

REVISED 09-14 - CHANGED REFERENCE TO THE BARRIER RAIL & OPEN RAIL TO THE J40-14 STANDARDS INSTEAD OF J40-06 STANDARDS.

### BILL OF REINFORCING STEEL FOR SUPERSTRUCTURE - 130' BRIDGE

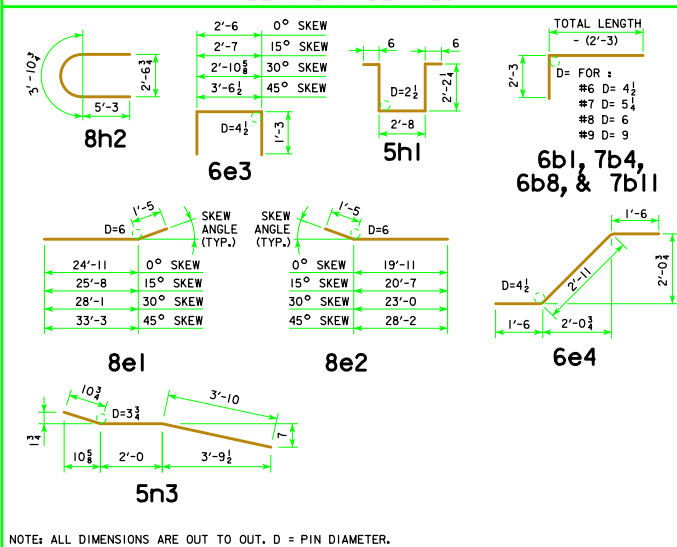
LOCATION	SKEW	SHAPE	0°				15°				30°				45°			
			BAR NO.	LENGTH	WEIGHT		BAR NO.	LENGTH	WEIGHT		BAR NO.	LENGTH	WEIGHT		BAR NO.	LENGTH	WEIGHT	
SLAB LONGITUDINAL BOTTOM			901	53	28'-9	5181	53	28'-9	5181	53	28'-9	5181	53	28'-9	5181	53	28'-9	5181
SLAB LONGITUDINAL BOTTOM			902	53	44'-6	8019	53	44'-6	8019	53	44'-6	8019	53	44'-6	8019	53	44'-6	8019
SLAB LONGITUDINAL BOTTOM			903	53	41'-3	7434	53	41'-3	7434	53	41'-3	7434	53	41'-3	7434	53	41'-3	7434
SLAB LONGITUDINAL BOTTOM			904	52	32'-9	5791	52	32'-9	5791	52	32'-9	5791	52	32'-9	5791	52	32'-9	5791
SLAB LONGITUDINAL BOTTOM			10a5	26	41'-0	4587	26	41'-0	4587	26	41'-0	4587	26	41'-0	4587	26	41'-0	4587
SLAB LONGITUDINAL BOTTOM, AT RAIL			906	8	38'-7	1050	8	38'-7	1050	8	38'-7	1050	8	38'-7	1050	8	38'-7	1050
SLAB LONGITUDINAL BOTTOM, AT RAIL			907	8	13'-0	354	8	13'-0	354	8	13'-0	354	8	13'-0	354	8	13'-0	354
SLAB LONGITUDINAL BOTTOM, AT RAIL			908	4	48'-8	662	4	48'-8	662	4	48'-8	662	4	48'-8	662	4	48'-8	662
SLAB LONGITUDINAL BOTTOM, AT RAIL			809	8	31'-3	668	8	31'-3	668	8	31'-3	668	8	31'-3	668	8	31'-3	668
SLAB LONGITUDINAL BOTTOM, AT RAIL			9010	4	29'-0	395	4	29'-0	395	4	29'-0	395	4	29'-0	395	4	29'-0	395
SLAB LONGITUDINAL TOP			6b1	53	7'-9	617	53	7'-9	617	53	7'-9	617	53	7'-9	617	53	7'-9	617
SLAB LONGITUDINAL TOP			11b2	53	28'-9	8096	53	28'-9	8096	53	28'-9	8096	53	28'-9	8096	53	28'-9	8096
SLAB LONGITUDINAL TOP			11b3	53	30'-6	8589	53	30'-6	8589	53	30'-6	8589	53	30'-6	8589	53	30'-6	8589
SLAB LONGITUDINAL TOP			7b4	53	23'-9	2573	53	23'-9	2573	53	23'-9	2573	53	23'-9	2573	53	23'-9	2573
SLAB LONGITUDINAL TOP			10b5	52	25'-6	5706	52	25'-6	5706	52	25'-6	5706	52	25'-6	5706	52	25'-6	5706
SLAB LONGITUDINAL TOP			6b6	26	34'-4	1341	26	34'-4	1341	26	34'-4	1341	26	34'-4	1341	26	34'-4	1341
SLAB LONGITUDINAL TOP, AT RAIL			6b8	8	30'-3	364	8	30'-3	364	8	30'-3	364	8	30'-3	364	8	30'-3	364
SLAB LONGITUDINAL TOP, AT RAIL			11b9	8	32'-9	1393	8	32'-9	1393	8	32'-9	1393	8	32'-9	1393	8	32'-9	1393
SLAB LONGITUDINAL TOP, AT RAIL			6b10	4	23'-0	139	4	23'-0	139	4	23'-0	139	4	23'-0	139	4	23'-0	139
SLAB LONGITUDINAL TOP, AT RAIL			7b11	8	35'-6	581	8	35'-6	581	8	35'-6	581	8	35'-6	581	8	35'-6	581
SLAB LONGITUDINAL TOP, AT RAIL			11b12	8	23'-9	1010	8	23'-9	1010	8	23'-9	1010	8	23'-9	1010	8	23'-9	1010
SLAB TRANSVERSE BOTTOM			6c1	127	23'-5	4467	127	24'-3	4626	118	23'-5	4151	108	23'-5	3789			
SLAB TRANSVERSE BOTTOM			6c2	127	21'-3	4054	127	22'-0	4197	119	21'-3	3799	111	21'-3	3543			
SLAB TRANSVERSE ENDS, BOTTOM			6c3	-	-	-	-	-	-	12	VARIES	223	20	VARIES	411			
SLAB TRANSVERSE ENDS, BOTTOM			6c4	-	-	-	-	-	-	11	VARIES	219	20	VARIES	386			
SLAB TRANSVERSE ENDS, BOTTOM			6c5	-	-	-	-	-	-	11	VARIES	176	18	VARIES	302			
SLAB TRANSVERSE ENDS, BOTTOM			6c6	-	-	-	-	-	-	11	VARIES	190	17	VARIES	311			
SLAB TRANSVERSE TOP			5d1	127	23'-9	3146	127	24'-7	3257	118	23'-9	2924	108	23'-9	2676			
SLAB TRANSVERSE TOP			5d2	127	21'-3	2815	127	22'-0	2915	119	21'-3	2638	111	21'-3	2461			
SLAB TRANSVERSE ENDS, TOP			5d3	-	-	-	-	-	-	12	VARIES	155	20	VARIES	286			
SLAB TRANSVERSE ENDS, TOP			5d4	-	-	-	-	-	-	11	VARIES	152	20	VARIES	268			
SLAB TRANSVERSE ENDS, TOP			5d5	-	-	-	-	-	-	11	VARIES	122	18	VARIES	210			
SLAB TRANSVERSE ENDS, TOP			5d6	-	-	-	-	-	-	11	VARIES	132	17	VARIES	216			
SLAB TRANSVERSE AT ABUTMENT			8e1	18	26'-4	1266	18	27'-1	1302	18	29'-6	1418	18	34'-8	1667			
SLAB TRANSVERSE AT ABUTMENT			8e2	18	21'-4	1026	18	22'-0	1058	18	24'-5	1174	18	29'-7	1422			
SLAB, HAIRPINS, AT ABUTMENT			6e3	92	5'-0	691	92	5'-1	703	92	5'-5	749	92	6'-1	841			
SLAB, DIAGONALS, AT ABUTMENT			6e4	92	5'-11	818	92	5'-11	818	92	5'-11	818	92	5'-11	818			
PIER CAP HOOPS			5h1	84	8'-1	709	84	8'-1	709	84	8'-1	709	112	8'-1	945			
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	25'-5	543	8	26'-7	568	8	29'-4	627	8	35'-0	748			
PIER CAP, BOTTOM LONGITUDINAL			8h4	8	19'-11	426	8	20'-3	433	8	22'-2	474	8	26'-10	574			
PIER CAP, TOP LONGITUDINAL			8h5	4	26'-2	280	4	27'-5	293	4	30'-4	324	4	36'-1	386			
PIER CAP, TOP LONGITUDINAL			8h6	4	21'-5	229	4	21'-10	234	4	23'-11	256	4	28'-8	307			
TOP OF SLAB, TRANSVERSE, AT RAIL			5j1	252	8'-6	2235	252	8'-6	2235	242	8'-6	2146	236	8'-6	2093			
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.						87,930			88,573			88,801			89,895			
BARRIER RAIL - SEE LIST ON RAIL SHEET J40-46-14						5172			5172			5172			5172			
OPEN RAIL - SEE LIST ON RAIL SHEET J40-49-14						5628			5628			5628			5628			
EPOXY COATED RAIL TOTAL - LBS.						93,102			93,745			93,973			95,067			
			WITH MONOLITHIC PIER CAP			93,558			94,201			94,429			95,523			
EPOXY COATED RAIL TOTAL - LBS.						90,761			91,354			91,429			91,953			
			WITH BARRIER RAIL			91,217			91,810			91,885			92,409			
SAME AS ABOVE EXCEPT ALL "h" BARS DELETED																		
			WITH BARRIER RAIL			2882			2882			2882			2882			
STAINLESS STEEL RAIL TOTAL - LBS.						2945			2945			2945			2945			
			WITH OPEN RAIL															

