BILL OF REINFORCING STEEL FOR SUPERSTRUCTURE - 140' BRIDGE

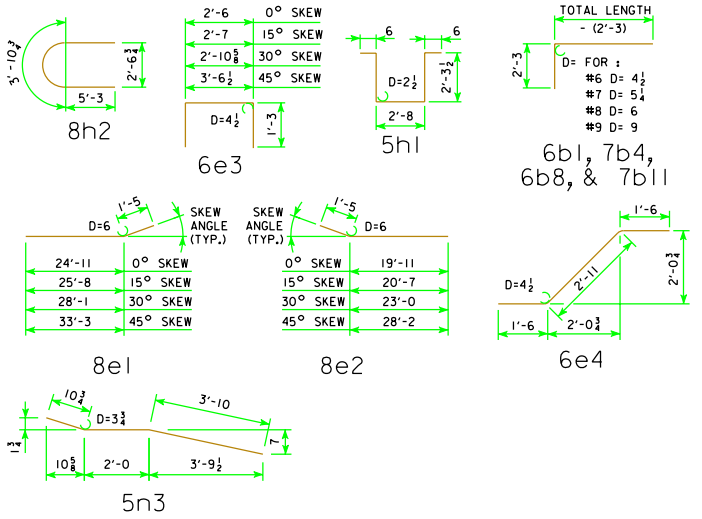
LOCATION \ SKEW	SHAPE	BAR	0° NO.	0° LENGTH	0° WEIGHT	15° NO.	15° LENGTH	15° WEIGHT	30° NO.	30° LENGTH	30° WEIGHT	45° NO.	45° LENGTH	45° WEIGHT
SLAB LONGITUDINAL BOTTOM		9a1	53	30'-6	5497	53	30'-6	5497	53	30'-6	5497	53	30'-6	5497
SLAB LONGITUDINAL BOTTOM		10a2	53	48'-6	11,061	53	48'-6	11,061	53	48'-6	11,061	53	48'-6	11,061
SLAB LONGITUDINAL BOTTOM		9a3	53	43'-9	7884	53	43'-9	7884	53	43'-9	7884	53	43'-9	7884
SLAB LONGITUDINAL BOTTOM		10a4	52	35'-3	7888	52	35'-3	7888	52	35'-3	7888	52	35'-3	7888
SLAB LONGITUDINAL BOTTOM		9a5	26	43'-0	3802	26	43'-0	3802	26	43'-0	3802	26	43'-0	3802
SLAB LONGITUDINAL BOTTOM, AT RAIL		9a6	8	41'-7	1132	8	41'-7	1132	8	41'-7	1132	8	41'-7	1132
SLAB LONGITUDINAL BOTTOM, AT RAIL		9a7	8	13'-0	354	8	13'-0	354	8	13'-0	354	8	13'-0	354
SLAB LONGITUDINAL BOTTOM, AT RAIL		9a8	4	52'-8	717	4	52'-8	717	4	52'-8	717	4	52'-8	717
SLAB LONGITUDINAL BOTTOM, AT RAIL		9a9	8	34'-3	932	8	34'-3	932	8	34'-3	932	8	34'-3	932
SLAB LONGITUDINAL BOTTOM, AT RAIL		10a10	4	33'-0	568	4	33'-0	568	4	33'-0	568	4	33'-0	568
SLAB LONGITUDINAL TOP		6b1	53	7'-9	617	53	7'-9	617	53	7'-9	617	53	7'-9	617
SLAB LONGITUDINAL TOP		11b2	53	26'-0	7322	53	26'-0	7322	53	26'-0	7322	53	31'-9	7322
SLAB LONGITUDINAL TOP		11b3	53	31'-9	8941	53	31'-9	8941	53	31'-9	8941	53	25'-6	8941
SLAB LONGITUDINAL TOP		7b4	53	25'-6	2763	53	25'-6	2763	53	25'-6	2763	53	29'-0	2763
SLAB LONGITUDINAL TOP		11b5	52	29'-0	8013	52	29'-0	8013	52	29'-0	8013	52	34'-4	8013
SLAB LONGITUDINAL TOP		6b6	26	34'-4	1341	26	34'-4	1341	26	34'-4	1341	26	26'-0	1341
SLAB LONGITUDINAL TOP, AT RAIL		6b8	8	32'-9	394	8	32'-9	394	8	32'-9	394	8	32'-9	394
SLAB LONGITUDINAL TOP, AT RAIL		11b9	8	34'-0	1446	8	34'-0	1446	8	34'-0	1446	8	34'-0	1446
SLAB LONGITUDINAL TOP, AT RAIL		6b10	4	25'-6	154	4	25'-6	154	4	25'-6	154	4	25'-6	154
SLAB LONGITUDINAL TOP, AT RAIL		7b11	8	38'-3	626	8	38'-3	626	8	38'-3	626	8	38'-3	626
SLAB LONGITUDINAL TOP, AT RAIL		11b12	8	24'-3	1031	8	24'-3	1031	8	24'-3	1031	8	24'-3	1031
SLAB TRANSVERSE BOTTOM		6c1	137	23'-5	4819	137	24'-3	4991	128	23'-5	4502	118	23'-5	4151
SLAB TRANSVERSE BOTTOM		6c2	137	21'-3	4373	137	22'-0	4528	129	21'-3	4118	121	21'-3	3863
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	137	23'-9	3394	137	24'-7	3513	128	23'-9	3171	118	23'-9	2924
SLAB TRANSVERSE TOP		5d2	137	21'-3	3037	137	22'-0	3144	129	21'-3	2860	121	21'-3	2682
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	60	8'-3	517	60	8'-3	517	60	8'-3	517	90	8'-3	775
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	272	8'-6	2412	272	8'-6	2412	262	8'-6	2323	256	8'-6	2270
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 TOTAL - LBS.					96,989			97,672			97,858			98,976
BARRIER RAIL - SEE LIST ON RAIL SHEET J40-46-06					8602			8602			8602			8602
OPEN RAIL - SEE LIST ON RAIL SHEET J40-49-06					9057			9057			9057			9057
TOTAL - LBS. WITH MONOLITHIC PIER CAP	WITH BARRIER RAIL				105,591			106,274			106,460			107,578
	WITH OPEN RAIL				106,046			106,729			106,915			108,033
TOTAL - LBS. WITH NON-MONOLITHIC PIER CAP	WITH BARRIER RAIL				103,442			104,075			104,108			104,634
SAME AS ABOVE EXCEPT ALL "h" BARS DELETED	WITH OPEN RAIL				103,897			104,530			104,563			105,089

