fishbeck

Engineers | Architects | Scientists | Constructors

Computation for: **ESTIMATED QUANTITIES**

SFN: **2513021**

Structure: **FRA-270-0096**

PID: **105498**

Design:	**BMV**	Date	**April 10, 2023**
Check:	**TLC**	Date	**April 12, 2023**
Update:	**BMV**	Date	**January 24, 2024**
Recheck:		Date	

File Names

Comments

Calculations updated 1/24/24 to reflect plan split between ODOT and City of Columbus. No changes to individual quantity calculations.

DESIGN: BMV	DATE: 4/10/23	UPDATE: BMV	DATE: 1/24/24		
CHECK: TLC	DATE: 4/12/23	RECHECK:	DATE:		
STRUCTURE: FRA-270-0096		SFN: 2513021	PID: 105498		

ITEM: 202E11203 PAY UNIT: LS

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

SUPPLEMENTAL DESCRIPTION:

	SUBTOTAL	TOTAL
REMOVE EXISTING DECK $25/SF		
REMOVE SUBSTRUCTURE CONCRETE $200/CY		
SAWCUTTING $2.00 PER INCH OF DEPTH PER LF OF CUT		
ABUTMENT REMOVAL (BELOW BEAM SEAT)		
Width = 3.75 ft *Avg width*		
Length = 39 ft		
146.25 sf x 1.5 ft = 219.38 cf		
= 16.3 cy = **$3,250**		
Sawcutting (2 abuts)		
45 in.		
39 ft cost = **$7,020** (2 abuts)		
$2.0 $/in./lf.		
BACKWALL REMOVAL		
Width = 1.75 ft		
Length = 39 ft		
68.25 sf x 5 ft = 341.25 cf		
= 25.3 cy = **$5,056** (2 abuts)		
WINGWALL REMOVAL		
Area = 100 sf Area measured in microstation		
100 sf x 1.5 ft = 150.00 cf		
= 22.2 cy = **$4,444**		
DECK REMOVAL		
Width = 36 ft		
Length = 310.96 ft		
11194.56 sf = **$279,864**		
C01 - ODOT TOTAL (LS) = **$300,000**		
SPECIAL INSTRUCTIONS:	**TOTAL**	**LS**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 202E22900 **PAY UNIT:** SY

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: APPROACH SLAB REMOVED

SUPPLEMENTAL DESCRIPTION:

				SUBTOTAL	TOTAL
Width =	36	ft			
Length =	25	ft			
Area =	100	sy			
Count =	2				
Total Area =	200	SY	**C01 - ODOT**	200	200
SPECIAL INSTRUCTIONS:				**TOTAL**	**200**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 202E23500 **PAY UNIT:** SY

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: WEARING COURSE REMOVED

SUPPLEMENTAL DESCRIPTION:

					SUBTOTAL	TOTAL
Width =	33.00	ft				
Length =	361.00	ft	(includes bridge deck and approach slabs)			
Area =	1323.67	SY		**C01 - ODOT**	1,324	1,324
SPECIAL INSTRUCTIONS:					**TOTAL**	**1,324**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 503E21300 **PAY UNIT:** LS

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: UNCLASSIFIED EXCAVATION

SUPPLEMENTAL DESCRIPTION:

				SUBTOTAL	TOTAL
FOR COST ESTIMATING PURPOSES ONLY					
Behind Existing Abutments					
Rear Abut. Length =	40.45	ft			
Forward Abut. Length =	39.35	ft			
Porous Backfill Width =	2	ft			
Approx. Depth =	9.00	ft			
Abutment Volume =	79.80	CY		80	80
Wingwalls/Extended Abutment Stem					
Footing Excavation Width =	8.25	ft			
Rear Left Length =	18.58	ft			
Rear Right Length =	11.15	ft			
Fwd Left Length =	19.06	ft			
Fwd Right Length =	10.66	ft			
Rear Left Avg Depth =	7.27	ft			
Rear Right Avg Depth =	7.27	ft			
Fwd Left Avg Depth =	7.44	ft			
Fwd Right Avg Depth =	7.44	ft			
Wingwalls Volume =	133.59	CY		134	213
Pier Footing					
Footing Width =	7.50	ft			
Footing Excavation Width =	9.50	ft			
Footing Length =	7.50	ft			
Footing Excavation Length =	9.50	ft			
Ground El =	765				
Btm Footing El =	759.40				
# Pier =	3	each			
Footing Volume =	56.16	CY	**C01 - ODOT**	56	270
SPECIAL INSTRUCTIONS: CHECK UNIT OF MEASURE				**TOTAL**	**LS**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 505E11100 **PAY UNIT:** LS

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: PILE DRIVING EQUIPMENT MOBILIZATION

SUPPLEMENTAL DESCRIPTION:

	SUBTOTAL	TOTAL
Total = LS		
C03 - City of Columbus		
SPECIAL INSTRUCTIONS:	**TOTAL**	**LS**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 507E00100 **PAY UNIT:** FT

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: STEEL PILES HP10X42, FURNISHED

SUPPLEMENTAL DESCRIPTION:

				SUBTOTAL	TOTAL
Pier 1 & 3 Footing Piles					
# of Piers =	2				
# of Piles per Pier =	4				
Length =	45.00	ft			
Length =	360.00	FT		360	360
Pier 2 Footing Piles					
# of Piers =	1				
# of Piles per Abutment =	4				
Length =	35.00	ft			
Length =	140.00	FT		140	500
Rear Abutment Footing Piles					
# of Abutments =	1				
# of Piles per Abutment =	9				
Length =	45.00	ft			
Length =	405.00	FT		405	905
Forward Abutment Footing Piles					
# of Abutments =	1				
# of Piles per Abutment =	9				
Length =	50.00	ft			
Length =	450.00	FT	**C03 - City of Columbus**	450	1,355
SPECIAL INSTRUCTIONS:				**TOTAL**	**1,355**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 507E00150 **PAY UNIT:** FT

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: STEEL PILES HP10X42, DRIVEN

SUPPLEMENTAL DESCRIPTION:

				SUBTOTAL	TOTAL
Pier 1 & 3 Footing Piles					
# of Piers =	2				
# of Piles per Pier =	4				
Length =	40.00	ft			
Length =	320.00	FT		320	320
Pier 2 Footing Piles					
# of Piers =	1				
# of Piles per Abutment =	4				
Length =	30.00	ft			
Length =	120.00	FT		120	440
Rear Abutment Footing Piles					
# of Abutments =	1				
# of Piles per Abutment =	9				
Length =	40.00	ft			
Length =	360.00	FT		360	800
Forward Abutment Footing Piles					
# of Abutments =	1				
# of Piles per Abutment =	9				
Length =	45.00	ft			
Length =	405.00	FT	**C03 - City of Columbus**	405	1,205
SPECIAL INSTRUCTIONS:				**TOTAL**	**1,205**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 509E10000 **PAY UNIT:** LB

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: EPOXY COATED REINFORCING STEEL

SUPPLEMENTAL DESCRIPTION:

					SUBTOTAL	TOTAL
See reinforcing steel list						
Abutment and Wingwall Steel						
Rear Abutment =		LB				
Forward Abutment =		LB				
Weight =	7,005	LB			7,005	7,005
	C01 =	2802	LB			
	C03 =	4203	LB			
Pier Steel						
Weight =	9730	LB			9,730	16,735
	C01 =	973	LB	*Adjust beam seat elev*		
	C03 =	8757	LB	*Additional column & footing*		
Superstructure Steel						
Deck =	113918	LB				
Diaphragms =						
	C01 =	94277	LB	*Existing deck width*		
	C03 =	19641	LB	*Additional deck width*		
Railing =	21384	LB	*Railing + light pilasters*			
	C01 =	14256	LB	*2 of 3 railings*		
	C03 =	7128	LB	*1 of 3 railings*		
Weight =	135302	LB			135,302	152,037
TOTAL C01 - ODOT =	**112308**	**LB**				
TOTAL C03 - CoC =	**39729**	**LB**				
SPECIAL INSTRUCTIONS:					**TOTAL**	**152,037**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 510E10001 **PAY UNIT:** EACH

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN

SUPPLEMENTAL DESCRIPTION:

					SUBTOTAL	TOTAL
Rear Abutment						
Vertical Bars =	58	each				
Wingwall Hor. Bars =	38	each				
	C01 =	77	each	*Vertical + 50% wingwall bars*		
	C03 =	19	each	*50% wingwall bars*		
Total =	96	each			96	96
Piers						
Stirrup Bars =	74	each				
Horizontal Bars =	10	each				
# of Piers =	3					
	C01 =	222	each	*100% stirrup bars*		
	C03 =	30	each	*100% horizontal bars*		
Total =	252	each			252	348
Forward Abutment						
Vertical Bars =	58	each				
Wingwall Hor. Bars =	38	each				
	C01 =	77	each	*Vertical + 50% wingwall bars*		
	C03 =	19	each	*50% wingwall bars*		
Total =	96				96	444
	TOTAL C01 - ODOT =	**376**	**EA**			
	TOTAL C03 - CoC =	**68**	**EA**			
SPECIAL INSTRUCTIONS:					**TOTAL**	**444**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 511E33500 **PAY UNIT:** EACH

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: SEMI-INTEGRAL DIAPHRAGM GUIDE

SUPPLEMENTAL DESCRIPTION:

				SUBTOTAL	TOTAL
Rear Abut =	1	ea			
Fwd Abut =	1	ea			
Total =	2	ea	**C01 - ODOT**	2	2
SPECIAL INSTRUCTIONS:				**TOTAL**	

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 511E34413 **PAY UNIT:** CY

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN

SUPPLEMENTAL DESCRIPTION:

								SUBTOTAL	TOTAL
Deck									
Width =	36.00	ft							
Length =	310.96	ft			Beam 6				
Thickness =	8.5	in			Length (ft)	Flange (in)			
Deck Volume =	293.68	CY		W36x150 =	222	0.94			
				W36x232 =	56	1.57			
# of Beams =	5			W36x256 =	28	1.73			
Beam 6 Avg. Haunch Height =	0.00	ft		Avg Flange Thickness =	1.13	in			
Beams 1-5 Avg. Haunch Height =	0.23	ft		max haunch + flange =	3.855	in			
Beam 6 Avg. Add. Overhang Height =	0.00	ft							
Beams 1 Avg. Add. Overhang Height =	0.39	ft							
Beam 6 Haunch Width =	0.00	ft			Beams 1-5				
Beams 1-5 Avg. Haunch Width =	1.16	ft			Length (ft)	Flange (in)	Fla. Width		
Beam 6 Overhang Width =	0.00	ft		36WF160 =	113.25	1	12		
Beams 1 Overhang Width =	2.42	ft		36WF160 w/ Top Plate =	46.5	1.94	12		
Haunch Length =	310.96	ft		36WF230 =	125.75	1.25	16		
Haunch/Overhang Volume =	26.12	CY		36WF230 w/ Top Plate =	20.5	1.88	16		
				Avg Flange Thickness =	1.30	in	13.91		
Deck Total Volume =	319.81	CY		max haunch + flange =	4.0625	in		320	320
Rear Abutment Diaphragm									
Length =	38.33	ft							
Width =	3.75	ft						27	347
Avg. Depth =	5.04	ft							
Volume =	26.84	CY							
Foward Abutment Diaphragm									
Length =	38.33	ft							
Width =	3.75	ft						27	374
Avg. Depth =	5.00	ft							
Volume =	26.61	CY							
Light Pilasters									
Area =	5.41	ft^2							
Height =	2.97	ft							
# pilasters =	0.00	each							
Volume =	0.00	CY						0	374
C01 - ODOT =	**374**	**CY**							
SPECIAL INSTRUCTIONS:	REPAIR OR RECONSTRUCTION							**TOTAL**	**374**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 511E34413 **PAY UNIT:** CY

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN

SUPPLEMENTAL DESCRIPTION:

								SUBTOTAL	TOTAL
Deck									
Width =	7.50	ft							
Length =	310.96	ft			Beam 6				
Thickness =	8.5	in			Length (ft)	Flange (in)			
Deck Volume =	61.18	CY		W36x150 =	222	0.94			
				W36x232 =	56	1.57			
# of Beams =	1			W36x256 =	28	1.73			
Beam 6 Avg. Haunch Height =	0.23	ft		Avg Flange Thickness =	1.13	in			
Beams 1-5 Avg. Haunch Height =	0.00	ft		max haunch + flange =	3.855	in			
Beam 6 Avg. Add. Overhang Height =	0.37	ft							
Beams 1 Avg. Add. Overhang Height =	0.00	ft							
Beam 6 Haunch Width =	1.00	ft			Beams 1-5				
Beams 1-5 Avg. Haunch Width =	0.00	ft			Length (ft)	Flange (in)	Fla. Width		
Beam 6 Overhang Width =	2.50	ft		36WF160 =	113.25	1	12		
Beams 1 Overhang Width =	0.00	ft		36WF160 w/ Top Plate =	46.5	1.94	12		
Haunch Length =	310.96	ft		36WF230 =	125.75	1.25	16		
Haunch/Overhang Volume =	13.25	CY		36WF230 w/ Top Plate =	20.5	1.88	16		
				Avg Flange Thickness =	1.30	in	13.91		
Deck Total Volume =	74.43	CY		max haunch + flange =	4.0625	in		75	75
Rear Abutment Diaphragm									
Length =	9.67	ft							
Width =	3.75	ft						7	82
Avg. Depth =	5.04	ft							
Volume =	6.77	CY							
Foward Abutment Diaphragm									
Length =	9.67	ft							
Width =	3.75	ft						7	89
Avg. Depth =	5.00	ft							
Volume =	6.71	CY							
Light Pilasters									
Area =	5.41	ft^2							
Height =	2.97	ft							
# pilasters =	2.00	each							
Volume =	1.19	CY						2	91
C03 - CoC =	**91**	**CY**							
SPECIAL INSTRUCTIONS: REPAIR OR RECONSTRUCTION								**TOTAL**	**91**

DESIGN:	BMV	DATE: 4/10/23	UPDATE:	BMV	DATE: 1/24/24
CHECK:	TLC	DATE: 4/12/23	RECHECK:		DATE:
STRUCTURE:	FRA-270-0096		SFN:	2513021	PID: 105498

ITEM: 511E41010 **PAY UNIT:** CY

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: CLASS QC1 CONCRETE, PIER ABOVE FOOTINGS

SUPPLEMENTAL DESCRIPTION:

									SUBTOTAL	TOTAL
Pier Cap										
		Existing								
	Seat G1	Seat G2	Seat G3	Seat G4	Seat G5					
Pier 1	780.81	780.94	781.08	781.21	781.34					
Pier 2	780.99	781.1	781.21	781.33	781.44					
Pier 3	780.8	780.8	780.9	780.99	781.08					
			Proposed							
	Seat G1	Seat G2	Seat G3	Seat G4	Seat G5	Seat G6	Bott. Cap	Bott. Foot.		
Pier 1	781.97	782.11	782.25	782.39	782.53	781.88	777.06	759.4		
Pier 2	782.22	782.33	782.45	782.57	782.68	782.16	777.24	759.4		
Pier 3	782.03	782.12	782.22	782.31	782.4	781.97	776.96	760		
Cap Width =	3.00	ft								
Raised Cap Length =	36.17	ft								
Added Cap Length =	0.00	ft								
Pier 1 Cap Volume =	4.72	CY								
Pier 2 Cap Volume =	4.97	CY								
Pier 3 Cap Volume =	5.23	CY								
Total Cap Volume =	14.92	CY							15	15
Pier Cap										
Pier 1 Column Height =	0.00	ft								
Pier 2 Column Height =	0.00	ft								
Pier 3 Column Height =	0.00	ft								
Column Diameter =	3	ft								
Total Column Volume =	0.00	CY							0	15
C01 - ODOT =	**15**	**CY**								
SPECIAL INSTRUCTIONS: CAP AND COLUMN									**TOTAL**	**15**

DESIGN: BMV	**DATE:** 4/10/23	**UPDATE:** BMV	**DATE:** 1/24/24
CHECK: TLC	**DATE:** 4/12/23	**RECHECK:**	**DATE:**
STRUCTURE: FRA-270-0096		**SFN:** 2513021	**PID:** 105498

ITEM: 511E41010 **PAY UNIT:** CY
SUBJECT: ESTIMATED QUANTITIES
DESCRIPTION: CLASS QC1 CONCRETE, PIER ABOVE FOOTINGS
SUPPLEMENTAL DESCRIPTION:

									SUBTOTAL	TOTAL
Pier Cap										
		Existing								
	Seat G1	Seat G2	Seat G3	Seat G4	Seat G5					
Pier 1	780.81	780.94	781.08	781.21	781.34					
Pier 2	780.99	781.1	781.21	781.33	781.44					
Pier 3	780.8	780.8	780.9	780.99	781.08					
			Proposed							
	Seat G1	Seat G2	Seat G3	Seat G4	Seat G5	Seat G6	Bott. Cap	Bott. Foot.		
Pier 1	781.97	782.11	782.25	782.39	782.53	781.88	777.06	759.4		
Pier 2	782.22	782.33	782.45	782.57	782.68	782.16	777.24	759.4		
Pier 3	782.03	782.12	782.22	782.31	782.4	781.97	776.96	760		
Cap Width =	3.00	ft								
Raised Cap Length =	0.00	ft								
Added Cap Length =	9.33	ft								
Pier 1 Cap Volume =	5.00	CY								
Pier 2 Cap Volume =	5.10	CY								
Pier 3 Cap Volume =	5.20	CY								
Total Cap Volume =	15.30	CY							16	16
Pier Cap										
Pier 1 Column Height =	15.16	ft								
Pier 2 Column Height =	15.34	ft								
Pier 3 Column Height =	14.46	ft								
Column Diameter =	3	ft								
Total Column Volume =	11.77	CY							12	28
C03 - CoC =	**28**	**CY**								
SPECIAL INSTRUCTIONS: CAP AND COLUMN									**TOTAL**	**28**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 511E43510 **PAY UNIT:** CY

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING

SUPPLEMENTAL DESCRIPTION:

			SUBTOTAL	TOTAL
Rear Abutment				
Stem Width =	3.75	ft		
Left Full Height Stem Height =	0.00	ft		
Right Full Height Stem Height =	0.00	ft		
Left Full Height Stem Length =	0.00	ft		
Right Full Height Stem Length =	0.00	ft		
Length of Capped Portion =	39.35	ft		
Height of Capped Portion =	1.13	ft		
Rear Abutment Volume =	6.16	CY	6	6
Footing Thickness =	0.00	ft		
Footing Width =	0.00	ft		
Left Avg. Footing Length =	0.00	ft		
Right Avg. Footing Length =	0.00	ft		
Footing Volume =	0.00	CY	0	6
Forward Abutment				
Stem Width =	3.75	ft		
Left Full Height Stem Height =	0.00	ft		
Right Full Height Stem Height =	0.00	ft		
Left Full Height Stem Length =	0.00	ft		
Right Full Height Stem Length =	0.00	ft		
Length of Capped Portion =	39.59	ft		
Height of Capped Portion =	1.07	ft		
Fwd Abutment Volume =	5.86	CY	6	12
Footing Thickness =	0.00	ft		
Footing Width =	0.00	ft		
Left Avg. Footing Length =	0.00	ft		
Right Avg. Footing Length =	0.00	ft		
Footing Volume =	0.00	CY	0	12
C01 - ODOT =	**12**	**CY**		
SPECIAL INSTRUCTIONS:			**TOTAL**	**12**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 511E43510 **PAY UNIT:** CY

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING

SUPPLEMENTAL DESCRIPTION:

			SUBTOTAL	TOTAL
Rear Abutment				
Stem Width =	3.75	ft		
Left Full Height Stem Height =	5.68	ft		
Right Full Height Stem Height =	6.46	ft		
Left Full Height Stem Length =	8.28	ft		
Right Full Height Stem Length =	0.37	ft		
Length of Capped Portion =	0.00	ft		
Height of Capped Portion =	0.00	ft		
Rear Abutment Volume =	6.86	CY	7	7
Footing Thickness =	2.25	ft		
Footing Width =	6.25	ft		
Left Avg. Footing Length =	18.58	ft		
Right Avg. Footing Length =	10.08	ft		
Footing Volume =	14.93	CY	15	22
Forward Abutment				
Stem Width =	3.75	ft		
Left Full Height Stem Height =	6.02	ft		
Right Full Height Stem Height =	6.41	ft		
Left Full Height Stem Length =	8.29	ft		
Right Full Height Stem Length =	0.35	ft		
Length of Capped Portion =	0.00	ft		
Height of Capped Portion =	0.00	ft		
Fwd Abutment Volume =	7.25	CY	8	30
Footing Thickness =	2.25	ft		
Footing Width =	6.25	ft		
Left Avg. Footing Length =	18.00	ft		
Right Avg. Footing Length =	10.66	ft		
Footing Volume =	14.93	CY	15	45
C03 - CoC =	**45**	**CY**		
SPECIAL INSTRUCTIONS:			**TOTAL**	**45**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 511E46010 **PAY UNIT:** CY

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING

SUPPLEMENTAL DESCRIPTION:

			SUBTOTAL	TOTAL
Rear Abutment				
Left Side				
WW Width =	0.00	ft		
Left Height Below CJ =	0.00	ft		
Avg Left Height Above CJ =	0.00	ft		
Avg Left Length =	0.00	ft		
Left Volume =	0.00	CY		
Right Side				
WW Width =	2.50	ft		
Right Height Below CJ =	6.42	ft		
Avg Right Height Above CJ =	2.70	ft		
Avg Right Length =	11.08	ft		
Right Volume =	9.35	CY		
Rear WW Volume =	9.35	CY	10	10
Forward Abutment				
Left Side				
WW Width =	0.00	ft		
Left Height Below CJ =	0.00	ft		
Avg Left Height Above CJ =	0.00	ft		
Avg Left Length =	0.00	ft		
Left Volume =	0.00	CY		
Right Side				
WW Width =	2.50	ft		
Right Height Below CJ =	6.38	ft		
Avg Right Height Above CJ =	2.80	ft		
Avg Right Length =	10.58	ft		
Right Volume =	9.00	CY		
Rear WW Volume =	9.00	CY	9	19
C01 - ODOT =	**19**	**CY**		
SPECIAL INSTRUCTIONS: CHECK UNIT OF MEASURE			**TOTAL**	**19**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 511E46010 **PAY UNIT:** CY

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING

SUPPLEMENTAL DESCRIPTION:

			SUBTOTAL	TOTAL
Rear Abutment				
Left Side				
WW Width =	2.50	ft		
Left Height Below CJ =	5.65	ft		
Avg Left Height Above CJ =	2.74	ft		
Avg Left Length =	10.58	ft		
Left Volume =	8.22	CY		
Right Side				
WW Width =	0.00	ft		
Right Height Below CJ =	0.00	ft		
Avg Right Height Above CJ =	0.00	ft		
Avg Right Length =	0.00	ft		
Right Volume =	0.00	CY		
Rear WW Volume =	8.22	CY	9	9
Forward Abutment				
Left Side				
WW Width =	2.50	ft		
Left Height Below CJ =	5.99	ft		
Avg Left Height Above CJ =	2.72	ft		
Avg Left Length =	11.08	ft		
Left Volume =	8.94	CY		
Right Side				
WW Width =	0.00	ft		
Right Height Below CJ =	0.00	ft		
Avg Right Height Above CJ =	0.00	ft		
Avg Right Length =	0.00	ft		
Right Volume =	0.00	CY		
Rear WW Volume =	8.94	CY	9	18
C03 - CoC =	**18**	**CY**		
SPECIAL INSTRUCTIONS: CHECK UNIT OF MEASURE			**TOTAL**	**18**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 511E46510 **PAY UNIT:** CY

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: CLASS QC1 CONCRETE, FOOTING

SUPPLEMENTAL DESCRIPTION:

				SUBTOTAL	TOTAL
Added Pier Footing					
Length =	7.5	ft			
Width =	7.5	ft			
Depth =	2.5	ft			
# of Piers =	3				
Volume =	15.63	CY	**C03 - City of Columbus**	16	16
SPECIAL INSTRUCTIONS:				**TOTAL**	**16**

DESIGN:	TLC	**DATE:**	3/29/22	**UPDATE:**		**DATE:**	
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	HAM-562-0147			**SFN:**	3113914	**PID:**	102886

ITEM: 512E10050 **PAY UNIT:** SY

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: SEALING OF CONCRETE SURFACES (NON-EPOXY)

SUPPLEMENTAL DESCRIPTION:

				SUBTOTAL	TOTAL
Shared Use Path Surface					
Width =	12	ft			
Bridge Length =	310.97	ft			
Approaches Length =	50.00	ft			
Area =	481.29	SY	**C03 - City of Columbus**	482	482
SPECIAL INSTRUCTIONS:				**TOTAL**	**482**

DESIGN:	TLC	DATE: 3/29/22	UPDATE:	DATE:	
CHECK:	TLC	DATE: 4/12/23	RECHECK:	DATE:	
STRUCTURE:	HAM-562-0147		SFN: 3113914	PID: 102886	

ITEM: 512E10100 PAY UNIT: SY

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

SUPPLEMENTAL DESCRIPTION:

				SUBTOTAL	TOTAL
Exterior Barrier and Deck Edge					
Barrier Height =	2.00	ft			
Barrier Width =	1.00	ft			
Barrier/Deck Length =	310.97	ft			
Deck Edge + 6" wrap =	1.67	ft			
Total Area for Both Sides =	460.69	SY	**C01 - ODOT**	461	461
Interior Barrier					
Barrier Height =	2.00	ft			
Barrier Width =	1.00	ft			
Barrier/Deck Length =	310.96	ft			
Total Area for Both Sides =	172.76	SY	**C03 - City of Columbus**	173	634
Exterior Approach Barriers					
Locations =	4				
Section 1 Area/ft =	5.00	sf/ft			
Section 1 Length =	7.50	ft			
Section 2 Area/ft =	8.00	sf/ft			
Section 2 Length =	5.00	ft			
Section 3 Area/ft =	5.96	sf/ft			
Section 3 Length =	1.50	ft			
Ext. Approach Barriers Area =	38.42	SY	**C01 - ODOT**	39	673
Interior Approach Barriers					
Locations =	2				
Section 1 Area/ft =	5.00	sf/ft			
Section 1 Avg. Length =	18.34	ft			
Section 2 Area/ft =	8.00	sf/ft			
Section 2 Length =	5.00	ft			
Section 3 Area/ft =	5.96	sf/ft			
Section 3 Length =	1.50	ft			
Ext. Approach Barriers Area =	31.26	SY	**C03 - City of Columbus**	32	705
Rear Abutment/Diaphragm					
Front Face Length =	48.00	ft			
Front Face Height =	5.17	ft			
Front Face Area =	27.57	SY	**C01 - ODOT = 22 SY** **C03 - CoC = 6 SY**	28	733
Rear Wingwalls					
Left WW: Avg Exposed Height =	3.56	ft			
Left WW: Top Width =	2.5	ft			
Left WW: Back Face Height =	0.5	ft			
Left WW: Avg WW Length =	10.58	ft			
Right WW: Avg Exposed Height =	3.99	ft			
Right WW: Top Width =	2.5	ft			
Right WW: Back Face Height =	0.5	ft			
Right WW: Avg WW Length =	11.08	ft			
Rear WW Area =	16.32	SY	**C01 - ODOT = 13 SY** **C03 - CoC = 4 SY**	17	750

fishbeck
Engineers | Architects | Scientists | Constructors

DESIGN:	TLC	DATE:	3/29/22	UPDATE:		DATE:	
CHECK:	TLC	DATE:	4/12/23	RECHECK:		DATE:	
STRUCTURE:	HAM-562-0147			SFN:	3113914	PID:	102886

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

						SUBTOTAL	TOTAL
Forward Abutment/Diaphragm							
Front Face Length =	48.00	ft					
Front Face Height =	5.15	ft					
Front Face Area =	27.47	SY	**C01 - ODOT =**	**22**	**SY**	28	778
			C03 - CoC =	**6**	**SY**		
Forward Wingwalls							
Left WW: Avg Exposed Height =	4.155	ft					
Top Width =	2.5	ft					
Back Face Height =	0.5	ft					
Avg WW Length =	11.08	ft					
Right WW: Avg Exposed Height =	4.37	ft					
Top Width =	2.5	ft					
Back Face Height =	0.5	ft					
Avg WW Length =	10.58	ft					
Rear WW Area =	17.48	SY	**C01 - ODOT =**	**13**	**SY**	18	796
			C03 - CoC =	**5**	**SY**		
Pier Caps							
Pier 1 Avg Height =	5.13	ft					
Pier 2 Avg Height =	5.16	ft					
Pier 3 Avg Height =	5.22	ft					
Cap Length =	45.50	ft					
Cap Width =	3.00	ft					
Pier Cap Area =	212.61	SY	**C01 - ODOT =**	**169**	**SY**	213	1,009
			C03 - CoC =	**44**	**SY**		
Pier Columns							
# of Columns =	4						
Btm Pier 1 Cap =	777.06						
Btm Pier 2 Cap =	777.24						
Btm Pier 3 Cap =	776.96						
Approx. Groundline =	766.00						
Diameter =	3	ft					
Area/ft =	9.42	ft^2/ft					
Pier Column Area =	139.32	SY	**C01 - ODOT =**	**105**	**SY**	140	1,149
			C03 - CoC =	**35**	**SY**		
			TOTAL C01 - ODOT =	**844**	**SY**		
			TOTAL C03 - CoC =	**305**	**SY**		
SPECIAL INSTRUCTIONS:						**TOTAL**	**1,149**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 513E10260 **PAY UNIT:** LB

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: STRUCTURAL STEEL MEMBERS, LEVEL 3

SUPPLEMENTAL DESCRIPTION:

					SUBTOTAL	TOTAL
New Beam						
W36x150 Weight =	150	lb/ft				
W36x232 Weight =	232	lb/ft				
W36x256 Weight =	256	lb/ft				
W36x150 Length =	222	ft				
W36x232 Length =	56	ft				
W36x256 Length =	28	ft				
New Beam Weight =	53460	LB			53,460	53,460
Splice Plates						
Splice 1, 2, 5, & 6 Plates:	4	splices	Count per			
Steel Weight =	490	pcf	splice			
Inside Flange Plate Vol. =	0.06	ft^3	4			
Outside Flange Plate Vol. =	0.11	ft^3	2			
Flange Fill Plate Vol. =	0.06	ft^3	2			
Web Plate Vol. =	0.11	ft^3	2			
Web Filler Plate Vol. =	0.01	ft^3	2			
Splice 1, 2, 5, & 6 Total Weight =	1580.1	lb				
Splice 3 & 4 Plates:	2	splices	Count per			
Steel Weight =	490	pcf	splice			
Inside Flange Plate Vol. =	0.05	ft^3	4			
Outside Flange Plate Vol. =	0.11	ft^3	2			
Flange Fill Plate Vol. =	0.07	ft^3	2			
Web Plate Vol. =	0.11	ft^3	2			
Web Filler Plate Vol. =	0.01	ft^3	2			
Splice 3 & 4 Total Weight =	817.7	lb				
Total Splice Weight =	2397.8				2,398	55,858
New Crossframes						
Steel Weight =	490	pcf				
L4x4x7/16 Weight =	11.3	lb/ft				
Total Member Length =	21.00	ft				
3/8" Connection Plate Volume =	0.06	ft^3				
3/8" Top Gusset Volume =	0.03	ft^3				
3/8" Bott. Gusset Volume =	0.04	ft^3				
Fill Plate Volume =	0.02	ft^3				
# of Proposed Crossframes =	20					
Crossframes Weight =	7436.3	LB		**C03 - City of Columbus**	7,437	63,295
SPECIAL INSTRUCTIONS: CHECK UNIT OF MEASURE					**TOTAL**	**63,295**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 513E20000 **PAY UNIT:** EACH

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: WELDED STUD SHEAR CONNECTORS

SUPPLEMENTAL DESCRIPTION:

				SUBTOTAL	TOTAL
Existing Beams					
# of Girders =	5				
Counts:	25				
	47				
	17				
	56				
	13				
	3				
	4				
	21				
	45				
	22				
	47				
	24				
Total =	4860	each	**C01 - ODOT**	4,860	4,860
Proposed Beams					
# of Girders =	1				
Counts:	25				
	31				
	32				
	77				
	32				
	77				
	32				
	31				
	24				
Total =	1083	each	**C03 - City of Columbus**	1,083	5,943
SPECIAL INSTRUCTIONS:				**TOTAL**	**5,943**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 513E95030 **PAY UNIT:** EACH

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: STRUCTURAL STEEL, MISC.:

SUPPLEMENTAL DESCRIPTION: DRILLED HOLES

				SUBTOTAL	TOTAL
# Holes per side per beam =	3				
# of beams =	6				
Total =	36	each	**C01 - ODOT**	36	36
SPECIAL INSTRUCTIONS: ADD SUPPLEMENTAL DESCRIPTION				**TOTAL**	**36**

DESIGN: BMV	**DATE:** 4/10/23	**UPDATE:** BMV	**DATE:** 1/24/24		
CHECK: TLC	**DATE:** 4/12/23	**RECHECK:**	**DATE:**		
STRUCTURE: FRA-270-0096		**SFN:** 2513021	**PID:** 105498		

ITEM: 514E00050 **PAY UNIT:** SF

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL

SUPPLEMENTAL DESCRIPTION:

											SUBTOTAL	TOTAL
	Existing Steel Area											
		Top Flange		Web				Sect. Length				
	Section	Width	Thickness	Depth	Thickness			(ft)				
	W36x160	12	1.02	36	0.65			159.75				
	W36x230	16.5	1.26	36	0.76			146.25				
	# of Existing Beams =		5									
	Existing Beam Area =		2919	sf	*Per CMS 514.23							
	Percent for incidentals =		15%		*Per CMS 514.23							
	Coating of Beam Ends (to be subtracted) =		248	sf								
		Total Area =	16497	SF		**C01 - ODOT**					16,497	16,497
SPECIAL INSTRUCTIONS:											**TOTAL**	**16,497**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 514E00056 **PAY UNIT:** SF

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT

SUPPLEMENTAL DESCRIPTION:

				SUBTOTAL	TOTAL
Existing Steel Area					
Total Area =	16497	SF	**C01 - ODOT**	16,497	16,497
SPECIAL INSTRUCTIONS:				**TOTAL**	**16,497**

DESIGN:	BMV	DATE:	4/10/23	UPDATE:	BMV	DATE:	1/24/24
CHECK:	TLC	DATE:	4/12/23	RECHECK:		DATE:	
STRUCTURE:	FRA-270-0096			SFN:	2513021	PID:	105498

ITEM: 514E00060 **PAY UNIT:** SF

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT

SUPPLEMENTAL DESCRIPTION:

											SUBTOTAL	TOTAL
	Existing Steel Area											
Total Area =		16497	SF			**C01 - ODOT**					16,497	16,497
	Proposed Steel Area											
		Flange		Web				Sect.				
	Section	Width	Thickness	Depth	Thickness			Length				
	W36x150	12	0.94	35.9	0.625			222	ft			
	W36x232	12.1	1.57	37.1	0.87			56	ft			
	W36x256	12.2	1.73	37.4	0.96			28	ft			
	# of New Beams =		1									
	New Beam Area =		2770	sf	*Per CMS 514.23							
	Percent for incidentals =		15%		*Per CMS 514.23							
Coating of Beam Ends (to be subtracted) =			49	sf								
	Total Area =		3129	SF		**C03 - City of Columbus**					3,129	19,626
SPECIAL INSTRUCTIONS:											**TOTAL**	**19,626**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 514E00066 **PAY UNIT:** SF

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: FIELD PAINTING STRUCTURAL STEEL, FINISH COAT

SUPPLEMENTAL DESCRIPTION:

											SUBTOTAL	TOTAL
	Existing Steel Area											
	Total Area =	16497	SF			**C01 - ODOT**					16,497	16,497
	Proposed Steel Area											
	Total Area =	3129	SF			**C03 - City of Columbus**					3,129	19,626
	SPECIAL INSTRUCTIONS:										**TOTAL**	**19,626**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 514E00504 **PAY UNIT:** MNHR

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL

SUPPLEMENTAL DESCRIPTION:

				SUBTOTAL	TOTAL
# of Ex. Beams =	5				
Length of Ex. Beams =	306.00	ft			
Assumed rate =	1.0	min/ft of beam			
Total Man Hours =	25.50	MNHR	**C01 - ODOT**	26	26
SPECIAL INSTRUCTIONS:				**TOTAL**	**26**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 514E10000 **PAY UNIT:** EACH

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: FINAL INSPECTION REPAIR

SUPPLEMENTAL DESCRIPTION:

			SUBTOTAL	TOTAL
I EA / 150 FT BEAM LENGTH + 5% CROSSFRAME ASSEMBLIES				
# of Ex. Girders =	5			
Length of Ex. Beams =	306.00 ft			
# of Ex. Crossframes =	80			
Total =	15	**C01 - ODOT**	15	15
SPECIAL INSTRUCTIONS:			**TOTAL**	**15**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 514E27700 **PAY UNIT:** SF

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: FIELD PAINTING, MISC.:

SUPPLEMENTAL DESCRIPTION: COATING OF BEAM ENDS

											SUBTOTAL	TOTAL
Existing Steel Area												
		Top Flange		Web								
	Section	Width	Thickness	Depth	Thickness							
	W36x160	12	1.02	36	0.65							
	Beam End Length =		2.75	ft								
	# of Ex. Beams =		5									
	Existing Beam Ends Area =		50	sf	*Per CMS 514.23, both ends							
	Total Area =		248	SF		**C01 - ODOT**					248	248
Proposed Steel Area												
		Flange		Web				Sect.				
	Section	Width	Thickness	Depth	Thickness			Length				
	W36x150	12	0.94	35.9	0.625			222	ft			
	Beam End Length =		2.75	ft								
	# of New Beams =		1									
	New Beam Area =		49	sf	*Per CMS 514.23, both ends							
	Total Area =		49	SF		**C03 - City of Columbus**					50	298
SPECIAL INSTRUCTIONS: ADD SUPPLEMENTAL DESCRIPTION											**TOTAL**	**298**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 516E10010 **PAY UNIT:** FT

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: ARMORLESS PREFORMED JOINT SEAL

SUPPLEMENTAL DESCRIPTION:

						SUBTOTAL	TOTAL
# of approach slab =	2						
Width of end approach slab =	48.00	ft					
Length =	96	FT	**C01 - ODOT =**	**80**	**FT**	96	96
			C03 - CoC =	**16**	**FT**		
SPECIAL INSTRUCTIONS:						**TOTAL**	**96**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 516E13600 **PAY UNIT:** SF

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: 1" PREFORMED EXPANSION JOINT FILLER

SUPPLEMENTAL DESCRIPTION:

						SUBTOTAL	TOTAL
Barrier Approach Slab Transitions							
Left Barrier @ Approach Height =	2.00	ft					
Left Barrier @ Approach Width =	1.00	ft					
Right Barrier @ Approach Height =	2.00	ft					
Right Barrier @ Approach Width =	1.00	ft					
Interior Barrier @ Approach Height =	2.00	ft					
Interior Barrier @ Approach Width =	1.08	ft					
Area =	12.33	SF	**C01 - ODOT =**	**8**	**SF**	13	13
			C03 - CoC =	**5**	**SF**		
Approach Slab Seat Sides							
Height =	1.08	ft					
Width =	0.50	ft					
Area =	2.17	SF	**C01 - ODOT =**	**3**	**SF**	3	16
			C03 - CoC =	**0**	**SF**		
			TOTAL C01 - ODOT =	**11**	**SF**		
			TOTAL C03 - CoC =	**5**	**SF**		
SPECIAL INSTRUCTIONS:						**TOTAL**	**16**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 516E13900 **PAY UNIT:** SF

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: 2" PREFORMED EXPANSION JOINT FILLER

SUPPLEMENTAL DESCRIPTION:

				SUBTOTAL	TOTAL
Joint Width =	2.75	ft			
Joint Height: Left Rear WW =	4.96	ft			
Right Rear WW =	5.03	ft			
Left Fwd WW =	4.98	ft			
Right Fwd WW =	5.02	ft			
Area =	54.97	SF	**C01 - ODOT**	55	55
SPECIAL INSTRUCTIONS:				**TOTAL**	**55**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 516E14020 **PAY UNIT:** FT

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL

SUPPLEMENTAL DESCRIPTION:

						SUBTOTAL	TOTAL
Abutments							
Rear Abut. Seat Length =	48.36	ft					
Forward Abut. Seat Length =	48.36	ft					
Total Length =	96.73	FT	**C01 - ODOT =**	**81**	**FT**	97	97
			C03 - CoC =	**16**	**FT**		
SPECIAL INSTRUCTIONS:						**TOTAL**	**97**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 516E44101 **PAY UNIT:** EACH

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN

SUPPLEMENTAL DESCRIPTION: (14" x 16" x 2.5625" BEARING WITH 15" x 17" x 2.125" BEVELED LOAD PLATE)

						SUBTOTAL	TOTAL
Piers 1 & 3							
# of Exist Beams =	5	each					
# of Prop Beams =	1	each					
# of Piers =	2	each					
Total =	12	EACH	**C01 - ODOT =**	**10**	**EA**	12	12
			C03 - CoC =	**2**	**EA**		
SPECIAL INSTRUCTIONS: 2"-3" TK, SPECIFY DIMENSIONS						**TOTAL**	**12**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 516E44201 **PAY UNIT:** EACH

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN

SUPPLEMENTAL DESCRIPTION: (12.25" x 12.25" x 4" BEARING WITH 13.25" x 13.25" x 1.5" LOAD PLATE)

