0.93 10.515 4.97 10.52 2.44 2.44 11.63 6911.30 513.89 685.66 8110.84 301 177.00 0.71 6.17 2 1546.29	CY ft ft in each in in in ft ft ft ft ft ft ft ft ft cf cf cf ft ft ft ft ft cf cf cf cf cf ft ft ft ft	deck width between overhangs deck length (brg to brg + distance to face of backwall - strip seals) nominal deck thickness number of beams largest top flange thickness, to be conservative (W30x124 > W30x116) largest top flange width, to be conservative (W30x124 > W30x116) average haunch from deck elevation spreadsheet haunch width left overhang length right overhang length overhang thickness from plans nominal deck total deck total deck total uength isidewalk total
deck		359 55.13 177.00 8.50 8 0.93 10.515 4.97 10.52 2.44 2.44 11.63 6911.30 513.89 685.66 8110.84 301 177.00 0.71 6.17 2 1546.29	CY ft ft in each in in in ft ft ft ft ft ft ft ft cf cf cf ft ft ft ft ft cf cf cf cf cf ft ft ft ea cf cy	deck width between overhangs deck length (brg to brg + distance to face of backwall - strip seals) nominal deck thickness number of beams largest top flange thickness, to be conservative (W30x124 > W30x116) largest top flange width, to be conservative (W30x124 > W30x116) average haunch from deck elevation spreadsheet haunch width left overhang length right overhang length overhang thickness from plans nominal deck total deck total
deck		359 55.13 177.00 8.50 8 0.93 10.515 4.97 10.52 2.44 2.44 2.44 11.63 6911.30 513.89 685.66 8110.84 301 177.00 0.71 6.17 2 1546.29 58	CY ft ft in each in in in ft ft ft ft ft ft ft ft ft cf cf cf ft ft ft ft ft cf cf cf cf cf ft ft ft ft	deck width between overhangs deck length (brg to brg + distance to face of backwall - strip seals) nominal deck thickness number of beams largest top flange thickness, to be conservative (W30x124 > W30x116) largest top flange width, to be conservative (W30x124 > W30x116) average haunch from deck elevation spreadsheet haunch width left overhang length overhang thickness from plans nominal deck volume haunch volume overhang volume deck total exerage height ident total imit ident total sidewalk total sidewalk total

511	44110	37	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING
backwall		58.00	ft	length
RA		1.75	ft	width
		4.47	ft	avg height (top of deck screeds - sawcut)
		1.88	ft	AS notch height
		0.50	ft	AS notch width
		398.8	cf	subtotal
backwall		60.42	ft	length
FA		1.75	ft	width
		4.47	ft	avg height (top of deck screeds - sawcut)
		1.88	ft	AS notch height
		0.50	ft	AS notch width
		416.2	cf	subtotal
stem extend	beam 1,8	942.89	ft	sawcut elevation
RA		943.39	ft	proposed elevation
		0.50	ft	height
		14.50	ft	length (backwall length in calc / 4)
		2	ft	width
		14.50	cf	subtotal
	beam 2,7	942.89	ft	sawcut elevation
		943.51	ft	proposed elevation
		0.62	ft	height
		14.50	ft	length (backwall length in calc / 4)
		2	ft	width
		17.98	cf	subtotal
	beam 3,6	942.89	ft	sawcut elevation
		943.64	ft	proposed elevation
		0.75	ft	height
		14.50	ft	length (backwall length in calc / 4)
		2	ft	width
		21.75	cf	subtotal
	beam 4,5	942.89	ft	sawcut elevation
		943.75	ft	proposed elevation
		0.86	ft	height
		14.50	ft	length (backwall length in calc / 4)
		2	ft	width
		24.94	cf	subtotal

stem extend	beam 1,8	945.59	ft	sawcut elevation
FA		946.09	ft	proposed elevation
		0.50	ft	height
		15.10	ft	length (backwall length in calc / 4)
		2	ft	width
		15.10	cf	subtotal
	beam 2,7	945.59	ft	sawcut elevation
		946.22	ft	proposed elevation
		0.63	ft	height
		15.10	ft	length (backwall length in calc / 4)
		2	ft	width
		19.03	cf	subtotal
	beam 3,6	945.59	ft	sawcut elevation
		946.34	ft	proposed elevation
		0.75	ft	height
		15.10	ft	length (backwall length in calc / 4)
		2	ft	width
		22.66	cf	subtotal
	beam 4,5	945.59	ft	sawcut elevation
		946.46	ft	proposed elevation
		0.87	ft	height
		15.10	ft	length (backwall length in calc / 4)
		2	ft	width
		26.28	cf	subtotal
		077.00		
		977.30	cf	total
		37	су	total

