E.L. ROBINSON
ENGINEERING

Computation for: **ESTIMATED QUANTITIES**

SFN: **4903332**

Structure: **MAD-00071-06.680L**

PID: **107630**

Design:	**DTA/GA**	Date	**October 6, 2022**
Check:	**BCW/MRV**	Date	**October 6, 2022**
Update:		Date	
Recheck:		Date	

File Names

Comments

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DESIGN: DTA/GA **DATE:** 10/6/22 **UPDATE:** **DATE:**
CHECK: BCW/MRV **DATE:** 10/6/22 **RECHECK:** **DATE:**
STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 202E11203 **PAY UNIT:** LS
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN
SUPPLEMENTAL DESCRIPTION:

	SUBTOTAL	TOTAL
SPECIAL INSTRUCTIONS:	**TOTAL**	**LS**

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STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 202E22900 **PAY UNIT:** SY
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: APPROACH SLAB REMOVED
SUPPLEMENTAL DESCRIPTION:

	SUBTOTAL	TOTAL
Left Bridge:		
area = 246.29 SY (25'x44.333' each approach slab)	247	247
SPECIAL INSTRUCTIONS:	**TOTAL**	**247**

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STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 503E11101 **PAY UNIT:** LS
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN
SUPPLEMENTAL DESCRIPTION:

	SUBTOTAL	TOTAL
SPECIAL INSTRUCTIONS:	**TOTAL**	**LS**

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STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 503E21100 **PAY UNIT:** CY
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: UNCLASSIFIED EXCAVATION
SUPPLEMENTAL DESCRIPTION:

					SUBTOTAL	TOTAL
Behind Existing Rear Abutment						
Top of excavation =	933.41					
Bottom of excavation =	922.8					
Height =	10.61					
Width =	1.50	ft				
Footing bump out =	1.50	sf				
Length =	64.00	ft				
Volume =	922.56	cf			34	34
In Front of Existing Rear Abutment						
Top of excavation =	928					
Bottom of excavation =	922.8					
Height =	5.2					
Width =	3.00	ft				
Footing bump out =	6.50	sf				
Slope Adjustment =	2.25	sf				
Length =	64.00	ft				
Volume =	726.4	cf			27	61
Excavation at Pr. Rear Abutment						
Area =	36.71	sf	measured in ORD			
Length =	24	ft				
Volume =	881.04	cf			33	94
Excavation at pier 1 (total area)						
Section =	111.507	sf	Measured in ORD			
Length =	66.58333	ft				
Volume	7424.508	cf				
Existing Pier 1						
Section	28.91667	sf				
Length	42.58333	ft				
Volume	1231.368	cf		229.4 cy		
Excavation at pier 2 (total area)						
Section =	88.151	sf	Measured in ORD			
Length =	66.58333	ft				
Volume	5869.387	cf				
Existing Pier 2						
Section	28.91667	sf				
Length	42.58333	ft				

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STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 503E21100 **PAY UNIT:** CY
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: UNCLASSIFIED EXCAVATION
SUPPLEMENTAL DESCRIPTION:

					SUBTOTAL	TOTAL
Volume	1231.368	cf		171.8 cy		
Left Bridge	401.2					
Right Bridge	471					
Average	436.077				437	
Behind Existing fwd Abutment						
Top of excavation =	933.9					
Bottom of excavation =	923.3					
Height =	10.6					
Width =	1.50	ft				
Footing bump out =	1.50	sf				
Length =	64.00	ft				
Volume =	921.6	cf			34	128
In Front of Existing Fwd Abutment						
Top of excavation =	928.5					
Bottom of excavation =	923.3					
Height =	5.2					
Width =	3.00	ft				
Footing bump out =	6.50	sf				
Slope Adjustment =	2.25	sf				
Length =	64.00	ft				
Volume =	726.4	cf			27	155
Excavation at Pr. Rear Abutment						
Area =	36.71	sf	measured in ORD			
Length =	24	ft				
Volume =	881.04	cf			33	187
SPECIAL INSTRUCTIONS:					**TOTAL**	**624**