ESTIMATED QUANTITIES FOR SUPERSTRUCTURE - 140' 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.	449.5	450.4	453.5	460.4	443.4	444.2	446.6	452.0
	REINFORCING STEEL EPOXY COATED	LBS.	105,591	106,274	106,460	107,578	103,442	104,075	104,108	104,634
CONCRETE BARRIER OR OPEN RAIL		LIN. FT.	302.0	302.2	302.9	304.5	302.0	302.2	302.9	304.5
WITH OPEN RAIL	*STRUCTURAL CONCRETE (BRIDGE)	C.Y.	449.2	450.1	453.3	460.1	443.2	443.9	446.4	451.7
	REINFORCING STEEL EPOXY COATED	LBS.	106,046	106,729	106,915	108,033	103,897	104,530	104,563	105,089

* 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 REINFORCING STEEL SHALL 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.

REVISED 07-09 - OPEN RAIL REINF. QTYS. CHANGED WHICH CHANGED TOTAL REINF. QTYS.

07-09
LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

Iowa Department of Transportation
Highway Division

STANDARD DESIGN - 40' ROADWAY, 3 SPAN BRIDGES

CONTINUOUS CONCRETE SLAB BRIDGES

NOVEMBER, 2006

SUPERSTRUCTURE DETAILS
140'-0 BRIDGE

J40-17-06