Subject	Ву	Date	Job No.	Sheet
LUC-120-11.32	BCS	01/28/22	31537	
ESTIMATED QUANTITIES	Checked	Date	Rev.	Date
	CMH	02/03/22		

ITEM 202E22900 - Approach Slab Removed

Number	=	2		
Width	=	55	ft	(See the exisitng plan)
Length	=	19	ft	
			2	
Volume	=	2090	ft^2	
	=	232	SY	
ITEM 202E23500 - Wearing Course Re	moved			
Length	=	166	ft	
Width	=	55	ft	
Volume	=	9130	ft^2	

1014

SY

ITEM 509E10000 - Epoxy Coated Reinforcing Steel - See Rebar Lists

CY				
Assture Abutment : 125 lb/CY 64,966 1-14 Deck 498 CY 498 CY 129,541 1-14 Assture Deck : 760 lb/CY 129,541 1-14 CY 142 CY 21,251 1-14 Assture Pier : T50 lb/CY 21,251 1-15 Assture Rail : 30 lb/CY 13,050 1-15 Assture Rail : 30 lb/CY 10543.11111 1-15 Assture Sidewalk 100 lb/CY 10543.11111 1-15	Abutment			
Assture Abutment : 125 lb/CY 64,966 1-14 Deck 498 CY 498 CY 129,541 1-14 Assture Deck : 760 lb/CY 129,541 1-14 CY 142 CY 21,251 1-14 Assture Pier : T50 lb/CY 21,251 1-15 Assture Rail : 30 lb/CY 13,050 1-15 Assture Rail : 30 lb/CY 10543.11111 1-15 Assture Sidewalk 100 lb/CY 10543.11111 1-15		100		
Deck	CY			
Deck				
Assume_Deck : 260 lb/CY 129,541 150	Assume Abutment : 125 lb/CY	64,966	14	
Assume_Deck : 260 lb/CY 129,541 150				
Assume_Deck : 260 lb/CY 129,541 150	Deck			
Assume Deck: 260 He/CY Pier CY 142 CY Assume Pier: T50 He/CY 217,251 Lb Rail LF 435 LF Assume Rail: 30 He/CY 5idewalk CY 10543.11111 Lb				
Assume Deck: 260 He/CY Pier CY 142 CY Assume Pier: T50 He/CY 217,251 Lb Rail LF 435 LF Assume Rail: 30 He/CY 5idewalk CY 10543.11111 Lb		498		
Pier CY		190		
Pier CY	Assert Deal Wall CV	120 541		
CY	Assume Deck : 200 19/1 Y	127,341		
CY				
Assume Pier: T50 tb/CY 21,251 15b Rail LF 435 Assume Rail: 30 tb/CY 13,050 15b Sidewalk CY 105 Assume Sidewalk: 100.1b/CY 10543.11111 15b	<u>Pier</u>			
Assume Pier: T50 tb/CY 21,251 15b Rail LF 435 Assume Rail: 30 tb/CY 13,050 15b Sidewalk CY 105 Assume Sidewalk: 100.1b/CY 10543.11111 15b				
Rail	g	142		
Rail				
Rail	Assume Pier: 150 lb/CY	21,251		
Assume Rail : 30 tb/GY				
Assume Rail : 30 tb/GY	Pail			
Assume Rail: 30 tb/CY 13,050 1-b Sidewelk CY 105 Assume Sidewalk: 100 lb/CY 10543.11111 1-b	<u>ICAII</u>			
Assume Rail: 30 tb/CY 13,050 1-b Sidewelk CY 105 Assume Sidewalk: 100 lb/CY 10543.11111 1-b		135		
Sidewalk CY	LF	433		
Sidewalk CY				
CY 105 Assume_Sidewalk : 100 Lb/CY 10543.11111	Assume Rail: 30 lb/CY	13,050		
CY 105 Assume_Sidewalk : 100 Lb/CY 10543.11111		_		
Assume_Sidewalk: 1001b/CY 10543.11111 5b	Sidewalk			
Assume_Sidewalk: 1001b/CY 10543.11111 5b				
Assume_Sidewalk: 1001b/CY 10543.11111 5b		105		
	Assuma Sidawalk 100 lb/CV	Ins42 11111		
	Assum Sidewalk . 100 III/C I	10343.71411	1200	
Total Rebar Quantity 239,351	Total Rebar Quantity	239,351	140	