### ESTIMATED QUANTITIES FOR SUPERSTRUCTURE - 130' 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.	398.3	399.3	402.5	409.4	392.3	393.0	395.6	401.1									
REINF. STEEL EPOXY COATED	LBS.	93,102	93,745	93,973	95,067	90,761	91,354	91,429	91,953									
REINF. STEEL STAINLESS STEEL	LBS.	2882	2882	2882	2882	2882	2882	2882	2882									
CONCRETE BARRIER OR OPEN RAIL	LIN. FT.	282.0	282.2	282.9	284.5	282.0	282.2	282.9	284.5									
WITH OPEN RAIL																		
*STRUCTURAL CONCRETE (BRIDGE)	C.Y.	398.1	399.0	402.2	409.2	392.0	392.8	395.3	400.8									
REINF. STEEL EPOXY COATED	LBS.	93,558	94,201	94,429	95,523	91,217	91,810	91,885	92,409									
REINF. STEEL STAINLESS STEEL	LBS.	2945	2945	2945	2945	2945	2945	2945	2945									

\* 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. Dwyer</i> APPROVED BY BRIDGE ENGINEER	
	STANDARD DESIGN - 40' ROADWAY, 3 SPAN BRIDGES <b>CONTINUOUS CONCRETE SLAB BRIDGES</b> JULY, 2014
	<b>SUPERSTRUCTURE DETAILS</b> <b>130'-0 BRIDGE</b>

**J40-15-14**