

## Estimated Quantities FRA-270-0610

*Sullivant Ave over IR-270 (Four Span Steel Beam Bridge)*

*Spans = 57'-0", 81'-6", 81'-6", 57'-0"*

ITEM	EXT.	PARTICIPATION		TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.
		01/IMS/BR	02/IMS/BR							
<b>BRIDGE NO. FRA-270-0617</b>										
202	11203	LS		LS		PORTIONS OF STRUCTURE REMOVED , OVER 20 FOOT SPAN, AS PER PLAN				LS
202	22900	214		214	SY	APPROACH SLAB REMOVED				214
202	23500	1,906		1,906	SY	WEARING COURSE REMOVED			1,906	
503	11100	LS		LS		COFFERDAMS AND EXCAVATION BRACING			LS	
503	21300	LS		LS		UNCLASSIFIED EXCAVATION				LS
509	10000	131,593		131,593	POUND	EPOXY COATED REINFORCING STEEL	10,497		121,096	
509	30020	4,791		4,791	FT	NO. 4 GFRP DEFORMED BARS			4,791	
510	10000	376		376	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	376			
511	34412	65		65	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE			65	
511	34446	517		517	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK			517	
511	34450	48		48	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)			48	
511	44112	17		17	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	17			
512	10100	1,019	289	1,308	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	108	138	1,062	
512	33000	64		64	SY	TYPE 2 WATERPROOFING	64			
512	74000	302		302	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	164	138		
513	10001	LS		LS		STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN				LS
513	20000	4,158		4,158	EACH	WELDED STUD SHEAR CONNECTORS				4,158
514	27700	214		214	SF	FIELD PAINTING MISC.: BEARING STIFFENERS				214
516	13900	114		114	SF	2" PREFORMED EXPANSION JOINT FILLER				114
516	14020	118		118	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL				118
516	44200	12		12	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (10" X 15" X 3.14" WITH 11" X 16" X 1 1/2" LOAD PLATE)	12			
516	47001	LS		LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN				LS
517	75122	314		314	FT	RAILING (CONCRETE PARAPET WITH TWIN STEEL TUBE RAILING & VANDAL PROTECTION FENCE)				314
518	21200	29		29	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	29			
518	40000	126		126	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	126			
518	40010	160		160	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	160			
519	11101	198		198	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	90	108		
526	15011	238		238	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=13"), AS PER PLAN				238
607	39930	278		278	FT	VANDAL PROTECTION FENCE, 12' CURVED, COATED FABRIC				278
622	24001		252	252	FT	CONCRETE BARRIER, TYPE D, AS PER PLAN				252
622	25051		6	6	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D, AS PER PLAN				6

Bridge Limits 281.50 ft  
Deck Width 53.33 ft

202	11203	LS	PORTIONS OF STRUCTURE REMOVED , OVER 20 FOOT SPAN, AS PER PLAN		
<b>202</b>	<b>22900</b>	<b>214</b>	<b>SY</b>	<b>APPROACH SLAB REMOVED</b>	
at RA:	width	48.00	ft		
	length	20	ft		
at FA:	width	48.00	ft		
	length	20	ft		
		1920.00	sf	<b>TOTAL</b>	
	<b>total</b>	<b>214.00</b>	<b>s y</b>		
<b>202</b>	<b>23500</b>	<b>1906</b>	<b>SY</b>	<b>WEARING COURSE REMOVED</b>	
		321.50 ft	ft	bridge limits + a.s.	
		53.33	ft	deck width	
		17146.56	sf		
		1905.17	sy		
<b>512</b>	<b>74000</b>	<b>164</b>	<b>SY</b>	<b>REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES</b>	
RA	backwall	0.35	ft	height	
		56.66	ft	length	
		<b>20</b>	<b>sf</b>		
	wingwalls side	3	ft	height avg (Assumed avg 3 ft. /exposed height/ Refer to existing plans)	
		31	ft	Length (lt ww + rt ww)	
	wingwall top	0.0	ft	width	
		0	ft	Length (lt ww + rt ww)	
		<b>94</b>	<b>sf</b>		
FA	backwall	0.40	ft	height	
		56.66	ft	length	
		<b>23</b>	<b>sf</b>		
	wingwalls side	3	ft	height avg (Assumed avg 3 ft. /exposed height/ Refer to existing plans)	
		31	ft	Length (lt ww + rt ww)	
	wingwall top	0.0	ft	width	
		0	ft	Length (lt ww + rt ww)	
		<b>94</b>	<b>sf</b>		
		<b>230</b>	<b>SF</b>	TOTAL ABUTMENTS	
		<b>26</b>	<b>SY</b>	TOTAL ABUTMENTS	
piers:	cap:	front face/back face	3.50	ft	avg height pier cap
			23.00	ft	length of pier cap
			12.00	each	number of surfaces (front face, back face x 3 piers x 2 pier caps/pier