ITEM 511E21522 - Class QC2 Concrete with QC/QA, Superstructure

Deck area	=	13288	ft^2	(Measured in the Drawing)
Deck thickness	=	8.5	in	(Measured in the Brawing)
Volume of concrete	=	9412	ft^3	
Haunch concrete				
Interior Haunch				
Width of the haunch	=	4.08	ft	
Thickness of the haunch	=	2.9 159.169	in ft	Avg
Length	_	139.109	11	
Volume	=	157.069	ft^3	
Volume	_	137.009	11	
Exterior Haunch				
<u> </u>				
Width of the haunch	=	4.38	ft	(Measured in the Drawing)
Thickness of the haunch	=	2.88	in	Avg
Length	=	159.169	ft	
Volume	=	167.127	ft^3	
Rear Abutment Diaphragm				
Width of the diaphragm	=	4.667	2.5	
Length of the diaphragm	=	82.531		red along CL bearing)
Height of the diaphragm	=	3.688	(Consid	erd the average ht)
Number of beams	=	9.00		
			in^2	
Area of the one beam Length of the beam embedment	=	878.30 3.17	in ft	
Length of the beam embedment	_	5.17	11	
Volume of the concete to be deducted	=	173.83	ft^3	
volume of the concere to be deducted		1/3.63	11	
Volume of concrete	=	1247	ft^3	
volume of concrete		1247	10	
Forward Abutment Diaphragm				
Width of the diaphragm	=	4.667		
Length of the diaphragm	=	82.531	(Measur	red along CL bearing)
Height of the diaphragm	=	3.69	(Consid	erd the average ht)
Number of beams	=	9.00		
Area of the one beam	=	878.30	in ²	
Length of the beam embedment	=	3.17	ft	
			2	
Volume of the concete to be deducted	=	173.83	ft ³	
			2	
Volume of concrete	=	1247	ft ³	
Pier Dipahragm				
No of nior disphragms	=	2	at bath s	niona.
No of pier diaphragms Length of the diaphragm	=	2 81.93	at both p	biers
Width of the diaphragm	=	2.67	ft	
Average Height	=	3.28	ft	
		5.20	11	
Area of the one beam	=	878.30	in^2	
Length of the beam embedment	=	1.08	ft	
Number of Interior Beams at Pier	=	16.00	11	
		- 0.00		
Volume to be deducted	=	211.44	ft^3	
Volume of concrete	=	1222	ft^3	

BR-2-15 Barriers: Converted to Item 517 - Concrete Parapet with Twing Steel Tube Railing, APP (LF)

Number of the barriers Area of the barrier Length Volume of concrete for Barriers		2 2.25 217.5 979	R ² BC	Supdated	
Total Volume of QC2 Concrete	=	14431	ft ³	499	CY
	=	534	CY	Not Incl. E	Barrier

ITEM 511E41010 - Class QC1 Concrete, Pier Above Footings

Pier 1 - Pier cap				
-	_	427	ft^2	(Manageral in the December)
Area of the Pier cap	=	427		(Measured in the Drawing)
Width of the cap	=	4	ft	
Pier 2 - Pier cap			ft^2	
•	_	427	11	(Managered in the Descripe)
Area of the Pier cap	=	427		(Measured in the Drawing)
Width of the cap	=	4	ft	
Volume of concrete	_	3415	ft^3	
volume of concrete	=			
	=	126	CY	
Pier 1 - Column	=	5	Columns	
Height of the column	=	5'-11 1/4"	ft	
Dia. Of the Column	=	3	ft	
Dia. Of the Column		3	11	
Volume	=	210	ft^3	
Pier 2 - Column	=	5	Columns	
Height of the column	=	5'-8"	ft	
Dia. Of the Column	=	3	ft	
Volume	=	200	ft^3	
Total Volume of Columns	=	410	ft^3	
	=	15	CY	
Total Volume of Concrete	=	142	CY	

