BILL OF REINFORCING STEEL FOR SUPERSTRUCTURE - 80' BRIDGE

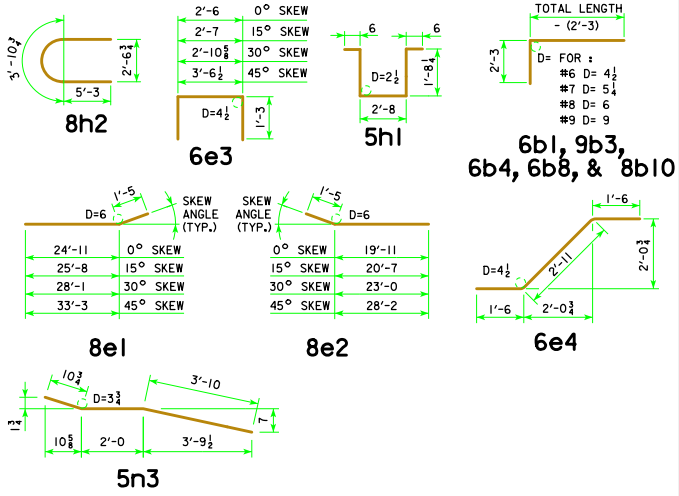
LOCATION	SHAPE	BAR	0° NO.	0° LENGTH	0° WEIGHT	15° NO.	15° LENGTH	15° WEIGHT	30° NO.	30° LENGTH	30° WEIGHT	45° NO.	45° LENGTH	45° WEIGHT
SLAB LONGITUDINAL BOTTOM		8a1	53	18'-3	2583	53	18'-3	2583	53	18'-3	2583	53	18'-3	2583
SLAB LONGITUDINAL BOTTOM		8a2	53	27'-0	3821	53	27'-0	3821	53	27'-0	3821	53	27'-0	3821
SLAB LONGITUDINAL BOTTOM		8a3	53	28'-0	3963	53	28'-0	3963	53	28'-0	3963	53	28'-0	3963
SLAB LONGITUDINAL BOTTOM		7a4	52	23'-0	2445	52	23'-0	2445	52	23'-0	2445	52	23'-0	2445
SLAB LONGITUDINAL BOTTOM		7a5	26	24'-6	1303	26	24'-6	1303	26	24'-6	1303	26	24'-6	1303
SLAB LONGITUDINAL BOTTOM, AT RAIL		7a6	8	28'-9	471	8	28'-9	471	8	28'-9	471	8	28'-9	471
SLAB LONGITUDINAL BOTTOM, AT RAIL		7a7	4	29'-4	240	4	29'-4	240	4	29'-4	240	4	29'-4	240
SLAB LONGITUDINAL BOTTOM, AT RAIL		8a8	8	20'-9	444	8	20'-9	444	8	20'-9	444	8	20'-9	444
SLAB LONGITUDINAL BOTTOM, AT RAIL		8a9	4	25'-6	273	4	25'-6	273	4	25'-6	273	4	25'-6	273
SLAB LONGITUDINAL TOP		6b1	53	19'-6	1553	53	19'-6	1553	53	19'-6	1553	53	19'-6	1553
SLAB LONGITUDINAL TOP		9b2	53	21'-9	3920	53	21'-9	3920	53	21'-9	3920	53	21'-9	3920
SLAB LONGITUDINAL TOP		9b3	53	32'-0	5767	53	32'-0	5767	53	32'-0	5767	53	32'-0	5767
SLAB LONGITUDINAL TOP		6b4	52	7'-6	586	52	7'-6	586	52	7'-6	586	52	7'-6	586
SLAB LONGITUDINAL TOP		8b5	52	21'-3	2951	52	21'-3	2951	52	21'-3	2951	52	21'-3	2951
SLAB LONGITUDINAL TOP		6b6	26	16'-4	638	26	16'-4	638	26	16'-4	638	26	16'-4	638
SLAB LONGITUDINAL TOP, AT RAIL		6b8	8	25'-6	307	8	25'-6	307	8	25'-6	307	8	25'-6	307
SLAB LONGITUDINAL TOP, AT RAIL		9b9	8	23'-6	640	8	23'-6	640	8	23'-6	640	8	23'-6	640
SLAB LONGITUDINAL TOP, AT RAIL		8b10	8	34'-0	727	8	34'-0	727	8	34'-0	727	8	34'-0	727
SLAB TRANSVERSE BOTTOM		6c1	77	23'-5	2709	77	24'-3	2805	68	23'-5	2392	58	23'-5	2040
SLAB TRANSVERSE BOTTOM		6c2	77	21'-3	2458	77	22'-0	2545	69	21'-3	2203	61	21'-3	1947
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	77	23'-9	1908	77	24'-7	1975	68	23'-9	1685	58	23'-9	1437
SLAB TRANSVERSE TOP		5d2	77	21'-3	1707	77	22'-0	1767	69	21'-3	1530	61	21'-3	1352
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	72	7'-1	532	72	7'-1	532	72	7'-1	532	108	7'-1	798
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	152	8'-6	1348	152	8'-6	1348	142	8'-6	1259	136	8'-6	1206
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.					49,248			49,688			50,117			51,240
BARRIER RAIL - SEE LIST ON RAIL SHEET J40-46-14					3571			3571			3571			3571
OPEN RAIL - SEE LIST ON RAIL SHEET J40-49-14					3725			3725			3725			3725
EPOXY COATED RAIL TOTAL - LBS. WITH MONOLITHIC PIER CAP		WITH BARRIER RAIL			52,819			53,259			53,688			54,811
		WITH OPEN RAIL			52,973			53,413			53,842			54,965
EPOXY COATED RAIL TOTAL - LBS. WITH NON-MONOLITHIC PIER CAP		WITH BARRIER RAIL			50,655			51,045			51,321			51,844
SAME AS ABOVE EXCEPT ALL "h" BARS DELETED		WITH OPEN RAIL			50,809			51,199			51,475			51,998
STAINLESS STEEL RAIL TOTAL - LBS.		WITH BARRIER RAIL			1893			1893			1893			1893
		WITH OPEN RAIL			2074			2074			2074			2074

