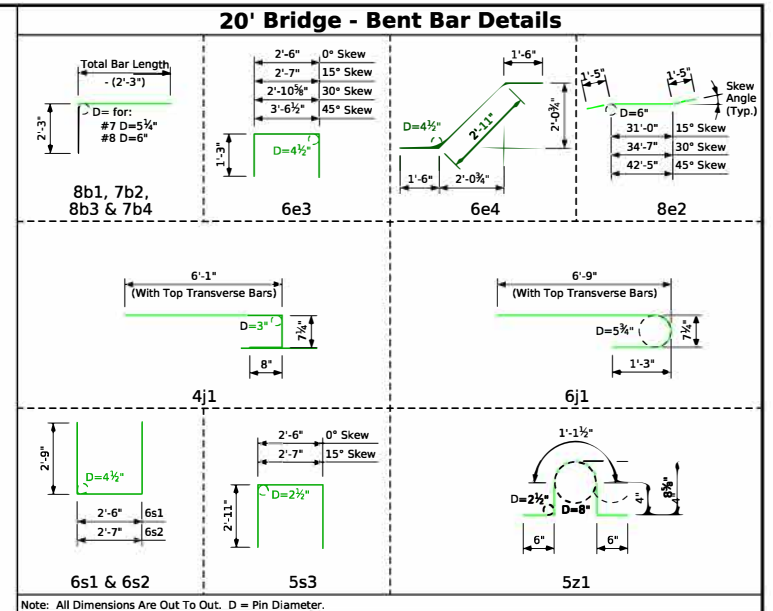


Bill of Reinforcing Steel for Superstructure - 20' Bridge																		
Location	Skew Shape	0 Degree				15 Degree				30 Degree				45 Degree				
		Bar	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight				
Slab Longitudinal Bottom		8a1	39	20'-6"	2135	39	20'-6"	2135	39	20'-6"	2135	39	20'-6"	2135				
Slab Longitudinal Bottom		7a2	20	13'-0"	531	20	13'-0"	531	20	13'-0"	531	20	13'-0"	531				
Slab Longitudinal Bottom, at Rail		7a3	4	20'-6"	168	4	20'-6"	168	4	20'-6"	168	4	20'-6"	168				
Slab Longitudinal Bottom, at Rail		8a4	4	20'-6"	219	4	20'-6"	219	4	20'-6"	219	4	20'-6"	219				
Slab Longitudinal Top		8b1	40	15'-0"	1602	40	15'-0"	1602	40	15'-0"	1602	40	15'-0"	1602				
Slab Longitudinal Top		7b2	78	14'-8"	2338	78	14'-8"	2338	78	14'-8"	2338	78	14'-8"	2338				
Slab Longitudinal Top, at Rail		8b3	8	15'-0"	320	8	15'-0"	320	8	15'-0"	320	8	15'-0"	320				
Slab Longitudinal Top, at Rail		7b4	8	14'-8"	240	8	14'-8"	240	8	14'-8"	240	8	14'-8"	240				
Slab Transverse Bottom		6c1	17	32'-10"	838	17	34'-0"	868	3	32'-10"	148	10	20'-8"	310				
Slab Transverse Ends, Bottom		6c3	-	-	-	-	-	-	30	VARIES	802	36	VARIES	690				
Slab Transverse, Top		4d1	17	32'-10"	373	17	34'-0"	386	3	32'-10"	66	10	20'-8"	138				
Slab Transverse Ends, Top		4d3	-	-	-	-	-	-	30	VARIES	356	36	VARIES	307				
Top of Slab, Transverse, at W-Beam/Open Rail		4j1	32	7'-5"	159	32	7'-5"	159	32	7'-5"	159	30	7'-5"	149				
Top of Slab, Transverse, at Single Slope Rail		6j1	32	8'-7"	413	32	8'-7"	413	32	8'-7"	413	30	8'-7"	387				
Paving Block Lifting Hoops		5z1	10	2'-10"	30	10	2'-10"	30	10	2'-10"	30	10	2'-10"	30				
Epoxy-Coated Sub Total - W-Beam/Open Rail - LBS.					8,953		8,996			9,114		9,177						
Epoxy-Coated Sub Total - Single Slope Rail - LBS.					9,207		9,250			9,368		9,415						
Integral Abutment Bars																		
Slab, Transverse at Abutment		8e1	14	32'-10"	1227	-	-	-	-	-	-	-	-	-				
Slab, Transverse at Abutment		8e2	-	-	-	14	33'-10"	1265	14	37'-5"	1399	14	45'-3"	1691				
Slab, Hairpins, at Abutment		6e3	72	5'-0"	541	72	5'-1"	550	72	5'-5"	586	72	6'-1"	658				
Slab, Diagonal, at Abutment		6e4	72	5'-11"	640	72	5'-11"	640	72	5'-11"	640	72	5'-11"	640				
Wing, Vertical		5m1	40	4'-5"	184	40	4'-5"	184	40	4'-5"	184	40	4'-5"	184				
Wing, Horizontal		5n1	48	6'-8"	334	48	6'-8"	334	48	6'-8"	334	48	6'-8"	334				
Epoxy-Coated Sub Total - Integral Abutment - LBS.					2,926		2,973			3,143		3,507						
High Abutment Bars																		