ITEM 511E44112 - Class QC1 Concrete with QC/QA, Abutment not including footing

Stem Concrete

Girder	Rear Abutment Stem Ht	Forward Abutment Stem Ht
G1	9.402	11.302
G2	9.521	11.438
G3	9.64	11.573
G4	9.761	11.709
G5	9.882	11.845
G6	9.85	11.826
G7	9.674	11.663
G8	9.5	11.500
G9	9.326	11.338

Avg Height is considered

Avg Height is considered

Length of the abutment/Stem Width of the stem	= =	82.875 4.66667	ft ft
Volume of Rear Abut. Stem	=	3720	ft^3
Volume of Forward Abut. Stem	=	4477	ft^3
Rear Abutment Wingwall View C-C			
Area measured in the Open Roads Thickness of the wall	= =	297 1.5	ft ² ft
Volume	=	445.0	ft^3
Rear Abutment Wingwall View D-D	=		
Area measured in the Open Roads Thickness of the wall	= =	255 1.5	ft ² ft
Volume	=	383	ft^3
Forward Abutment Wingwall View C-C			
Area measured in the Open Roads Thickness of the wall	= =	415 1.5	ft ² ft
Volume	=	622.4	ft^3
Forward Abutment Wingwall View D-D	=		
Area measured in the Open Roads Thickness of the wall	= =	420 1.5	ft ² ft
Volume	=	629	ft^3
Total Volume	= =	10277 381	ft ³ CY

ITEM 511E46510 - Class QC1 Concrete, Footing

Rear Abutment - Footing Concrete

Area of the Abutment & Wingwalls Footing = Depth of the footing	=	592 3	ft ²	(Measured in the drawing)
Total Volume of concrete	=	1776	ft^3	
Forward Abutment - Footing Concrete				
Area of the Abutment & Wingwalls Footing = Depth of the footing	=	660	ft ² ft	(Measured in the drawing)
Total Volume of concrete	=	1980	ft^3	
Total Volume	= =	3756 139	ft ³ CY	
ITEM 511E51510 - Class QC2 Concrete, Sid	<u>ewalk</u>			
Multi Use Path & Sidewalk Concrete				
Area of the sidewalk Area of the Multi Use Path	=	4.45 8.64	ft^2 ft^2	BCS updated BCS updated
Length	=	217.5	ft	BCS upuateu
C			ft ³	
Volume of concrete for Sidewalk	=	967		
Volume of concrete for Multi Use Path	=	1880	ft ³	
Total Volume	=	2847	ft ³	

105

CY

516E10100 - Sealing of concrete surfaces (Epoxy Urathane)

Pier	1	&	2	-	Cap

Top face	Width	4	ft	
	Length	83.25	ft	
	Area	333	SF	
2 - Side faces	Height	3	ft	
2 - Side faces	Width	4	ft	
	Area	24	SF	
2 - Sloped portions	Length	6.8406	ft	
	Width	4	ft	
	Area	54.7248	SF	
2 0 11 1	r 4	0.5022	0	
2 - Small portions	Length Width	0.5833 4	ft ft	
	Width	•	11	
	Area	4.6664	SF	
4 - Portions b/w columns	Length	13.5	ft	
	Width	4	ft	
	Area	216	SF	
	Tireu	210	51	
5 - Area around the columns	S	24.66	SF	
Total Cap		1265	SF	
Total Cap		1203	51	
D' and a College	XI.	5		
Pier 1 - Columns	No Diameter	5 3	ft	
	Height	5.94	ft	
	A	270.9	CE	0**L
	Area	279.8	SF	2*pi*r*h
Pier 2 - Columns	No	5		
	Diameter	3	ft	
	Height	5.67	ft	
	Area	267.0	SF	
Columns		547	SF	
Superstructure				
Sidewalk & BR-2-15 Side				
Total width		11.555	ft	5+2+1+2+0.888+0.667
Length		217.5	ft	5' non-epoxy
Area		2513	SF	5 non epoxy
Deck Edge height + Beam		7.716	ft	Deck + Beam Ht + Beam width
Length of the deck		167.45	ft	Deck Deam III Deam width
Area		1292	SF	