511	46510	16	CY	CLASS QC1 CONCRETE, FOOTING
RA	off bridge	5.00	sf	1' wide x 2' deep (stem) + 3' wide x 1' deep (ftg)
	east WW	10.78	ft	total length of barrier from end of bridge to tie in guardrail MINUS length on WW
	Section C	1.00	sf	1' wide x 1' deep ftg (far face on Section E on approach barrier plans)
subtract	Section E	7.00	ft	total length of notchout
		46.91	cf	subtotal
RA	off bridge	5.00	sf	1' wide x 2' deep (stem) + 3' wide x 1' deep (ftg)
	west WW	14.30	ft	total length of barrier from end of bridge to tie in guardrail MINUS length on WW
	Section C	71.51	cf	subtotal
FA	off bridge	5.00	sf	1' wide x 2' deep (stem) + 3' wide x 1' deep (ftg)
	west WW	22.92	ft	total length of barrier from end of bridge to tie in guardrail MINUS length on WW
	Section C	114.58	cf	subtotal
FA	off bridge	5.00	sf	1' wide x 2' deep (stem) + 3' wide x 1' deep (ftg)
	east WW	24.64	ft	total length of barrier from end of bridge to tie in guardrail MINUS length on WW
	Section C	123.18	cf	subtotal
RA	off bridge	7.00	sf	2' wide x 2' deep (stem) + 3' wide x 1' deep (ftg)
	east WW	2.00	ft	total length of barrier from end of bridge to tie in guardrail MINUS length on WW
	Section D	14.00	cf	subtotal
RA	off bridge	7.00	sf	2' wide x 2' deep (stem) + 3' wide x 1' deep (ftg)
	west WW	2.00	ft	total length of barrier from end of bridge to tie in guardrail MINUS length on WW
	Section D	14.00	cf	subtotal
FA	off bridge	7.00	sf	2' wide x 2' deep (stem) + 3' wide x 1' deep (ftg)
	west WW	2.00	ft	total length of barrier from end of bridge to tie in guardrail MINUS length on WW
	Section D	14.00	cf	subtotal
FA	off bridge	7.00	sf	2' wide x 2' deep (stem) + 3' wide x 1' deep (ftg)
	east WW	2.00	ft	total length of barrier from end of bridge to tie in guardrail MINUS length on WW
	Section D	14.00	cf	subtotal
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+ extension 85.99 sf subtotal	abutments RA RA FA	off bridge west WW + extension off bridge east WW + extension off bridge west WW + extension	59.21 7.15 1.50 2 1024.01 114 25.83 2.33 60.28 26.76 2.33 62.44 34.92 2.33 81.47	ft ft ft ft sf sy ft sf ft ft sf ft ft sf	avg length height (face of new beam seat + beam seat width + height of backwall) vertical height from beam seat to top of ex slope protection (assume 1'-6") number of abutments subtotal proposed abutment total length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal
	abutments RA RA FA	off bridge west WW + extension off bridge east WW + extension off bridge west WW + extension off bridge	59.21 7.15 1.50 2 1024.01 114 25.83 2.33 60.28 26.76 2.33 62.44 34.92 2.33 81.47 36.85	ft ft ft ft sf sy ft ft	avg length height (face of new beam seat + beam seat width + height of backwall) vertical height from beam seat to top of ex slope protection (assume 1'-6") number of abutments subtotal proposed abutment total length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length
	abutments RA RA FA	off bridge west WW + extension off bridge east WW + extension off bridge west WW + extension off bridge east WW	59.21 7.15 1.50 2 1024.01 114 25.83 2.33 60.28 26.76 2.33 62.44 34.92 2.33 81.47 36.85 2.33	ft ft ft ft sf sy ft	avg length height (face of new beam seat + beam seat width + height of backwall) vertical height from beam seat to top of ex slope protection (assume 1'-6") number of abutments subtotal proposed abutment total length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back
147 Sy ABUTMENT TOTAL	abutments RA RA FA	off bridge west WW + extension off bridge east WW + extension off bridge west WW + extension off bridge east WW	59.21 7.15 1.50 2 1024.01 114 25.83 2.33 60.28 26.76 2.33 62.44 34.92 2.33 81.47 36.85 2.33 85.99	ft ft ft ft sf sy ft	avg length height (face of new beam seat + beam seat width + height of backwall) vertical height from beam seat to top of ex slope protection (assume 1'-6") number of abutments subtotal proposed abutment total length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal
	abutments abutments RA FA FA	off bridge west WW + extension off bridge east WW + extension off bridge west WW + extension off bridge east WW	59.21 7.15 1.50 2 1024.01 114 25.83 2.33 60.28 26.76 2.33 62.44 34.92 2.33 81.47 36.85 2.33 85.99	ft ft ft ft sf sy ft sf ft ft sf	avg length height (face of new beam seat + beam seat width + height of backwall) vertical height from beam seat to top of ex slope protection (assume 1'-6") number of abutments subtotal proposed abutment total length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal length height of barrier in front and in back subtotal