		<b>966.00</b>	<b>sf</b>	
ends		3.50	ft	avg height pier cap
		3.00	ft	width
		12	each	
		<b>126</b>	<b>sf</b>	
columns		9	ft	perimeter of column
		15	ft	avg. height of columns
		<b>141</b>	<b>sf</b>	
		1233	sf	total pier
		<b>138</b>	<b>sy</b>	<b>total pier</b>
		<b>164</b>	<b>sy</b>	<b>total</b>

<b>503</b>	<b>11100</b>	<b>LS</b>	<b>COFFERDAMS AND EXCAVATION BRACING</b>	
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<b>503</b>	<b>21300</b>	<b>LUMP</b>	<b>UNCLASSIFIED EXCAVATION</b>	
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RA:		4.5	ft	width
		4.5	ft	AVG HEIGHT.
		56.7	ft	Length
		561.0	cu ft	total RA
FA:		4.5	ft	width
		4.5	ft	ht.
		56.7	ft	Length
		561.0	cu ft	total FA
		1122.0	cu. Ft.	TOTAL
		41.6	c.y.	
		<b>42</b>	<b>C.Y.</b>	<b>TOTAL - USED FOR COST ESTIMATING PURPOSES</b>

<b>509</b>	<b>10000</b>	<b>131593</b>	<b>POUND</b>	<b>EPOXY COATED REINFORCING STEEL</b>
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ABUT:		10497	POUND	ABUTMENT
SUPER:		121096	POUND	SUPERSTRUCTURE
		<b>131593</b>	<b>POUND</b>	<b>TOTAL</b>

<b>510</b>	<b>10000</b>	<b>376</b>	<b>EACH</b>	<b>DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT</b>
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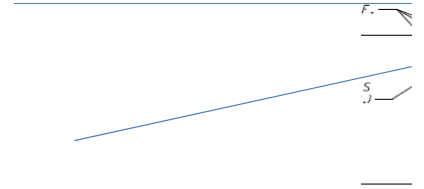
		376	EACH	ABUTMENT TOTAL (RA+FA)
		<b>376</b>	<b>EACH</b>	<b>TOTAL</b>

<b>512</b>	<b>10100</b>	<b>1019</b>	<b>SY</b>	<b>SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)</b>
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RA	backwall	6.08	ft	height
		56.66	ft	length
		<b>344</b>	<b>sf</b>	
	wingwalls side	3	ft	height avg (Assumed avg 3 ft. /exposed height/ Refer to existing plans)
		31	ft	Length (lt ww + rt ww)
	wingwall top	1.5	ft	width