						SUBTOTAL	TOTAL
Abutments							
# of Exist Beams =	5	each					
# of Prop Beams =	1	each					
# of Abut =	2	each					
Total =	12	EACH	**C01 - ODOT =**	**10**	**EA**	12	12
			C03 - CoC =	**2**	**EA**		

SPECIAL INSTRUCTIONS: 3"-4" TK, SPECIFY DIMENSIONS **TOTAL** **12**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 516E44201 **PAY UNIT:** EACH

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN

SUPPLEMENTAL DESCRIPTION: (15" x 16" x 3.75" BEARING WITH 16" x 17" x 2" LOAD PLATE)

						SUBTOTAL	TOTAL
Pier 2							
# of Exist Beams =	5	each					
# of Prop Beams =	1	each					
# of Piers =	1	each					
Total =	6	EACH	**C01 - ODOT =**	**5**	**EA**	6	6
			C03 - CoC =	**1**	**EA**		
SPECIAL INSTRUCTIONS: 3"-4" TK, SPECIFY DIMENSIONS						**TOTAL**	**6**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 517E75122 **PAY UNIT:** FT

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: RAILING (CONCRETE PARAPET WITH TWIN STEEL TUBE RAILING AND VANDAL PROTECTION FENCE)

SUPPLEMENTAL DESCRIPTION:

				SUBTOTAL	TOTAL
Bridge Railing Length =	310.96	ft/side			
Left Rear Approach Length =	14	ft			
Right Rear Approach Length =	14	ft			
Left Fwd Approach Length =	14	ft			
Right Fwd Approach Length =	14	ft			
Total Length =	677.9	ft	**C01 - ODOT**	678	678
SPECIAL INSTRUCTIONS:				**TOTAL**	**678**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 516E47001 **PAY UNIT:** LS

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN

SUPPLEMENTAL DESCRIPTION:

				SUBTOTAL	TOTAL
Total =	1	LS	**C01 - ODOT**	1	1
SPECIAL INSTRUCTIONS:				**TOTAL**	**LS**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 517E76300 **PAY UNIT:** FT

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: RAILING, MISC.:

SUPPLEMENTAL DESCRIPTION: CONCRETE PARAPET WITH TWIN STEEL TUBE, DOUBLE SIDED

				SUBTOTAL	TOTAL
Bridge Railing Length =	310.96	ft			
Rear Approach Length =	25	ft			
Forward Approach Length =	25	ft			
Total Length =	361.0	ft	**C03 - City of Columbus**	361	361
SPECIAL INSTRUCTIONS: ADD SUPPLEMENTAL DESCRIPTION				**TOTAL**	**361**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 518E21200 **PAY UNIT:** CY

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: POROUS BACKFILL WITH GEOTEXTILE FABRIC

SUPPLEMENTAL DESCRIPTION:

				SUBTOTAL	TOTAL
Rear Abutment					
Width =	2.00	ft			
Abut. Stem Length =	40.00	ft			
Height behind Abut. Stem =	9.48	ft			
Left WW Length =	0.00	ft			
Left WW Backfill Height =	0.00	ft			
Right WW Length =	11.85	ft			
Right WW Backfill Height =	7.62	ft			
Rear Abutment Volume =	34.78	CY	**C01 - ODOT**	35	35
Forward Abutment					
Width =	2.00	ft			
Abut. Stem Length =	40.00	ft			
Height behind Abut. Stem =	9.63	ft			
Left WW Length =	0.00	ft			
Left WW Backfill Height =	0.00	ft			
Right WW Length =	10.18	ft			
Right WW Backfill Height =	7.68	ft			
Rear Abutment Volume =	34.33	CY	**C01 - ODOT**	35	70
SPECIAL INSTRUCTIONS: CHECK UNIT OF MEASURE				**TOTAL**	**70**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 518E21200 **PAY UNIT:** CY

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: POROUS BACKFILL WITH GEOTEXTILE FABRIC

SUPPLEMENTAL DESCRIPTION:

				SUBTOTAL	TOTAL
Rear Abutment					
Width =	2.00	ft			
Abut. Stem Length =	8.00	ft			
Height behind Abut. Stem =	9.48	ft			
Left WW Length =	10.18	ft			
Left WW Backfill Height =	6.89	ft			
Right WW Length =	0.00	ft			
Right WW Backfill Height =	0.00	ft			
Rear Abutment Volume =	10.82	CY	**C03 - City of Columbus**	11	11
Forward Abutment					
Width =	2.00	ft			
Abut. Stem Length =	8.00	ft			
Height behind Abut. Stem =	9.63	ft			
Left WW Length =	11.85	ft			
Left WW Backfill Height =	7.21	ft			
Right WW Length =	0.00	ft			
Right WW Backfill Height =	0.00	ft			
Rear Abutment Volume =	12.03	CY	**C03 - City of Columbus**	12	23
SPECIAL INSTRUCTIONS: CHECK UNIT OF MEASURE				**TOTAL**	**23**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 518E40000 **PAY UNIT:** FT

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: 6" PERFORATED CORRUGATED PLASTIC PIPE

SUPPLEMENTAL DESCRIPTION:

							SUBTOTAL	TOTAL
Rear Abutment								
	Length =	74.03	ft	**C01 - ODOT =**	**52**	**FT**	74	74
				C03 - CoC =	**22**	**FT**		
Fwd Abutment								
	Length =	74.03	ft	**C01 - ODOT =**	**53**	**FT**	75	149
				C03 - CoC =	**22**	**FT**		
				TOTAL C01 - ODOT =	**105**	**FT**		
				TOTAL C03 - CoC =	**44**	**FT**		
SPECIAL INSTRUCTIONS:							**TOTAL**	**149**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 518E40010 **PAY UNIT:** FT

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS

SUPPLEMENTAL DESCRIPTION:

					SUBTOTAL	TOTAL
Rear Abutment						
	Length =	24.00	ft	**C01 - ODOT**	24	24
Fwd Abutment						
	Length =	24.00	ft	**C01 - ODOT**	24	48
SPECIAL INSTRUCTIONS:					**TOTAL**	**48**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 519E11101 **PAY UNIT:** SF

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: PATCHING CONCRETE STRUCTURE, AS PER PLAN

SUPPLEMENTAL DESCRIPTION:

				SUBTOTAL	TOTAL
Rear Abutment					
Area =	1.25	SF	**C01 - ODOT**	1	1
Fwd Abutment					
Area =	17.50	SF	**C01 - ODOT**	18	19
Pier					
Area =	7.50	SF			
Area =	5.00	SF			
Area =	3.75	SF			
Total Piers =	16.25	SF	**C01 - ODOT**	16	35
SPECIAL INSTRUCTIONS:				**TOTAL**	**35**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 523E20000 **PAY UNIT:** EACH

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: DYNAMIC LOAD TESTING

SUPPLEMENTAL DESCRIPTION:

				SUBTOTAL	TOTAL
For Abutments =	2			2	2
For Piers =	1			1	3
Total =	3	each	**C03 - City of Columbus**		3
SPECIAL INSTRUCTIONS:				**TOTAL**	**3**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 526E25000 **PAY UNIT:** SY

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: REINFORCED CONCRETE APPROACH SLABS (T=15")

SUPPLEMENTAL DESCRIPTION:

						SUBTOTAL	TOTAL
# of Approaches =	2						
Approach Slab Width =	43.50	ft					
Approach Slab Length =	25.00	ft					
Area =	241.67	SY	**C01 - ODOT =**	**200**	**SY**	242	242
			C03 - CoC =	**42**	**SY**		
SPECIAL INSTRUCTIONS:						**TOTAL**	**242**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 526E90030 **PAY UNIT:** FT

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: TYPE C INSTALLATION

SUPPLEMENTAL DESCRIPTION:

						SUBTOTAL	TOTAL
# of Approaches =	2						
Length of Type C Installation =	48.00	ft					
Length =	96.00	FT	**C01 - ODOT =**	**80**	**FT**	96	96
			C03 - CoC =	**16**	**FT**		
SPECIAL INSTRUCTIONS:						**TOTAL**	**96**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 601E20000 **PAY UNIT:** SY

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: CRUSHED AGGREGATE SLOPE PROTECTION

SUPPLEMENTAL DESCRIPTION:

				SUBTOTAL	TOTAL
Rear Area =	2308	sf	* Measured in CAD		
Forward Area =	2296.7	sf	* Measured in CAD		
Length =	511.63	SY	**C03 - City of Columbus**	512	512
SPECIAL INSTRUCTIONS:				**TOTAL**	**512**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 607E39900 **PAY UNIT:** FT

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC

SUPPLEMENTAL DESCRIPTION:

				SUBTOTAL	TOTAL
Left Bridge Railing Length =	310.96	ft			
Total Length =	310.96	FT	**C01 - ODOT**	311	311
SPECIAL INSTRUCTIONS:				**TOTAL**	**311**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 607E39930 **PAY UNIT:** FT

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: VANDAL PROTECTION FENCE, 12' CURVED, COATED FABRIC

SUPPLEMENTAL DESCRIPTION:

				SUBTOTAL	TOTAL
Right Bridge Railing Length =	310.96	ft			
Total Length =	310.96	FT	**C01 - ODOT**	311	311
SPECIAL INSTRUCTIONS:				**TOTAL**	**311**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 625E25400 **PAY UNIT:** FT

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: CONDUIT, 2", 725.04

SUPPLEMENTAL DESCRIPTION:

				SUBTOTAL	TOTAL
Rear Pull Box Sta. =	4785.00				
Fwd Pull Box Sta. =	5175.00				
Length =	390.00	ft	**C03 - City of Columbus**	390	390
SPECIAL INSTRUCTIONS:				**TOTAL**	**1**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 625E29920 **PAY UNIT:** EACH

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: STRUCTURE JUNCTION BOX

SUPPLEMENTAL DESCRIPTION:

				SUBTOTAL	TOTAL
Total =	2	each	**C03 - City of Columbus**	2	2
SPECIAL INSTRUCTIONS:				**TOTAL**	**1**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 625E30530 **PAY UNIT:** EACH

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: PULL BOX, 725.06, SIZE 18

SUPPLEMENTAL DESCRIPTION:

				SUBTOTAL	TOTAL
Total =	2	each	**C03 - City of Columbus**	2	2
SPECIAL INSTRUCTIONS:				**TOTAL**	**1**

DESIGN:	BMV	**DATE:**	4/10/23	**UPDATE:**	BMV	**DATE:**	1/24/24
CHECK:	TLC	**DATE:**	4/12/23	**RECHECK:**		**DATE:**	
STRUCTURE:	FRA-270-0096			**SFN:**	2513021	**PID:**	105498

ITEM: 625E33000 **PAY UNIT:** EACH

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: STRUCTURE GROUNDING SYSTEM

SUPPLEMENTAL DESCRIPTION:

		SUBTOTAL	TOTAL
1 Required for grounding TST rail	**C01 - ODOT**	1	1
SPECIAL INSTRUCTIONS:		**TOTAL**	**1**

Bridge Estimated Quantities

Project Number: 10014
Bridge: FRA-00270-01.520
Description: McComb Road over IR-270
SFN: 2512998

Designer: RFB **Date:** 3/20/2023
Checker: ERK **Date:** 3/22/2023

Item Number	Description
202E11202	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN

Area of Existing Deck =	9486.41 ft^2
Cost/SF of removal =	$20/SF
Cost of deck removal =	$189,728
Volume of concrete removed =	32 cy
Cost/CY of removal =	$200/CY
Cost of concrete removal =	$6,396
Total cost =	$197,000
Total Quantity =	LS

202E22900	APPROACH SLAB REMOVED

	Rear	Forward
Area of existing approach slab =	766.7 SF	766.7 SF
Total removal =	1533.3 SF	
Total Quantity =	171 SY	

202E23500	WEARING COURSE REMOVED

	Rear	Forward
Area of existing approach slab =	766.7 SF	766.7 SF
Total removal =	1533.3 SF	
Total Quantity =	171 SY	

503E21300	UNCLASSIFIED EXCAVATION

	Rear Abutment	Forward Abutment
Plan Area =	356.3 SF	356.3 SF
Avg. Bottom of footing to Top of Ex. Soil =	6.06 ft	6.06 ft
Volume =	79.91 CY	79.91 CY
Cost/CY =	$50/CY	
Total Cost =	$7992	
Total Quantity =	LS	

509E10000	EPOXY COATED STEEL REINFORCEMENT

	Abutments	Piers	Superstructure
Rebar Table Total =	3509 lb	801 lb	105904 lb
Total Quantity =	110214 LB		

509E10001	EPOXY COATED STEEL REINFORCEMENT, AS PER PLAN

	Abutments	Piers	Superstructure
Rebar Table Total =		2453 lb	
Total Quantity =	2453 LB		

510E10001	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN				
	REAR	PIER 1	PIER 2	PIER 3	FORWARD
Number of Dowel holes =	114 each	64 each	64 each	64 each	114 each
Total Quantity =	420 EACH				

511E33501	SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN	
	Rear	Forward
Number of diaphragm guides =	1 each	1 each
Total Quantity =	2 EACH	

511E34413	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN	
Proposed out/out bridge width =	34.00 ft	
Proposed bridge limits =	282.50 ft	
Deck area =	9605.0 SF	
Deck thickness =	8.75 in	
Deck volume =	7003.65 ft^3	
Haunch width =	12.00 in	
Haunch thickness =	2.89 in	
Beam length =	276.00 ft	
Number of beams =	4 each	
Haunch volume =	265.88 ft^3	
Overhang depth =	12.63 in	
Overhang width =	3.00 ft	
Haunch and overhang volume =	456.12 ft^3	
Total deck volume =	7725.65 ft^3	
	Rear	Forward
Diaphragm length =	34.05 ft	34.05 ft
Diaphragm height =	4.18 ft	4.21 ft
Diaphragm thickness =	3.75 ft	3.75 ft
Area of beam end =	44.16 in^2	44.16 in^2
Length of beam end to deduct =	1.75 ft	1.75 ft
Number of beam ends =	4 each	4 each
Diaphragm volume =	532.23 ft^3	536.06 ft^3
Total diaphragm volume =	1068.28 ft^3	
Total Quantity =	326 CY	

511E40511	CLASS QC1 CONCRETE, PIER ABOVE FOOTINGS, AS PER PLAN		
	Pier 1	Pier 2	Pier 3
Length of cap =	32.04 ft	32.04 ft	32.04 ft
Width of cap =	3.00 ft	3.00 ft	3.00 ft
Height to raise cap =	0.995 ft	0.963 ft	0.962 ft
Volume of cap raise =	95.64 ft^3	92.52 ft^3	92.52 ft^3
Length of cap extension per side =	0.50 ft	0.50 ft	0.50 ft
Width of cap =	3.00 ft	3.00 ft	3.00 ft
Total height of cap =	4.75 ft	4.71 ft	4.71 ft
Volume of cap raise =	14.24 ft^3	14.14 ft^3	14.14 ft^3
Total Quantity =	12 CY		

511E43511	CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN

Wingwalls

Rectangle 1 (Top of Footing to Top of Concrete Block Tying Wingwall to Abutment)

Height of Rectangle 1	6.25 ft
Width of Rectangle 1 =	7.25 ft
Thickness of Rectangle 1 =	1.833 ft
Area of Rectangle 1 =	45.313 ft
Volume of Rectangle 1 =	83.07 ft^3

Rectangle 2 (Top of Concrete Block Tying Wingwall to Abutment to top of Wingwall)

Height of Rectangle 2 =	4.048 ft
Width of Rectangle 2 =	7.25 ft
Thickness of Rectangle 2 =	1.50 ft
Area of Rectangle 2	29.35 SF
Volume of Rectangle 2	44.02 ft^3

Rectangle 3 (Concrete Block Tying Wingwall to Abutment)

Height of Rectangle 3 =	1.500 ft
Width of Rectangle 3 =	3.333 ft
Thickness of Rectangle 3 =	1.500 ft
Area of Rectangle 3 =	5.00 SF
Volume of Rectangle 3 =	7.50 ft^3

Trapezium (Trapezoidal Area of Wingwalls)

height of Trapezoid (h) =	8.000 ft	
Length 1 of Trapezoid (a) =	3.000 ft	
Length 2 of Trapezoid (b) =	5.547 ft	
Thickness of Trapezoid =	1.500 ft	
Area of Trapezoid	34.19 SF	*Area of Trapezoid = (1/2)*(a+b)*h*
Volume of Trapezoid	51.28 ft^3	
# of Wingwalls =	4	
Total Volume of Wingwalls =	27.54 CY	

Abutments

Height =	0.53 FT
Length =	33.71 FT
Area =	17.9 SF
Thickness =	3.75 FT
# of Abutments =	2
Total Volume of Abutments	4.97 CY
Total Quantity =	33 CY

511E51512	CLASS QC2 CONCRETE WITH QC/QA, SIDEWALK

Superstructure

X-Sectional Area of Sidewalk =	5.19 ft^2
Length of sidewalk (Deck) =	282.50 ft
Deck Sidewalk Volume =	55.00 CY
Total Quantity =	55 CY