pilasters		2.0	ft	width / length
pliasters		4.5	ft	height
		4	each	sides
		2	each	number of pilasters
		4	each	number of wings
		2.0	ft	top width
		2.0	ft	top length
		8	each	number of tops
		320	sf	pilaster subtotal
		36	sy	pilaster subtotal
		50	Sy	
parapet	on bridge	177.00	ft	length
top	on shuge	2.33	ft	perimeter
.00		2	each	number of barriers
		<u> </u>	odon	
Overhang		9	in	sidewalk thickness
oroniang		11.38	in	overhang ext beam
		6	in	under deck length
		2.20	ft	perimeter
		2.20		
		1604.06	sf	subtotal
		179	sy	PARAPET/DECK SUBTOTAL
		215	sy	PARAPET/DECK TOTAL
		215		
piers	cap	55.13	ft	cap length (full width, center to center fascia columns)
1		4.71	ft	nose circumference
		3	ft	width
		3.68	ft	avg. height (top of proposed - bottom of ex cap from ex plans)
		423.38	sf	cap sides
		151.24	sf	cap bottom (total - column holes) + cap top
		574.62	sf	subtotal (1 cap only)
	columns	13.50	ft	avg height to existing ground (from ex plans say 16.5' avg and 3' to ex ground)
		3	ft	diameter
		4	each	number of columns
		508.94	sf	subtotal (4 columns per pier)
		3	each	locations
	ĺ	3250.66	sf	subtotal (all piers)
		362	sy	PIER TOTAL
		724	sy	total
512	74000	128	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES
	abutments	59.21	ft	avg length
		1.50	ft	vertical height from beam seat to top of ex slope protection (assume 1'-6")
		2	ft	number of abutments
		178	sf	proposed abutment removal of sealer total
		7	sy	proposed abutment removal of sealer total
		0.05/		
pier	pier	3,251	sf	see epoxy sealer total
caps	caps and	121	sy	epoxy sealer total
	columns		~	
		128	SY	total
			1	

513	10200	361	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF
RA	bay 4	7.88	ft	length of bay / bottom length
DETAIL 1	(bottom)	8.2	lb/ft	4" x 4" x 5/16" angle unit weight
		64.58	lb	weight of rehabilitated end cross frame
FA	bay 4	7.88	ft	length of bay
DETAIL 2	(half)	2.51	ft	height of W 30 x 124 girder
		3.19	ft	diagonal angle length
		7.88	ft	bottom angle length
		11.07	ft	total length
		8.2	lb/ft	4" x 4" x 5/16" angle unit weight
		90.76	lb	weight of rehabilitated end cross frame
RA	bay 7	7.88	ft	length of bay
DETAIL 3	(ALL)	2.50	ft	height of W 30 x 116 girder
		4.66	ft	diagonal angle length
		7.88	ft	bottom angle length
		17.20	ft	total length
		8.2	lb/ft	4" x 4" x 5/16" angle unit weight
		141.07	lb	weight of rehabilitated end cross frame
RA	bay 1	7.88	ft	length of bay / bottom length
DETAIL 4	(bottom)	8.2	lb/ft	4" x 4" x 5/16" angle unit weight
		64.58	lb	weight of rehabilitated end cross frame
		001		
		361	lb	total
513	20000	5,604	EACH	WELDED STUD SHEAR CONNECTORS
		351	each	number of studs along beam 30x116
		348	each	number of studs along beam 30x124
		2	each	studs per beam
		6	each	number of beams 30x116 beams
		2	each	number of beams 30x124 beams
		5,604	each	total
513	95030	4	EACH	STRUCTURAL STEEL, MISC.: TUBULAR STEEL "Y"
		2	each	number of piers (1 and 3)
		2	each	number of barriers
		4	ft	total
516	11210	121	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL
		60.50	ft	RA + additional horizontal length into curbs
		60.50	ft	FA
┝────┤		121	ft	total