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STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 504E11101 **PAY UNIT:** SF
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN
SUPPLEMENTAL DESCRIPTION: ELASTIC SECTION MODULUS = 18.1 CU IN/FT

				SUBTOTAL	TOTAL
Rear abutment:					
top el =	934.6				
tip el =	909.8				
difference =	24.8	ft			
excavation length =	11.86	ft	(for 45 degree backslope)		
approach slab length =	25	ft			
area =	669.6	sf		670	670
Forward abutment:					
top el =	935.1				
tip el =	910.4				
difference =	24.7	ft			
excavation length =	11.85	ft	(for 45 degree backslope)		
approach slab length =	25	ft			
area =	666.9	sf		667	1,337
SPECIAL INSTRUCTIONS:				**TOTAL**	**1,337**

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STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 505E11100 **PAY UNIT:** LS
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: PILE DRIVING EQUIPMENT MOBILIZATION
SUPPLEMENTAL DESCRIPTION:

	SUBTOTAL	TOTAL
SPECIAL INSTRUCTIONS:	**TOTAL**	**LS**

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STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 507E00200 **PAY UNIT:** FT
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: STEEL PILES HP12X53, FURNISHED
SUPPLEMENTAL DESCRIPTION:

									SUBTOTAL	TOTAL
Left Bridge:				estimated length						
rear abutment =	10	each	x	40 ft	+	5 ft	=	450 ft	450	450
pier 1 no. =	22	each	x	40 ft	+	5 ft	=	990 ft	990	1,440
pier 2 no. =	22	each	x	50 ft	+	5 ft	=	1210 ft	1,210	2,650
forward abutment =	10	each	x	40 ft	+	5 ft	=	450 ft	450	3,100

SPECIAL INSTRUCTIONS: **TOTAL** **3,100**

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STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 507E00250 **PAY UNIT:** FT
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: STEEL PILES HP12X53, DRIVEN
SUPPLEMENTAL DESCRIPTION:

						SUBTOTAL	TOTAL
Left Bridge:				estimated length			
rear abutment =	10	each	x	40 ft	400 ft	400	400
pier 1 no. =	22	each	x	40 ft	880 ft	880	1,280
pier 2 no. =	22	each	x	50 ft	1100 ft	1,100	2,380
forward abutment =	10	each	x	40 ft	400 ft	400	2,780

SPECIAL INSTRUCTIONS: **TOTAL** **2,780**

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STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 509E10000 **PAY UNIT:** LB
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: EPOXY COATED REINFORCING STEEL
SUPPLEMENTAL DESCRIPTION:

			SUBTOTAL	TOTAL
Rear Abutment	7453	LBS	7,453	7,453
Fwd Abutment	7481	LBS	7,481	14,934
Rear Diaphragm	4076	LBS	4,076	19,010
Fwd Diaphragm	4076	LBS	4,076	23,086
Deck	51365	LBS	51,365	66,299
Parapet	9805	LBS	9,805	76,104
Pier 1 incl. footing	14168	LBS	14,168	90,272
Pier 2 incl. footing	14168	LBS	14,168	104,440
SPECIAL INSTRUCTIONS:			**TOTAL**	**112,592**

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STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 509E10001 **PAY UNIT:** LB
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: EPOXY COATED REINFORCING STEEL, AS PER PLAN
SUPPLEMENTAL DESCRIPTION:

			SUBTOTAL	TOTAL
Pier 1	4774	lbs	4,774	4,774
Pier 2	4818	lbs	4,818	9,592
Deck	28670	lbs	28,670	38,262
SPECIAL INSTRUCTIONS:			**TOTAL**	**38,262**

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STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 509E30020 **PAY UNIT:** FT
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: NO. 4 GFRP DEFORMED BARS
SUPPLEMENTAL DESCRIPTION:

	SUBTOTAL	TOTAL
Bar length = 6710.333 ft	6,711	6,711
SPECIAL INSTRUCTIONS:	**TOTAL**	**6,711**

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STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 511E34446 **PAY UNIT:** CY
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK
SUPPLEMENTAL DESCRIPTION:

					SUBTOTAL	TOTAL
Left Bridge:						
deck to diaphragm. C.J. =			6.87	cy		
microstation deck cross-section area =			45.51	sf		
deck length to integral abutment face =			166	ft		
triangular area along face of the abutment =			0.5	sf		
deck width =			59.33	ft		
total volume =			287.77	cy	288	288
rear diaphragm:						
height=	3.12	ft				
width =	3	ft				
length =	59.333	ft				
total =	20.57	cy			21	308
crown volume =	2.06	cy			2	310
fwd diaphragm:						
height=	3.13	ft				
width =	3	ft				
length =	59.33	ft				
total =	20.63	cy			21	331
crown volume =	2.06	cy			2	333
average diaphragm height (bttm approach slab to beam seat) =			3.43	ft		
Rounding For stage 2 submittal					2	335
SPECIAL INSTRUCTIONS:					**TOTAL**	**335**

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STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 511E34451 **PAY UNIT:** CY
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN
SUPPLEMENTAL DESCRIPTION:

			SUBTOTAL	TOTAL
Left Bridge:				
SBR-1-20 area =	4.083333	sf		
length one side =	193	ft		
no. of sides =	2	each		
parapet volume =	58.38	cy		
transition volume =	1.82	cy		
no. transitions =	4	each		
total transition qty =	7.28	cy		
total =	65.66	cy	66	66

DESIGN DATA:
CONCRETE - COMPRESSIVE STRENGTH = 4.5 KSI
REINFORCING STEEL - MINIMUM YIELD STRENGTH = 60 KSI
GFRP - C&MS 705.28 (MODULUS = 8700 KSI)
AREA OF STANDARD 42" SBR-1 CROSS SECTION = 588.0 SQ. IN.
VOLUME OF 42" SBR-1 14'-0" TRANSITION SECTION = 1.82 CU. YD.

SPECIAL INSTRUCTIONS: **TOTAL** **66**

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STRUCTURE:)-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 511E40513 **PAY UNIT:** CY
SUBJECT: ATED QUANTITIES
DESCRIPTION: CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS, AS PER PLAN
SUPPLEMENTAL DESCRIPTION:

			SUBTOTAL	TOTAL
Pier 1:				
pier 1 elevation area (from microstation) =	1064.24	sf		
width =	2	ft		
end cap area to subtract for one side =	0.43	sf		
end cap volume left side =	0.292526	cy		
end cap volume right side =	0.289346	cy		
pier 1 concrete volume =	78.25072	cy	78	78
Pier 2:				
pier 2 elevation area =	1074.621	sf		
width =	2	ft		
end cap area to subtract for one side =	0.43	sf		
end cap volume left side =	0.295388	cy		
end cap volume right side =	0.292367	cy		
pier 2 concrete volume =	79.01377	cy	79	157
Rounding For stage 2 submittal			2	159
SPECIAL INSTRUCTIONS: WALLS			**TOTAL**	**159**

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STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 511E43512 **PAY UNIT:** CY
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT INCLUDING FOOTING
SUPPLEMENTAL DESCRIPTION:

					SUBTOTAL	TOTAL
Left Bridge:						
rear footer & brestwall:						
height=	6.94	ft				
width =	3	ft				
length =	81.667	ft				
total =	62.97433	cy			63	63
fwd footer:						
height=	6.93	ft				
width =	3	ft				
length =	81.667	ft				
total =	62.88359	cy			63	126
rear wingwalls:						
left wingwall area (microstation) =	28.538	sf	(above beam seat)			
right wingwall area (microstation) =	29.779	sf	(above beam seat)			
wingwall width =	2.5	ft				
wingwall volume =	5.40	cy			5	131
fwd wingwalls:						
left wingwall area (microstation) =	29.779	sf	(above beam seat)			
right wingwall area (microstation) =	28.538	sf	(above beam seat)			
wingwall width =	2.5	ft				
wingwall volume =	5.40	cy			5	137
				Rounding For stage 2 submittal	3	140
SPECIAL INSTRUCTIONS:					**TOTAL**	**140**