512E10050	SEALING OF CONCRETE SURFACES (NON-EPOXY)

Superstructure:

Perimeter of sidewalk =	6.47 ft
Length of sidewalk on deck =	282.50 ft
Deck Sidewalk area =	203.00 SY

General:

Perimeter of sidewalk =	6.47 ft
Length of sidewalk on approach slab =	50.00 ft
Approach Slab Sidewalk Area =	36.00 SY
Total Quantity =	239 SY

512E10100	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

Superstructure:

	Rear	Forward
Average diaphragm height =	4.18 ft	4.21 ft
Length of diaphragm =	34.05 ft	34.05 ft
Area for diaphragm =	142.50 SF	143.52 SF
Face/face of diaphragm =	276.00 ft	
Outside barrier perimeter sealed =	14.13 ft	
Area of sealing =	3899.604 SF	
Total area for superstructure =	466 SY	

Abutments:

	Wingwall 1	Wingwall 2	Wingwall 3	Wingwall 4
Exposed height at beginning =	6.60 ft	6.60 ft	6.60 ft	6.60 ft
Exposed height at end =	0.75 ft	0.75 ft	0.75 ft	0.75 ft
Length of exposed side =	15.25 ft	15.25 ft	15.25 ft	15.25 ft
Area of wingwall face =	57.1 SF	57.1 SF	57.1 SF	57.1 SF
Wingwall thickness =	1.50 ft	1.50 ft	1.50 ft	1.50 ft
Length along top of wingwall =	15.25 ft	15.25 ft	15.25 ft	15.25 ft
Total wingwall area =	80.0 SF	80.0 SF	80.0 SF	80.0 SF
Length of breastwall =	36.71 ft		36.71 ft	
Average top of slope to beam seat =	2.00 ft		2.50 ft	
Area of breastwall =	73.42 ft^2		91.77 ft^2	
Total area for abutments =	54.00 SY			

Piers:

	Pier 1	Pier 2	Pier 3
Length of pier cap =	32.04 ft	32.04 ft	32.04 ft
Width of cap =	3.00 ft	3.00 ft	3.00 ft
Average height of cap ends =	4.71 ft	4.71 ft	4.71 ft
Diameter of columns =	3.00 ft	3.00 ft	3.00 ft
Number of columns =	3 each	3 each	3 each
Area for cap =	405.0 SF	405.0 SF	405.0 SF
Exposed height of column =	19.75 ft	15.25 ft	19.75 ft
Area for columns =	558.4 SF	431.2 SF	558.4 SF
Total area for piers =	308.00 SY		

General:

Limits of Barrier on Approach slabs =	60.00 ft
Barrier perimeter sealed =	10.90 ft
Area of sealing =	73.00 SY
Total Quantity =	901 SY

513E20000	WELDED STUD SHEAR CONNECTORS

Studs per row =	3 each
Number of rows =	231 each
Number of beams =	4 each
Total number of studs =	2772 each
Total Quantity =	2772 EACH

513E95030	STRUCTURAL STEEL, MISC.: DRILLED HOLES

Holes per beam =	6 each
Number of beams =	4 each
Total number of holes =	24 each
Total Quantity =	24 EACH

514E27700	FIELD PAINTING, MISC.: COATING OF BEAM ENDS

	Rear	Forward
Beam Area =	44.20 in^2	44.20 in^2
Beam Flange Width =	11.98 in	11.98 in
Beam Depth =	35.85 in	35.85 in
Nominal Perimeter =	107.63 IN	107.63 IN
Length =	2.75 ft	2.75 ft
# of Beams =	4	4
Aprrox. Surface Area =	99.88 SF	99.88 SF
10% incedental =	9.99 SF	9.99 SF
Total Quantity =	220 SF	

516E13600	1" PREFORMED EXPANSION JOINT FILLER

Superstructure	Left Side	Right Side
Height of PEJF =	2.00 FT	2.00 FT
Width of PEJF =	1.00 FT	1.00 FT
# of PEJF =	2 EACH	2 EACH
Sideawalk X-Sectional Area =	5.18 SF	
Area =	14.36 SF	4.00 SF
Total Area =	19.000 SF	

516E13900	2" PREFORMED EXPANSION JOINT FILLER

	Rear Abutment	FWD. Abutment
Area (CAD) =	69 SF	69 SF
Total Quantity =	138 SF	

516E14020	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL

	Rear	Forward
Wingwall Neoprene Sheeting		
Limits Along Height of Wingwall =	3.38 ft	3.43 ft
Sealing Length =	6.76 ft	6.86 ft
Abutment Neoprene Sheeting		
Horizontal Limits Along Length of Abutment =	34.05 ft	34.05 ft
Abutment/Wingwall Overlap =	1.50 ft	1.50 ft
Diaphragm Neoprene Sheeting		
Vertical Limits at Diaphragm Guide =	10.04 ft	10.04 ft
Horizontal Limits Along Diaphragm Guide =	6.00 ft	6.00 ft
Total Sealing Length =	56.85 ft	56.95 ft
Total Quantity =	114 FT	

516E44201	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (13"X15"X3.273" WITH 14"X16"X1 1/2" LOAD PLATE)

	Rear	Forward
Number of bearings =	4 each	4 each
Total Quantity =	8 EACH	

516E44201	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (17"X19"X3.273" WITH 18"X20"X VARIES LOAD PLATE)

	Pier 1	Pier 2	Pier 3
Number of bearings =	4 each	4 each	4 each
Total Quantity =	12 EACH		

516E47001	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN

Cost/Jacked Supported Locations=	1000 EACH				
Total Cost =	$ 20,000.00				
	Rear	Pier 1	Pier 2	Pier 3	Forward
# of Jack Supported Locations	4	4	4	4	4
Total # of Jack Supported Locations	20				
Total Quantity =	LS				

517E75122	RAILING (CONCRETE PARAPET WITH TWIN STEEL TUBE RAILING AND VANDAL PROTECTION FENCE)

	Left Rail	Right Railing
Length of Rail =	282.50 ft	282.50 ft
Total Quantity =	565 FT	

518E21200	POROUS BACKFILL WITH GEOTEXTILE FABRIC

Abutments

	Rear	Forward
Length of porous backfill =	34.05 ft	34.05 ft
Width of porous backfill =	1.50 ft	1.50 ft
Approximate average height of porous backfill =	5.52 ft	5.55 ft
Volume of porous backfill =	281.93 ft^3	283.59 ft^3

Wingwalls

	Wingwall 1	Wingwall 2	Wingwall 3	Wingwall 4
Length of porous backfill =	1.83 ft	1.83 ft	1.83 ft	1.83 ft
Width of porous backfill =	2.50 ft	2.50 ft	2.50 ft	2.50 ft
Approximate average height of porous backfill =	5.52 ft	5.52 ft	5.55 ft	5.55 ft
Volume of porous backfill =	25.30 ft^3	25.30 ft^3	25.44 ft^3	25.44 ft^3
Total Quantity =	25 CY			

519E11101	PATCHING CONCRETE STRUCTURE, AS PER PLAN

	Rear	Pier 1	Pier 2	Pier 3	Forward
Field Area of patching	8.000 SF	38.000 SF	1.000 SF	0.000 SF	9.000 SF
25% Contingency =	25%	25%	25%	25%	25%
Area =	10.000 SF	48.000 SF	1.000 SF	0.000 SF	12.000 SF
Total Quantity =	71 SF				

526E25011	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN

	Rear	Forward
Approach slab length =	25.00 FT	25.00 FT
Approach slab width =	34.00 FT	34.00 FT
Approach slab area =	850.000 SF	850.000 SF
Total Quantity =	189 SY	

526E90030	TYPE C INSTALLATION

	Rear	Forward
Length along approach slab =	34.05 ft	34.05 ft
Total Quantity =	69 FT	

601E20000	CRUSHED AGGREGATE SLOPE PROTECTION

	Rear	Forward
Length along approach slab =	28.47 sy	16.75 sy
Total Quantity =	46 SY	

607E39900	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC

Length of fence =	275.00 ft
Number of sides =	1 each
Total fence length =	275.00 ft
Total Quantity =	275 FT

607E39930	VANDAL PROTECTION FENCE, 12' CURVED, COATED FABRIC

Length of fence =	279.50 ft
Number of sides =	1 each
Total fence length =	279.50 ft
Total Quantity =	280 FT

625E33000	STRUCTURE GROUNDING SYSTEM

TotaL Quantity =	1 each