516	13600	170	SF	1" PREFORMED EXPANSION JOINT FILLER
approach	section A	1.83	ft	height (sidewalk + approach slab)
barrier wall		2.00	ft	length
		4	each	number of locations
	section B	1.83	ft	height (sidewalk + approach slab)
		15.05	ft	length east WW RA
		12.46	ft	length west WW RA
		12.00	ft	length west WW FA
		12.22	ft	length east WW FA
	section C	0.75	ft	height (sidewalk)
		10.78	ft	length east WW RA
		14.30	ft	length west WW RA
		22.92	ft	length west WW FA
		24.64	ft	length east WW FA
	section D	0.75	ft	height (sidewalk)
		2.00	ft	length
		4	each	number of locations
		170	sf	1" PEJF total
516	13900	35	SF	2" PREFORMED EXPANSION JOINT FILLER
	Interface	8.61	sf	area
	at end WW	4	each	locations
	/ prop ftg	35	sf	2" PEJF total
516	44200	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (16" X 16" X 1 1/2"
		2	each	abutments
		0	each	piers
		8	each	beamlines
		16	each	total
516	44200	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (16" X 16" X 2 1/8"
		0	each	abutments
		2	each	piers 1 and 3
		8	each	beamlines
		16	each	total
			-	
516	44200	8	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (16" X 22" X 2 1/8"
		0	each	abutments
		1	each	pier 2
		8	each	beamlines
		8	each	total
540	47000			
516	47000	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE
		\$ 35,000.00		assume \$1000 per bearing at piers; \$500 per bearing at abutments + some inflated cost

517	75123	495	FT	RAILING (CONCRETE PARAPET WITH TWIN STEEL TUBE RAILING AND VANDAL PROTECTION FENCE), AS PER PLAN
BR 2-15	on bridge	177	ft	total length on bridge
		2	each	number of barriers
		354	ft	subtotal
pila	asters	2	ft	length
		8	each	number of locations (2 at each of 4 locations)
		16	ft	subtotal
dowel	into WW			
RA	off bridge	15.05	ft	length of WW from existing plans (subtract out pilaster)
101	east WW	10.00	11	
RA	off bridge	12.46	ft	length of WW from existing plans (subtract out pilaster)
	west WW			
			1	
FA	off bridge	12.00	ft	length of WW from existing plans (subtract out pilaster)
	west WW			
FA	off bridge	12.22	ft	length of WW from existing plans (subtract out pilaster)
	east WW			
past ex WV	V to guardrail			
RA	off bridge	10.78	ft	total length of barrier from end of bridge to tie in guardrail MINUS length on WW
	east WW		-	
	off bridge	14.00	4	total langth of harrian from and of hridne to tis in guardrail MINULS langth on 1444
RA	off bridge west WW	14.30	ft	total length of barrier from end of bridge to tie in guardrail MINUS length on WW
			1	
FA	off bridge	22.92	ft	total length of barrier from end of bridge to tie in guardrail MINUS length on WW
17	west WW	22.52	11	
FA	off bridge	24.64	ft	total length of barrier from end of bridge to tie in guardrail MINUS length on WW
	east WW			
		495	ft	total
518	21200	53	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC
	RA	58.00	ft	length
		5.90	ft	avg height (avg top deck - AS thick - sawcut + 1.5 (approx. ht to mid weep)) + 1
		2	ft	thickness
		684.01	cf	RA PROP TOTAL
	FA	60.40	<u>н</u>	longth
	ГА	60.42 5.90	ft ft	length avg height (avg top deck - AS thick - sawcut + 1.5 (approx. ht to mid weep)) + 1
		2	ft	thickness
		712.51	cf	FA PROP TOTAL
		112.01		
	1	53	су	total
			y	
			8	1

519	11101	95	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN
	RA	5	sf	Estimated area, from table on plans
	FA	3	sf	Estimated area, from table on plans
		8	sf	abutment patching total
	P1	12	sf	Estimated area, from table on plans
	P2	72	sf	Estimated area, from table on plans
	P3	3	sf	Estimated area, from table on plans
		87	sf	pier patching total
		95	sf	total
526	15010	282	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=13")
	RA	1363	sf	RA total (flooded in microstation)
	FA	1172	sf	FA total (flooded in microstation)
		282	sy	total
526	90010	133	FT	TYPE A INSTALLATION
		67.0	ft	RA length at bridge
		65.1	ft	FA length at bridge
		133	ft	total
			_	
SPECIAL	40998000	338	SY	SEALING, MISC: ACRYLIC STAIN
		560.00	sy	total non-epoxy sealing
	subtract out	177.00	ft	length
	sidewalk	5.67	ft	width
	on bridge	2	each	number
		2006.00	sf	sidewalk total subtract out
		222.89	sy	sidewalk total subtract out
1		338	sy	total acrylic stain on parapets