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STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 511E46512 **PAY UNIT:** CY
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: CLASS QC1 CONCRETE WITH QC/QA, FOOTING
SUPPLEMENTAL DESCRIPTION:

			SUBTOTAL	TOTAL
Left Bridge:				
pier 1 =	66.09	cy		
pier 2 =	66.09	cy		
total =	132.19	cy	132	132
Rounding For stage 2 submittal			2	134
SPECIAL INSTRUCTIONS:			**TOTAL**	**134**

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STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 512E10100 **PAY UNIT:** SY
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
SUPPLEMENTAL DESCRIPTION:

				SUBTOTAL	TOTAL
Left Bridge:					
parapet on bridge sealing perimeter =	9.41	ft			
length =	167	ft			
no. of sides =	2	each			
area =	349.0597	sy		349	349
parapet only perimeter =	7.82	ft			
length, wingwall to transition =	27	ft	per side		
no. of sides =	2	each			
area =	46.92	sy		47	396
transition quantity:					
section E-E perimeter =	7.15	ft			
section D-D perimeter =	7.08	ft			
section C-C perimeter =	7.08	ft			
section B-B perimeter =	8.32	ft			
section E-E to D-D area =	1.19	sy			
section D-D to C-C area =	1.97	sy			
section C-C to B-B area =	8.56	sy			
total area per transition =	11.71	sy			
no. transitions per bridge =	4	each			
total transition area per bridge =	46.83	sy	(does not include approach slab sides)	47	443
diaphragm face area =	20.57	sy			
diaphragm triangle =	9.32	sy			
no. diaphragms =	2	each			
total per bridge =	59.78	sy		60	503
rear abutment	181.20	sf			
forward abutment	182.12	sf			
total =	40.37	sy		40	543
wingwalls:					
rear left =	11.48	sy		11	554
rear right =	11.64	sy		12	566
forward left =	11.52	sy		12	578
forward right =	11.34	sy		11	589
piers:					
elevation area pier 1/side =	1064.24	sf			
total =	249.2732	sy		249	838
elevation area pier 2/side =	1074.621	sf			
total =	251.7196	sy		252	1,090
SPECIAL INSTRUCTIONS:				**TOTAL**	**1,090**

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STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 512E33000 **PAY UNIT:** SY
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: TYPE 2 WATERPROOFING
SUPPLEMENTAL DESCRIPTION:

			SUBTOTAL	TOTAL
Rear Abutment:				
phase c.j. length =	11.86	ft		
diaphragm c.j. length =	4.87	ft		
behind wingwalls=	25	ft		
additional	1.5	ft		
width =	3	ft		
total rear =	14.41	sy	15	15
Forward Abutment:				
phase c.j. length =	11.85	ft		
diaphragm c.j. length =	4.92	ft		
behind wingwalls=	25	ft		
additional	1.5	ft		
width =	3	ft		
total rear =	14.42	sy	15	30
SPECIAL INSTRUCTIONS:			**TOTAL**	**30**

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STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 513E10241 **PAY UNIT:** LB
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: STRUCTURAL STEEL MEMBERS, LEVEL 2, AS PER PLAN
SUPPLEMENTAL DESCRIPTION:

