

REVISED 09-14 - CHANGED REFERENCE TO THE BARRIER RAIL & OPEN RAIL TO THE J44-14 STANDARDS INSTEAD OF J44-06 STANDARDS.

### BILL OF REINFORCING STEEL FOR SUPERSTRUCTURE - 90' BRIDGE

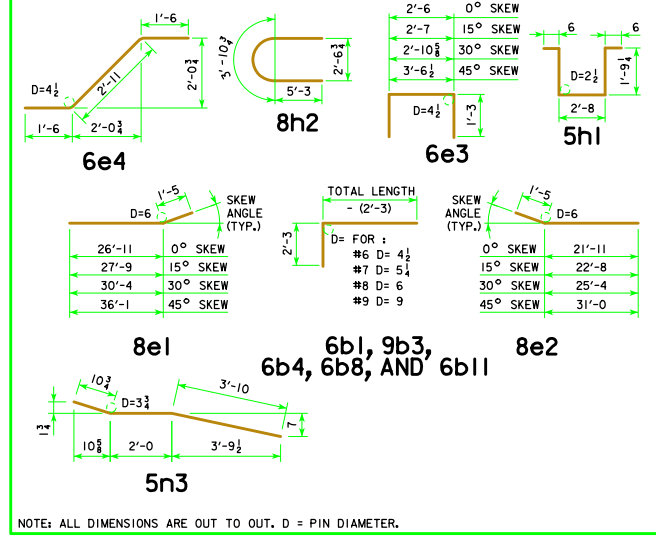
LOCATION	SKEW	SHAPE	0°				15°				30°				45°			
			BAR NO.	LENGTH	WEIGHT		BAR NO.	LENGTH	WEIGHT		BAR NO.	LENGTH	WEIGHT		BAR NO.	LENGTH	WEIGHT	
SLAB LONGITUDINAL BOTTOM			801	58	20'-0	3098	58	20'-0	3098	58	20'-0	3098	58	20'-0	3098	58	20'-0	3098
SLAB LONGITUDINAL BOTTOM			802	58	30'-3	4685	58	30'-3	4685	58	30'-3	4685	58	30'-3	4685	58	30'-3	4685
SLAB LONGITUDINAL BOTTOM			803	58	28'-6	4414	58	28'-6	4414	58	28'-6	4414	58	28'-6	4414	58	28'-6	4414
SLAB LONGITUDINAL BOTTOM			804	58	25'-6	3949	58	25'-6	3949	58	25'-6	3949	58	25'-6	3949	58	25'-6	3949
SLAB LONGITUDINAL BOTTOM			805	29	28'-0	2169	29	28'-0	2169	29	28'-0	2169	29	28'-0	2169	29	28'-0	2169
SLAB LONGITUDINAL BOTTOM, AT RAIL			806	8	32'-3	689	8	32'-3	689	8	32'-3	689	8	32'-3	689	8	32'-3	689
SLAB LONGITUDINAL BOTTOM, AT RAIL			807	4	34'-4	367	4	34'-4	367	4	34'-4	367	4	34'-4	367	4	34'-4	367
SLAB LONGITUDINAL BOTTOM, AT RAIL			808	8	22'-9	486	8	22'-9	486	8	22'-9	486	8	22'-9	486	8	22'-9	486
SLAB LONGITUDINAL BOTTOM, AT RAIL			809	4	21'-0	225	4	21'-0	225	4	21'-0	225	4	21'-0	225	4	21'-0	225
SLAB LONGITUDINAL TOP			810	58	8'-0	697	58	8'-0	697	58	8'-0	697	58	8'-0	697	58	8'-0	697
SLAB LONGITUDINAL TOP			9b2	58	22'-9	4487	58	22'-9	4487	58	22'-9	4487	58	22'-9	4487	58	22'-9	4487
SLAB LONGITUDINAL TOP			9b3	58	35'-0	6902	58	35'-0	6902	58	35'-0	6902	58	35'-0	6902	58	35'-0	6902
SLAB LONGITUDINAL TOP			6b4	58	13'-0	1133	58	13'-0	1133	58	13'-0	1133	58	13'-0	1133	58	13'-0	1133
SLAB LONGITUDINAL TOP			9b5	58	27'-6	5423	58	27'-6	5423	58	27'-6	5423	58	27'-6	5423	58	27'-6	5423
SLAB LONGITUDINAL TOP			6b6	29	16'-10	734	29	16'-10	734	29	16'-10	734	29	16'-10	734	29	16'-10	734
SLAB LONGITUDINAL TOP, AT RAIL			6b8	8	26'-0	313	8	26'-0	313	8	26'-0	313	8	26'-0	313	8	26'-0	313
SLAB LONGITUDINAL TOP, AT RAIL			9b9	8	19'-6	531	8	19'-6	531	8	19'-6	531	8	19'-6	531	8	19'-6	531
SLAB LONGITUDINAL TOP, AT RAIL			6b10	4	18'-0	109	4	18'-0	109	4	18'-0	109	4	18'-0	109	4	18'-0	109
SLAB LONGITUDINAL TOP, AT RAIL			6b11	8	28'-6	343	8	28'-6	343	8	28'-6	343	8	28'-6	343	8	28'-6	343
SLAB LONGITUDINAL TOP, AT RAIL			10b12	8	13'-3	457	8	13'-3	457	8	13'-3	457	8	13'-3	457	8	13'-3	457
SLAB TRANSVERSE BOTTOM			6c1	87	25'-5	3322	87	26'-4	3442	76	25'-5	2902	66	25'-5	2520			
SLAB TRANSVERSE BOTTOM			6c2	87	23'-3	3039	87	24'-1	3148	78	23'-3	2724	69	23'-3	2410			
SLAB TRANSVERSE ENDS, BOTTOM			6c3	-	-	-	-	-	-	14	VARIES	303	22	VARIES	485			