SPECIAL	53013000	3030	SF	FORM LINER
	on bridge	177	ft	total length on bridge
	Ĭ	4	each	number of sides (2 barriers x 2 faces)
		3.17	ft	height
		2242	sf	subtotal
	off bridge	124.36	ft	average length (measured along face in microstation / 4)
RA	off bridge	26	ft	length
	west WW			
RA	off bridge	26.76	ft	length
	east WW			
FA	off bridge	34.92	ft	length
	west WW			
FA	off bridge	36.85	ft	length
	east WW			
		2	each	number of faces
		3.17	ft	height
		788	sf	subtotal
		3030	sf	total
	000//			
607	39911	352	FT	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN
607	39911 on bridge	352 176	FT ft	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN length per parapet
607		352 176 2	FT ft each	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN length per parapet number of parapets
607		352 176	FT ft	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN length per parapet
	on bridge	352 176 2 352	ft ft ft ft	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN length per parapet number of parapets total
SPECIAL	on bridge	352 176 2 352 125	FT ft each ft FT	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN length per parapet number of parapets total VANDAL PROTECTION FENCE, 3' STRAIGHT, COATED FABRIC
	on bridge 60740000 off bridge	352 176 2 352	ft ft ft ft	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN length per parapet number of parapets total
SPECIAL	on bridge	352 176 2 352 125	FT ft each ft FT	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN length per parapet number of parapets total VANDAL PROTECTION FENCE, 3' STRAIGHT, COATED FABRIC
SPECIAL RA	on bridge 60740000 off bridge west WW	352 176 2 352 125 26	FT ft each ft FT ft	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN length per parapet number of parapets total VANDAL PROTECTION FENCE, 3' STRAIGHT, COATED FABRIC length
SPECIAL	on bridge 60740000 off bridge west WW off bridge	352 176 2 352 125	FT ft each ft FT	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN length per parapet number of parapets total VANDAL PROTECTION FENCE, 3' STRAIGHT, COATED FABRIC
SPECIAL RA	on bridge 60740000 off bridge west WW	352 176 2 352 125 26	FT ft each ft FT ft	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN length per parapet number of parapets total VANDAL PROTECTION FENCE, 3' STRAIGHT, COATED FABRIC length ingth
SPECIAL RA RA	on bridge 60740000 off bridge west WW off bridge east WW	352 176 2 352 125 26 26	FT ft each ft FT ft ft	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN length per parapet number of parapets total VANDAL PROTECTION FENCE, 3' STRAIGHT, COATED FABRIC length length length
SPECIAL RA	on bridge 60740000 off bridge west WW off bridge east WW off bridge	352 176 2 352 125 26	FT ft each ft FT ft	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN length per parapet number of parapets total VANDAL PROTECTION FENCE, 3' STRAIGHT, COATED FABRIC length ingth
SPECIAL RA RA	on bridge 60740000 off bridge west WW off bridge east WW	352 176 2 352 125 26 26	FT ft each ft FT ft ft	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN length per parapet number of parapets total VANDAL PROTECTION FENCE, 3' STRAIGHT, COATED FABRIC length Iength Iength
SPECIAL RA RA FA	on bridge 60740000 off bridge west WW off bridge east WW off bridge west WW	352 176 2 352 125 26 26.76 34.92	FT ft each ft ft ft ft ft	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN length per parapet number of parapets total VANDAL PROTECTION FENCE, 3' STRAIGHT, COATED FABRIC length len
SPECIAL RA RA	on bridge 60740000 off bridge west WW off bridge east WW off bridge west WW	352 176 2 352 125 26 26	FT ft each ft FT ft ft	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN length per parapet number of parapets total VANDAL PROTECTION FENCE, 3' STRAIGHT, COATED FABRIC length length length
SPECIAL RA RA FA	on bridge 60740000 off bridge west WW off bridge east WW off bridge west WW	352 176 2 352 125 26 26.76 34.92	FT ft each ft ft ft ft ft	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN length per parapet number of parapets total VANDAL PROTECTION FENCE, 3' STRAIGHT, COATED FABRIC length len
RA FA	on bridge 60740000 off bridge west WW off bridge east WW off bridge west WW	352 176 2 352 125 26 26.76 34.92	FT ft each ft ft ft ft ft	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN length per parapet number of parapets total VANDAL PROTECTION FENCE, 3' STRAIGHT, COATED FABRIC length len