				SUBTOTAL	TOTAL
Left Bridge:					
w33x130 weight =	130	lbs/ft			
length =	170	ft			
no. beams per bridge =	8	each			
total beam weight =	176800	lbs	3536		
MC18x42.7 weight =	42.7	lbs/ft			
length =	7.45	ft			
no. per bridge =	84	each			
total MC18x42.7 weight per bridge =	26728.83	lbs			
diaphragm connection plate:					
thickness =	0.042	ft			
area =	2.43	ft^2			
no. per bridge =	168	each			
total connection plate weight per bridge =	8334.9	lbs			
splice plates:					
2 outside plate weight =	121.65	lbs			
4 inside plate weight =	88.47	lbs			
2 web plates weight =	163.76	lbs			
total spice plate weight =	373.88	lbs			
no. splices =	16	each			
total splice plate weight per bridge =	5982.0833	lbs			
total beam per bridge (with 0% contingency) =	176800.00	lbs			
total diaphragm per bridge (with 10% contingen	29401.72	lbs			
total dia connection plate per bridge (with 10%	9168.39	lbs			
total splice plate per bridge (with 10% contingei	6580.29	lbs			
Total	221950.40	lbs		222,000	222,000
SPECIAL INSTRUCTIONS:				**TOTAL**	**222,000**

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STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 513E20000 **PAY UNIT:** EACH
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: WELDED STUD SHEAR CONNECTORS
SUPPLEMENTAL DESCRIPTION:

			SUBTOTAL	TOTAL
Left Bridge:				
no. per row =	3	each		
no. rows for one beam line =	255	rows		
no. beam lines per bridge =	8	each		
total no. shea studs per bridge =	6120	each	6,120	6,120
SPECIAL INSTRUCTIONS:			**TOTAL**	**6,120**

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DESIGN: DTA/GA **DATE:** 10/6/22 **UPDATE:** **DATE:**
CHECK: BCW/MRV **DATE:** 10/6/22 **RECHECK:** **DATE:**
STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 514E00061 **PAY UNIT:** SF
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN
SUPPLEMENTAL DESCRIPTION:

			SUBTOTAL	TOTAL
Left Bridge:				
fascia beam coating details perimeter =	5.65	ft		
painted beam length =	160	ft		
no. exterior beam lines per bridge =	1	each		
total area per bridge =	904.6667	sf		
additional coverage at field splices:				
length =	4	ft		
no. of exterior splices =	2	each		
coverage length =	8.41	ft		
total area (0% contingency) =	67.27	sf		
Beam Ends:				
length =	3	ft		
no. of exterior splices =	16	each		
coverage length =	8.41	ft		
total area (0% contingency) =	403.60	sf		
total per bridge =	1375.53	sf	1,380	1,380
SPECIAL INSTRUCTIONS:			**TOTAL**	**1,380**

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STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 514E00067 **PAY UNIT:** SF
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN
SUPPLEMENTAL DESCRIPTION:

			SUBTOTAL	TOTAL
Left Bridge:				
fascia beam coating details perimeter =	5.65	ft		
painted beam length =	160	ft		
no. exterior beam lines per bridge =	1	each		
total area per bridge =	904.6667	sf		
additional coverage at field splices:				
length =	4	ft		
no. of exterior splices =	2	each		
additional coverage length =	8.41	ft		
total area per bridge (0% contingency) =	67.27	sf		
Beam Ends:				
length =	3	ft		
no. of exterior splices =	16	each		
additional coverage length =	8.41	ft		
total area (0% contingency) =	403.60	sf		
total per bridge =	1375.53	sf	1,380	1,380
SPECIAL INSTRUCTIONS:			**TOTAL**	**1,380**

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STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 516E10010 **PAY UNIT:** FT
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: ARMORLESS PREFORMED JOINT SEAL
SUPPLEMENTAL DESCRIPTION:

	SUBTOTAL	TOTAL
Left Bridge:		
114.00 ft	114	114
SPECIAL INSTRUCTIONS:	**TOTAL**	**114**

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STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 516E13200 **PAY UNIT:** SF
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: 1/2" PREFORMED EXPANSION JOINT FILLER
SUPPLEMENTAL DESCRIPTION:

	SUBTOTAL	TOTAL
Rear Abutment:		
length = 59.67 ft		
width = 0.83 ft		
area = 49.73 sf	50	50
Forward Abutment:		
length = 59.67 ft		
width = 0.83 ft		
area = 49.73 sf	50	99
Rounding For stage 2 submittal	1	100
SPECIAL INSTRUCTIONS:	**TOTAL**	**100**

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STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 516E13600 **PAY UNIT:** SF
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: 1" PREFORMED EXPANSION JOINT FILLER
SUPPLEMENTAL DESCRIPTION:

				SUBTOTAL	TOTAL
Left Bridge:					
Parapet at abutments =		16.33	sf	17	17
Rear Abutment:					
length =	59.67	ft			
width =	0.83	ft			
area =	49.73	sf		50	67
Forward Abutment:					
length =	59.67	ft			
width =	0.83	ft			
area =	49.73	sf		50	117
SPECIAL INSTRUCTIONS:				**TOTAL**	**117**

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DESIGN: DTA/GA **DATE:** 10/6/22 **UPDATE:** **DATE:**
CHECK: BCW/MRV **DATE:** 10/6/22 **RECHECK:** **DATE:**
STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 516E13900 **PAY UNIT:** SF
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: 2" PREFORMED EXPANSION JOINT FILLER
SUPPLEMENTAL DESCRIPTION:

			SUBTOTAL	TOTAL
Left Bridge:				
rear diaphragm =	22.325	sf		
fwd diaphragm =	22.325	sf		
total =	44.65	sf	45	45
SPECIAL INSTRUCTIONS:			**TOTAL**	**45**

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DESIGN: DTA/GA **DATE:** 10/6/22 **UPDATE:** **DATE:**
CHECK: BCW/MRV **DATE:** 10/6/22 **RECHECK:** **DATE:**
STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 516E14014 **PAY UNIT:** FT
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: INTEGRAL ABUTMENT EXPANSION JOINT SEAL
SUPPLEMENTAL DESCRIPTION:

			SUBTOTAL	TOTAL
Left Bridge:				
2' lap either side of phase construction jt. =	4	ft		
rear abutment length =	62.67	ft		
fwd abutment length =	62.67	ft		
diaphragm vertical joints =	8.93	ft		
total =	138.26	ft	138	138
SPECIAL INSTRUCTIONS:			**TOTAL**	**138**

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DESIGN: DTA/GA **DATE:** 10/6/22 **UPDATE:** **DATE:**
CHECK: BCW/MRV **DATE:** 10/6/22 **RECHECK:** **DATE:**
STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 516E44100 **PAY UNIT:** EACH
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE)
SUPPLEMENTAL DESCRIPTION: 11.5"x17"x2.049"

			SUBTOTAL	TOTAL
Left Bridge:				
pier 1 no. =	8	each		
pier 2 no. =	8	each		
total =	16	each	16	16
SPECIAL INSTRUCTIONS:			**TOTAL**	**16**

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DESIGN: DTA/GA **DATE:** 10/6/22 **UPDATE:** **DATE:**
CHECK: BCW/MRV **DATE:** 10/6/22 **RECHECK:** **DATE:**
STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 516E44101 **PAY UNIT:** EACH
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN
SUPPLEMENTAL DESCRIPTION: 10"x14"x2.499" W/LOAD PLATE ASSEMBLY

			SUBTOTAL	TOTAL
Left Bridge:				
rear and fwd abutment no. =	16	each	16	16
SPECIAL INSTRUCTIONS:			**TOTAL**	**16**

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STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 518E12301 **PAY UNIT:** EACH
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN
SUPPLEMENTAL DESCRIPTION:

			SUBTOTAL	TOTAL
number =	10	each	10	10
SPECIAL INSTRUCTIONS:			**TOTAL**	**10**

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DESIGN: DTA/GA **DATE:** 10/6/22 **UPDATE:** **DATE:**
CHECK: BCW/MRV **DATE:** 10/6/22 **RECHECK:** **DATE:**
STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 518E21200 **PAY UNIT:** CY
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: POROUS BACKFILL WITH GEOTEXTILE FABRIC
SUPPLEMENTAL DESCRIPTION:

			SUBTOTAL	TOTAL
Left Bridge:				
rear brestwall height =	6.940	ft		
abutment length =	59.333	ft		
width =	2	ft		
volume =	30.50	cy	31	31
diaphragm area =	204.498	sq ft		
width=	2	ft		
volume =	15.148	cy	15	46
fwd abutment height =	6.930	ft		
abutment length =	59.333	ft		
width =	2	ft		
volume =	30.46	cy	30	76
diaphragm area =	204.498	sq ft		
width=	2	ft		
volume =	15.148	cy	15	91
wingwalls:				
rear left wingwall =	6.42	cy	6	98
rear right wingwall =	6.50	cy	6	104
forward left wingwall =	6.51	cy	7	111
forward right wingwall =	6.42	cy	6	117
SPECIAL INSTRUCTIONS:			**TOTAL**	**117**

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STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 518E40000 **PAY UNIT:** FT
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: 6" PERFORATED CORRUGATED PLASTIC PIPE
SUPPLEMENTAL DESCRIPTION:

			SUBTOTAL	TOTAL
Left bridge:				
rear abutment length =	81.667	ft		
fwd abutment length =	81.667	ft		
total =	163.334	ft	164	164
SPECIAL INSTRUCTIONS:			**TOTAL**	**164**

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DESIGN: DTA/GA **DATE:** 10/6/22 **UPDATE:** **DATE:**
CHECK: BCW/MRV **DATE:** 10/6/22 **RECHECK:** **DATE:**
STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 518E40011 **PAY UNIT:** FT
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN
SUPPLEMENTAL DESCRIPTION:

			SUBTOTAL	TOTAL
Left bridge:				
rear abutment length =	35	ft	35	35
forward abutment length =	45	ft	45	80
SPECIAL INSTRUCTIONS:			**TOTAL**	**80**

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DESIGN: DTA/GA **DATE:** 10/6/22 **UPDATE:** **DATE:**
CHECK: BCW/MRV **DATE:** 10/6/22 **RECHECK:** **DATE:**
STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 523E20000 **PAY UNIT:** EACH
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: DYNAMIC LOAD TESTING
SUPPLEMENTAL DESCRIPTION:

			SUBTOTAL	TOTAL
Left Bridge				
HP10x42	1	each		
HP12x53	1	each		
total =	2	each	2	2
SPECIAL INSTRUCTIONS:			**TOTAL**	**2**

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DESIGN: DTA/GA **DATE:** 10/6/22 **UPDATE:** **DATE:**
CHECK: BCW/MRV **DATE:** 10/6/22 **RECHECK:** **DATE:**
STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 526E25011 **PAY UNIT:** SY
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN
SUPPLEMENTAL DESCRIPTION:

			SUBTOTAL	TOTAL
Left Bridge:				
length =	25	ft		
width =	59.333	ft		
no. per bridge =	2	each		
area =	329.63	sy	330	330
SPECIAL INSTRUCTIONS:			**TOTAL**	**330**

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DESIGN: DTA/GA **DATE:** 10/6/22 **UPDATE:** **DATE:**
CHECK: BCW/MRV **DATE:** 10/6/22 **RECHECK:** **DATE:**
STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 526E90031 **PAY UNIT:** FT
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: TYPE C INSTALLATION, AS PER PLAN
SUPPLEMENTAL DESCRIPTION:

			SUBTOTAL	TOTAL
Left Bridge:				
length =	57.00	ft		
no. per bridge =	2.00	each		
total length per bridge =	114.00	ft	114	114
SPECIAL INSTRUCTIONS:			**TOTAL**	**114**