SLAB TRANSVERSE ENDS, BOTTOM			6c4	-	-	-	-	-	-	12	VARIES	255	22	VARIES	458			
SLAB TRANSVERSE ENDS, BOTTOM			6c5	-	-	-	-	-	-	12	VARIES	208	20	VARIES	366			
SLAB TRANSVERSE ENDS, BOTTOM			6c6	-	-	-	-	-	-	12	VARIES	227	19	VARIES	376			
SLAB TRANSVERSE TOP			5d1	87	25'-9	2337	87	26'-8	2420	76	25'-9	2042	66	25'-9	1733			
SLAB TRANSVERSE TOP			5d2	87	23'-3	2110	87	24'-1	2186	78	23'-3	1892	69	23'-3	1674			
SLAB TRANSVERSE ENDS, TOP			5d3	-	-	-	-	-	-	14	VARIES	210	22	VARIES	337			
SLAB TRANSVERSE ENDS, TOP			5d4	-	-	-	-	-	-	12	VARIES	177	22	VARIES	318			
SLAB TRANSVERSE ENDS, TOP			5d5	-	-	-	-	-	-	12	VARIES	144	20	VARIES	254			
SLAB TRANSVERSE ENDS, TOP			5d6	-	-	-	-	-	-	12	VARIES	158	19	VARIES	261			
SLAB, TRANSVERSE AT ABUTMENT			8e1	18	28'-4	1362	18	29'-2	1402	18	31'-9	1526	18	37'-6	1803			
SLAB, TRANSVERSE AT ABUTMENT			8e2	18	23'-4	1122	18	24'-1	1158	18	26'-9	1286	18	32'-5	1558			
SLAB, HAIRPINS, AT ABUTMENT			6e3	100	5'-0	751	100	5'-1	764	100	5'-5	814	100	6'-1	914			
SLAB, DIAGONALS, AT ABUTMENT			6e4	100	5'-11	889	100	5'-11	889	100	5'-11	889	100	5'-11	889			
PIER CAP HOOPS			5h1	80	7'-3	605	80	7'-3	605	80	7'-3	605	120	7'-3	908			
PIER CAP ENDS			8h2	4	14'-5	154	4	14'-5	154	4	14'-5	154	4	14'-5	154			
PIER CAP, BOTTOM LONGITUDINAL			8h3	8	27'-5	586	8	28'-8	613	8	31'-8	677	8	37'-10	809			
PIER CAP, BOTTOM LONGITUDINAL			8h4	8	21'-11	469	8	22'-4	478	8	24'-6	524	8	29'-8	634			
PIER CAP, TOP LONGITUDINAL			8h5	4	28'-2	301	4	29'-6	316	4	32'-8	349	4	38'-11	416			
PIER CAP, TOP LONGITUDINAL			8h6	4	23'-5	251	4	23'-11	256	4	26'-3	281	4	31'-6	337			
TOP OF SLAB, TRANSVERSE, AT RAIL			5j1	172	8'-6	1525	172	8'-6	1525	166	8'-6	1472	164	8'-6	1454			
WING, VERTICAL			5m1	40	4'-5	185	40	4'-5	185	40	4'-5	185	40	4'-5	185			
WING, HORIZONTAL BACK FACE			5n1	24	6'-8	167	24	6'-8	167	24	6'-8	167	24	6'-8	167			
WING, HORIZONTAL TRAFFIC FACE			5n3	24	6'-9	169	24	6'-9	169	24	6'-9	169	24	6'-9	169			
SUB EPOXY COATED TOTAL - LBS.						60,555			61,088			61,551			62,840			
BARRIER RAIL - SEE LIST ON RAIL SHEET J44-46-14						3882			3882			3882			3882			
OPEN RAIL - SEE LIST ON RAIL SHEET J44-49-14						4121			4121			4121			4121			
EPOXY COATED RAIL TOTAL - LBS.						64,437			64,970			65,433			66,722			
WITH MONOLITHIC PIER CAP						64,676			65,209			65,672			66,961			
WITH BARRIER RAIL						62,071			65,548			62,843			63,464			
SAME AS ABOVE EXCEPT ALL "h" BARS DELETED						62,310			62,787			63,082			63,703			
WITH OPEN RAIL						2068			2068			2068			2068			
STAINLESS STEEL RAIL TOTAL - LBS.						2209			2209			2209			2209			
WITH OPEN RAIL						2209			2209			2209			2209			