Multi use path & BR-2-15

Total width Length	16.76 217.5	ft	10+2+1+2+1.093+0.667
Length	217.3	11	10' non-epoxy
Area	3645	SF	
Deck Edge height + Beam	7.716	ft	Deck + Beam Ht + Beam
Length of the deck	167.45	ft	
Area	1292	SF	
Rear Abutment Stem			
Length of the stem	82.875	ft	
Avg Height of the Rear Stem	9.62	ft	
Area to be sealed	797.0	SF	
Rear Abutment End Diaphragm			
Length of the stem	82.875	ft	
Avg Height of the Rear End Dipahragm	3.69	ft	
Area of the WF36-49	6.1	ft^2	
Number of beams	9		
Area to be sealed	251	SF	
Rear Abutment Wingwall			
Rear Abutment Wingwalls Above GL			
Wingwall 1 Area Above GL	145	ft^2	(Measured in the drawing)
Wingwall 2 Area Above GL	112	ft^2	(Measured in the drawing)
Forward Abutment Stem			
Length of the stem	82.875	ft	
Avg Height of the Rear Stem	11.58	ft	
Area to be sealed	959.5	SF	

Forward Abutment End Diaphragm

Length of the stem	82.875	ft
Avg Height of the Rear End Dipahragm	3.69	ft
Area of the WF36-49	6.1	ft^2
Number of beams	9	

Area to be sealed 251 SF

Rear Abutment Wingwall

Total 1" PEJF Required

Forward Abutment Wingwalls Above GL

Wingwall 1 Area Above GL 221 ${\rm ft}^2$ (Measured in the drawing) Wingwall 2 Area Above GL 226 ${\rm ft}^2$ (Measured in the drawing)

Total area to be sealed 1502 SY

ITEM 515E15070 - Draped Strand Prestressed Concrete I Beams

Draped Stand Prestress Concrete Bridge I beam members

No of beams required are = 27

ITEM 515E20000 - Intermediate Diaphragms

Number of intermediate Diaphragms = 21

516E13600 - 1" Preformed expansion joint filler

Area of the 5' Sidewalk	=	4.726	SF	(Measured in the drawing)
Area of BR-2-15 Barrier	=	2	SF	
Number	=	2	(Rear & Forward	
Total area for 5' sidewalk	=	13.452	SF	
Area of the Multi - Use Path	=	9.801	SF	(Measured in the drawing) Abutment)
Area of BR-2-15 Barrier	=	2	SF	
Number	=	2	(Rear & Forward	
Total area for Multi Use Path	=	23.602	SF	

37

SF

516E13900 - 2" Preformed expansion joint filler

Approach	Slab
----------	------

L1	=	25	ft
L2	=	25	ft
L3	=	25	ft
L4	=	25	ft
Thickness (T)	=	1.25	ft

= 125 SF

End Diaphragms:

Length Height	= =	4.83 3.69	ft ft
No.	=	4	

= 71.3 SF

Semi Integral Abutment Diaphragm

Width Height	=	3 2	ft
Length	=	4'-10 1/4"	
Area	=	34	

Total = 230 SF

516E14020 - Semi Integral Abutment Expansion joint seal

Length	=	82.875	ft	
Height	=	3.69	ft	(Avg)
No.	=	2		

Expansion Joint Seal = 190 ft

ITEM 516E44100

Number required = 18 (9 Rear and 9 Forward)

ITEM 516E44101

Number required = 36 (18 Bearings at Pier 1 & Pier 2)