			31	ft	Length (lt ww + rt ww)
			<b>141</b>	<b>sf</b>	
FA	backwall		6.08	ft	height
			56.66	ft	length
			<b>344</b>	<b>sf</b>	
	wingwalls side		3	ft	height avg (Assumed avg 3 ft. /exposed height/ Refer to existing plans)
			31	ft	Length (lt ww + rt ww)
	wingwall top		1.5	ft	width
			31	ft	Length (lt ww + rt ww)
			<b>141</b>	<b>sf</b>	
			<b>971</b>	<b>SF</b>	TOTAL ABUTMENTS
			<b>108</b>	<b>SY</b>	TOTAL ABUTMENTS
piers:	cap:	front face/back face	3.50	ft	avg height pier cap
			23.00	ft	length of pier cap
			12.00	each	number of surfaces (front face, back face x 3 piers x 2 pier caps/pier)
			<b>966.00</b>	<b>sf</b>	
		ends	3.50	ft	avg height pier cap
			3.00	ft	width
			12	each	
			<b>126</b>	<b>sf</b>	
		columns	9	ft	perimeter of column
			15	ft	avg. height of columns
			<b>141</b>	<b>sf</b>	
			1233	sf	total pier
			<b>138</b>	<b>sy</b>	<b>total pier</b>
super:	parapet lt		11.66	ft	perimeter
			313.67	ft	length
	parapet rt		7.83	ft	perimeter
			313.67	ft	length
	parapet median		8.08	ft	perimeter
			321.50	ft	length
	deck		3.00	ft	edge+underneath ( 2 sides)
			281.50	ft	bridge limits
		<b>2599</b>	<b>6958</b>	<b>sf</b>	total super
		<b>289</b>	<b>773</b>	<b>sy</b>	total super
			<b>1019</b>	<b>sy</b>	total
<b>512</b>	<b>33000</b>		<b>64</b>	<b>SY</b>	<b>TYPE 2 WATERPROOFING</b>
RA:			95.65	ft	length

		3	ft	wide
		286.95	sf	RA
FA:		95.65	ft	length
		3.00	ft	wide
		286.95	sf	FA
		573.90	sf	total
		64.00	sy	total
<b>513</b>	<b>20000</b>	<b>4158</b>	<b>EACH</b>	<b>WELDED STUD SHEAR CONNECTORS</b>
		693	each	(3 studs per row)
		6	each	# of beams
		4158	each	total
<b>516</b>	<b>14020</b>	<b>118</b>	<b>FT</b>	<b>SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL</b>
		58.83	ft	RA
		58.83	ft	FA
		<b>118</b>	<b>ft</b>	<b>total</b>
<b>516</b>	<b>13900</b>	<b>114</b>	<b>SF</b>	<b>2" PREFORMED EXPANSION JOINT FILLER</b>
<b>Abutment WW ALONG ABUTMENT</b>		2.00	ft	Length
		5.45	ft	avg height
		4.00	each	
		<b>43.60</b>	<b>sf</b>	
<b>Abutment WW ALONG APPROACHSLAB</b>		13.66	ft	length
		1.29	ft	avg height
		4.00	each	
		<b>70</b>	<b>sf</b>	<b>abut. total</b>
<b>516</b>	<b>44200</b>	<b>12</b>	<b>EACH</b>	<b>ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE)</b>
		12	each	abutment
<b>516</b>	<b>47001</b>	<b>LS</b>		<b>JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN</b>
<b>517</b>	<b>75122</b>	<b>314</b>	<b>FT</b>	<b>RAILING (CONCRETE PARAPET WITH TWIN STEEL TUBE RAILING &amp; VANDAL PROTECTION FENCE)</b>
<b>518</b>	<b>21200</b>	<b>29</b>	<b>CY</b>	<b>POROUS BACKFILL WITH GEOTEXTILE FABRIC</b>
RA:		1.50	FT	WIDE
		4.8	FT	HIGH (APPX.)
		53.33	FT	LONG
		<b>386.38</b>	<b>cu ft</b>	
FA:		1.50	FT	WIDE
		4.8	FT	HIGH (APPX.)
		53.33	FT	LONG