ESTIMATED QUANTITIES FOR SUPERSTRUCTURE - 80' BRIDGE

ITEM		SKEW	WITH MONOLITHIC PIER CAP 0°	15°	30°	45°	WITH NON-MONOLITHIC PIER CAP 0°	15°	30°	45°
WITH BARRIER RAIL	*STRUCTURAL CONCRETE (BRIDGE)	C.Y.	195.1	196.2	199.6	207.2	189.1	189.9	192.7	198.8
	REINF. STEEL EPOXY COATED	LBS.	52,819	53,259	53,688	54,811	50,655	51,045	51,321	51,844
	REINF. STEEL STAINLESS STEEL	LBS.	1893	1893	1893	1893	1893	1893	1893	1893
CONCRETE BARRIER OR OPEN RAIL		LIN. FT.	182.0	182.2	182.9	184.5	162.0	162.2	162.9	164.5
WITH OPEN RAIL	*STRUCTURAL CONCRETE (BRIDGE)	C.Y.	195.0	196.0	199.5	207.1	188.9	189.8	192.6	198.7
	REINF. STEEL EPOXY COATED	LBS.	52,973	53,413	53,842	54,965	50,809	51,199	51,475	51,998
	REINF. STEEL STAINLESS STEEL	LBS.	2074	2074	2074	2074	2074	2074	2074	2074

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

BENT BAR DETAILS



NOTE: ALL DIMENSIONS ARE OUT TO OUT. D = PIN DIAMETER.

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

APPROVED BY BRIDGE ENGINEER

IOWA DOT Highway Division

STANDARD DESIGN - 40' ROADWAY, 3 SPAN BRIDGES

CONTINUOUS CONCRETE SLAB BRIDGES

JULY, 2014

SUPERSTRUCTURE DETAILS 80'-0 BRIDGE

J40-05-14

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