ITEM 517E75121 - Railing (Concrete Parapet with TST), APP

Sidewalk	217.5	ft
MUP	217.5	ft
Total Length	435	ft

518E21200 - Porous backfill with geotextile fabric

Rear Abutment				
Width of the Geotextile fabric Height Length	= = =	2 13.31 82.875	ft ft ft	(Ht of stem + end diaphragm)
Volume	=	2205	CF	
Rear Abutment - Wingwall 1				
Width of the Geotextile fabric Height Length	= = =	2 13.09 18.5	ft ft ft	(Total height - Ap slab thickness)
Volume		484	CF	
Rear Abutment - Wingwall 2				
Width of the Geotextile fabric Height Length	= = =	2 13.19 15	ft ft ft	
Volume		396	CF	
Forward Abutment				
Width of the Geotextile fabric Height Length	= = =	2 15.27 82.875	ft ft ft	(Ht of stem + end diaphragm)
Volume		2530	CF	
Forward Abutment - Wingwall 1				
Width of the Geotextile fabric Height Length	= = =	2 14.89 23.75	ft ft ft	(Total height - Ap slab thickness)
Volume		707	CF	
Forward Abutment - Wingwall 2				
Width of the Geotextile fabric Height Length	= = =	2 14.92 23.47	ft ft ft	
Volume		700	CF	
Total		7023 260	CF CY	
ITEM 518E40000 - 6" Perforate	ed Corru	gated Plastic Pi	<u>pe</u>	
Rear Abutment		117	ft	
Forward Abutment		117	ft	
Total Length		234	ft	
<u>ITEM 518E40011 - 6" Non - Per</u>	rforated (Corrugated Plas	stic Pipe	
Assume 20' on each end of the ab	utment	80	ft	

ITEM 524E94704 - Drilled Shafts, 36" D	Diameter Into Th	e bedrock	
Drilled Shafts 36" Dia, Into Bedrock	163	ft	
ITEM 524E94802 - Drilled Shafts, 42" D	Diameter Above I	Bedrock_	
Drilled Shafts 42" Dia, Above Bedrock	119	ft	
ITEM 524E94804 - Drilled Shafts, 42" D	Diameter, Into Be	<u>drock</u>	
Drilled Shafts 42" Dia, Into Bedrock	247.5	ft	
ITEM 524E94902 - Drilled Shafts, 48" D	Diameter, Above	Bedrock_	
Drilled Shafts 48" Dia, Above Bedrock	157	ft	
ITEM 526E25000 - Reinforced Concrete	Approach Slabs	-	
Reinforced Concrete approach Slabs	441	SY	(Measured in the drawing)
ITEM 526E900100 - Type A installation	-		
Rear Abutment Length	82.875	ft	
Forward Abutment Length	82.875	ft	
Total Length	166	ft	
Special - 5300400 - Structures waterline	support		
Structure waterline support	15		
Special - 5300600 - Structures, Misc.: Fo	<u>rliner</u>		
Sidewalk (f) height:	2	ft	
Sidewalk (b) height:	2.667	ft	
Length	217.5	ft	
-			
Area	1015	sf	
MUP (f) height:	2	ft	
MUP (b) height:	2.867	ft	
Length	217.5	ft	
Area	1058.5	sf	
Transitions	4	ea	
Length	7.5	ft	
Height	1.5	ft	
Width	1.125	ft	
Area	103.5	sf	
Total Area	2177	sf	

ITEM 601E32204 - Rock Channel Protection, Type C with Geotextile Fabric

Rear	A	but	men	t

Thickness (T) Area (A)	2 1675	ft ft ²	(Measured in the Drawing)
Along the Slope	1977	ft^2	
Forward Abutment			
Thickness (T) Area (A)	2 2417	ft ft ²	(Measured in the Drawing)
Along the slope	2852.06		
Total Volume	252	CY	

ITEM 846E00110 - Polymer Modified Asphalt Expansion Joint System

Width	2	ft
Thickness	4	in
Length	25	ft
No	2	
Volume	33	