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CHECK: BCW/MRV **DATE:** 10/6/22 **RECHECK:** **DATE:**
STRUCTURE: MAD-00071-06.680L **SFN:** 4903332 **PID:** 107630

ITEM: 601E32100 **PAY UNIT:** CY
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: ROCK CHANNEL PROTECTION, TYPE B WITH FILTER
SUPPLEMENTAL DESCRIPTION:

				SUBTOTAL	TOTAL
Left Bridge:					
rear abutment area =	1229.20	sf	measured in ORD		
thickness type B =	2.50	ft			
volume =	113.81	cy			
adjust for slope	127.2483	cy		127	127
forward abutment area =	1509.15	sf	measured in ORD		
thickness type B =	2.50	ft			
volume =	139.74	cy			
adjust for slope	156.2292	cy		156	283
SPECIAL INSTRUCTIONS:				**TOTAL**	**283**

MADE BY: DTA/GA DATE: 10/6/2022
CHECKED BY: BCW/MRV DATE: 10/6/2022

ESTIMATED QUANTITIES - LEFT BRIDGE

STRUCTURAL FILE NUMBER: 4903332

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIER	SUPER.	GEN.	REFERENCE SHEET NO.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	, 8, 9, 11, 12, 13, AND 14 OF 5
202	22900	247	SY	APPROACH SLAB REMOVED				247	
503	11101	LUMP		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN				LUMP	4 AND 11 OF 52
503	21100	624	CY	UNCLASSIFIED EXCAVATION	187	437			
504	11101	1,337	SF	STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN (ELASTIC SECTION MODULUS = 18.1 CU IN/FT)				1,337	11 OF 52
505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP	
507	00200	3,100	FT	STEEL PILES HP12X53, FURNISHED	900	2,200			
507	00250	2,780	FT	STEEL PILES HP12X53, DRIVEN	800	1,980			
509	10000	112,592	LB	EPOXY COATED REINFORCING STEEL	14,934	28,336	69,322		
509	10001	38,262	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN		9,592	28,670		25 AND 38 OF 52
509	30020	6,711	FT	NO. 4 GFRP DEFORMED BARS			6,711		
511	34446	335	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK			335		
511	34451	66	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN			66		47 OF 52
511	40513	159	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS, AS PER PLAN		159			25 OF 52
511	43512	140	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT INCLUDING FOOTING	140				
511	46512	134	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING		134			
512	10100	1,090	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	86	501	409	94	
512	33000	30	SY	TYPE 2 WATERPROOFING	30				
513	10241	222,000	LB	STRUCTURAL STEEL MEMBERS, LEVEL 2, AS PER PLAN			222,000		39 OF 52
513	20000	6,120	EACH	WELDED STUD SHEAR CONNECTORS			6,120		
514	00061	1,380	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN			1,380		32 OF 52
514	00067	1,380	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			1,380		32 OF 52
516	10010	114	FT	ARMORLESS PREFORMED JOINT SEAL				114	
516	13200	100	SF	1/2" PREFORMED EXPANSION JOINT FILLER	100				
516	13600	117	SF	1" PREFORMED EXPANSION JOINT FILLER	100		17		
516	13900	45	SF	2" PREFORMED EXPANSION JOINT FILLER	45				
516	14014	138	FT	INTEGRAL ABUTMENT EXPANSION JOINT SEAL	138				
516	44100	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (11.5"x17"x2.049")		16			
516	44101	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (10"x14"x2.499" W/LOAD PLATE ASSEMBLY)	16				29 OF 52
518	12301	10	EACH	SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN			10		38 AND 39 OF 52
518	21200	117	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	117				
518	40000	164	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	164				
518	40011	80	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	80				18 AND 22 OF 52
523	20000	2	EACH	DYNAMIC LOAD TESTING				2	
526	25011	330	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN				330	47 OF 52
526	90031	114	FT	TYPE C INSTALLATION, AS PER PLAN				114	47 OF 52
601	32100	283	CY	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	283				