		<b>386.38</b>	<b>cu ft</b>	
		772.75	cu ft	total
		<b>29</b>	<b>cy yd</b>	total
<b>518</b>	<b>40000</b>	<b>126</b>	<b>FT</b>	<b>6" PERFORATED CORRUGATED PLASTIC PIPE</b>
		63	ft	
		2	each	RA & FA
		126	ft	
<b>518</b>	<b>40010</b>	<b>160</b>	<b>FT</b>	<b>6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS</b>
		40	ft	
		4	each	2 at FA, 2 at RA
		160		
<b>519</b>	<b>11101</b>	<b>198</b>	<b>SF</b>	<b>PATCHING CONCRETE STRUCTURE, AS PER PLAN</b>
		90	sf	abutment
		108	sf	piers
		198	sf	total
<b>526</b>	<b>15011</b>	<b>238</b>	<b>SY</b>	<b>REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=13"), AS PER PLAN</b>
	at FA:	53.33	FT	WIDE
		20	FT	LONG
		1066.66	sf	total at fa
	at RA:	1066.66	SF	Same as fa
		2133.32	sf	TOTAL
		<b>238</b>	<b>sy</b>	<b>total</b>
<b>511</b>	<b>34450</b>	<b>48</b>	<b>CY</b>	<b>CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)</b>
super:	parapet lt	4.08	SF	c/s area
		313.7	ft	length
	parapet rt	0.00	SF	c/s area not including side walk
		0.0	ft	length
		<b>1281</b>	<b>CF</b>	<b>total parapet</b>
		<b>48</b>	<b>CY</b>	<b>TOTAL</b>
<b>511</b>	<b>34412</b>	<b>65</b>	<b>CY</b>	<b>CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE</b>
	end dia conc	4.39	ft	height
		53.3	ft	length
		3.75	ft	width
		2	each	
		<b>1756</b>	<b>cu ft</b>	
		<b>65</b>	<b>CU YD</b>	
<b>511</b>	<b>34446</b>	<b>517</b>	<b>CY</b>	<b>CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK</b>
	DECK	0.75	FT	HEIGHT
		281.50	FT	LENGTH

measured in CADD  
PAID FOR UNDER ITEM  
517E75122 - RAILING

		53.33	FT	WIDTH	
		<b>11259.93</b>	<b>CU FT</b>		
HAUNCH		0.25	FT	HEIGHT	
		281.50	FT	LENGTH	
		1.38	FT	WIDTH	
		6.00	EACH	BEAMS	
		<b>580.59</b>	<b>CU FT</b>		
Additional 3" at overhang		0.25	ft	height	
		1.66	ft	width	
		281.50	FT	LENGTH	
		2.00	EACH	SIDES	
		<b>233.65</b>	<b>CU FT</b>		
sidewalk		5.57	SF	c/s area including side walk	
		335.50	ft	length	Added 2 ft on both sides for sleeper slab
		<b>1869</b>	<b>CF</b>	total sidewalk	
		<b>13942.90</b>	<b>CU FT</b>	<b>TOTAL</b>	
		<b>517</b>	<b>CY</b>	<b>TOTAL</b>	
<b>511</b>	<b>44112</b>	<b>17</b>	<b>CY</b>	<b>CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING</b>	
RA		0.66	ft	avg ht	
		53.33	ft	long	
		3.75	ft	wide	
		<b>131.99</b>	<b>cu ft</b>		
RA WW		2	ft	length	
		5.43	ft	height	
		1.50	ft	width	
		1.00	each		
		<b>16.29</b>	<b>CU FT</b>		
RA WW		2	ft	length	
		5.43	ft	height	
		1.50	ft	width	
		1.00	each		
		<b>16.29</b>	<b>CU FT</b>		
RA WW		13.66	ft	length	
		1.26	ft	height	
		1.50	ft	width	
		1.00	each		
		<b>25.8174</b>	<b>CU FT</b>		
RA WW		13.66	ft	length	
		1.47	ft	height	

	1.50	ft	width
	1.00	each	
	<b>30.1203</b>	<b>CU FT</b>	
	<b>220.51</b>	<b>CU FT</b>	<b>TOTAL RA</b>
FA	0.66	ft	avg ht
	53.33	ft	long
	3.75	ft	wide
	<b>131.99</b>	<b>cu ft</b>	
FA WW	2	ft	length
	5.47	ft	height
	1.50	ft	width
	1.00	each	
	<b>16.41</b>	<b>CU FT</b>	
FA WW	2	ft	length
	5.47	ft	height
	1.50	ft	width
	1.00	each	
	<b>16.41</b>	<b>CU FT</b>	
FA WW	13.66	ft	length
	1.11	ft	height
	1.50	ft	width
	1.00	each	
	<b>22.7439</b>	<b>CU FT</b>	
FA WW	13.66	ft	length
	1.32	ft	height
	1.50	ft	width
	1.00	each	
	<b>27.0468</b>	<b>CU FT</b>	
	<b>214.60</b>	<b>CU FT</b>	<b>TOTAL FA</b>
	435	<b>CU FT</b>	<b>TOTAL</b>