### ESTIMATED QUANTITIES FOR SUPERSTRUCTURE - 90' BRIDGE

ITEM	SKEW	WITH MONOLITHIC PIER CAP				WITH NON-MONOLITHIC PIER CAP			
		0°	15°	30°	45°	0°	15°	30°	45°
WITH BARRIER RAIL	*STRUCTURAL CONCRETE (BRIDGE) C.Y.	247.8	248.9	252.7	260.9	241.4	242.3	245.4	252.0
	REINF. STEEL EPOXY COATED LBS.	64,437	64,970	65,433	66,722	62,071	65,548	62,843	63,464
	REINF. STEEL STAINLESS STEEL LBS.	2068	2068	2068	2068	2068	2068	2068	2068
CONCRETE BARRIER OR OPEN RAIL	LIN. FT.	202.0	202.2	202.9	204.5	202.0	202.2	202.9	204.5
WITH OPEN RAIL	*STRUCTURAL CONCRETE (BRIDGE) C.Y.	247.7	248.8	252.5	260.7	241.3	242.2	245.2	251.8
	REINF. STEEL EPOXY COATED LBS.	64,676	65,209	65,672	66,961	62,310	62,787	63,082	63,703
	REINF. STEEL STAINLESS STEEL LBS.	2209	2209	2209	2209	2209	2209	2209	2209

\* INCLUDES 4 WINGS @ 0.68 C.Y. EACH; EXCLUDES RAIL CONCRETE.

### BENT BAR DETAILS



#### NOTES:

ALL BARRIER RAIL REINFORCING STEEL IS TO BE EITHER EPOXY COATED OR STAINLESS STEEL AS SHOWN OR NOTED. THE STAINLESS STEEL REINFORCING STEEL SHALL BE DEFORMED BAR GRADE 60 MEETING THE REQUIREMENTS OF MATERIALS I.M.452.

ALL OTHER REINFORCING STEEL IS TO BE EPOXY COATED.

THE TRANSVERSE REBARS ARE DETAILED WITH A SPLICE LAP. AT THE CONTRACTOR'S OPTION, THIS LAP MAY BE ELIMINATED BY FURNISHING FULL LENGTH BARS WITH NO REDUCTION IN PAY WEIGHT FOR SAME.

09-14 LATEST REVISION DATE  <i>Thomas E. M. Donnell</i> APPROVED BY BRIDGE ENGINEER	
	STANDARD DESIGN - 44' ROADWAY, 3 SPAN BRIDGES <b>CONTINUOUS CONCRETE SLAB BRIDGES</b> JULY, 2014
	<div style="text-align: center;"> <b>SUPERSTRUCTURE DETAILS</b>  <b>90'-0 BRIDGE</b> </div> <div style="text-align: right;"> <b>J44-07-14</b> </div>