Slab, Diagonal, at Abutment		6e4	68	5'-11"	604	68	5'-11"	604	-	-	-	-	-	-				
Slab, Transverse at Abutment		8e5	18	40'-8"	1954	18	42'-1"	2023	-	-	-	-	-	-				
Slab, Transverse at Abutment, Cap Ends		8e6	4	5'-2"	55	4	5'-4"	57	-	-	-	-	-	-				
Abutment Hairpins		6s1	176	8'-0"	2115	160	8'-0"	1923	-	-	-	-	-	-				
Abutment Hairpins, Cap Ends		6s2	-	-	-	16	8'-1"	194	-	-	-	-	-	-				
Abutment Hairpins, Cap Ends		5s3	24	8'-4"	209	24	8'-5"	211	-	-	-	-	-	-				
Spiral		#2	12	38'-6"	77	12	38'-6"	77	-	-	-	-	-	-				
Spiral Spacers, L 7/8x7/8x1/8x 0.7			36	1'-10"	46	36	1'-10"	46	-	-	-	-	-	-				
Epoxy-Coated Sub Total - High Abutment - LBS.					4,937		5,012											
Non-Coated Sub Total - High Abutment - LBS.					123		123											
Open Rail - Integral Abutment - See Sheets J305-33-25																		
					2,802		2,802			2,802		2,802						
Open Rail - High Abutment - See Sheets J305-35-25																		
					2,190		2,190			-		-						
Single Slope Rail - Integral Abutment - See Sheets J305-27-25 & J305-31-25																		
					2,728		2,730			2,763		2,805						
Single Slope Rail - High Abutment - See Sheets J305-29-25 & J305-31-25																		
					2,244		2,239			-		-						
Integral Abutment			With Open Rail		14,681		14,771			15,059		15,486						
Total - Epoxy Coated - LBS			With W-Beam Guardrail		11,879		11,969			12,257		12,684						
			With Single Slope Rail		14,861		14,953			15,274		15,727						
			With Open Rail		16,080		16,198			-		-						
High Abutment			With W-Beam Guardrail		13,890		14,008			-		-						
Total - Epoxy Coated - LBS			With Single Slope Rail		16,388		16,501			-		-						
High Abutment Total - Non Coated - LBS					123		123			-		-						

Estimated Quantities for Superstructure - 20' Bridge							
Item	Skew	Integral Abutment			High Abutment		
		0°	15°	30°	45°	0°	15°
* Structural Concrete (Bridge)	C.Y.	49.7	50.2	51.8	55.4	62.4	63.2
Reinf. Steel Epoxy Coated With Open Rail	LBS.	14,681	14,771	15,059	15,486	16,080	16,198
Reinf. Steel Epoxy Coated With W-Beam Guardrail	LBS.	11,879	11,969	12,257	12,684	13,890	14,008
Reinf. Steel Epoxy Coated With Single Slope Rail	LBS.	14,861	14,953	15,274	15,727	16,388	16,501
Reinf. Steel Non-Coated	LBS.	-	-	-	-	123	123
* Includes 4 wings for integral abutment at 1.18 CY each and temporary paving blocks; excludes rail concrete.							



Latest Revision Date

Approved by Bridge Engineer

Standard Design - 30'-0" Roadway, Single Span Bridge

Single Span Concrete Slab Bridges

July, 2025

Superstructure Details
20'-0" Bridge

J305-04-25