BILL OF REINFORCING STEEL FOR SUPERSTRUCTURE - 150' BRIDGE

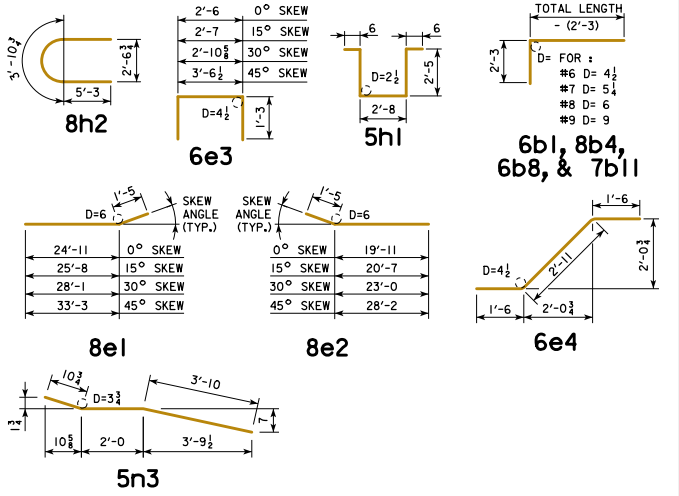
LOCATION \ SKEW	SHAPE	BAR	0° NO.	0° LENGTH	0° WEIGHT	15° NO.	15° LENGTH	15° WEIGHT	30° NO.	30° LENGTH	30° WEIGHT	45° NO.	45° LENGTH	45° WEIGHT
SLAB LONGITUDINAL BOTTOM		10a1	53	32'-9	7469	53	32'-9	7469	53	32'-9	7469	53	32'-9	7469
SLAB LONGITUDINAL BOTTOM		10a2	53	51'-6	11,746	53	51'-6	11,746	53	51'-6	11,746	53	51'-6	11,746
SLAB LONGITUDINAL BOTTOM		10a3	53	48'-6	11,061	53	48'-6	11,061	53	48'-6	11,061	53	48'-6	11,061
SLAB LONGITUDINAL BOTTOM		9a4	52	36'-3	6409	52	36'-3	6409	52	36'-3	6409	52	36'-3	6409
SLAB LONGITUDINAL BOTTOM		9a5	26	45'-0	3978	26	45'-0	3978	26	45'-0	3978	26	45'-0	3978
SLAB LONGITUDINAL BOTTOM, AT RAIL		9a6	8	44'-7	1213	8	44'-7	1213	8	44'-7	1213	8	44'-7	1213
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	56'-8	771	4	56'-8	771	4	56'-8	771	4	56'-8	771
SLAB LONGITUDINAL BOTTOM, AT RAIL		10a9	8	37'-6	1291	8	37'-6	1291	8	37'-6	1291	8	37'-6	1291
SLAB LONGITUDINAL BOTTOM, AT RAIL		10a10	4	35'-0	603	4	35'-0	603	4	35'-0	603	4	35'-0	603
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	32'-9	9223	53	32'-9	9223	53	32'-9	9223	53	32'-9	9223
SLAB LONGITUDINAL TOP		11b3	53	28'-6	8026	53	28'-6	8026	53	28'-6	8026	53	28'-6	8026
SLAB LONGITUDINAL TOP		8b4	53	33'-2	4694	53	33'-2	4694	53	33'-2	4694	53	33'-2	4694
SLAB LONGITUDINAL TOP		11b5	52	30'-0	8289	52	30'-0	8289	52	30'-0	8289	52	30'-0	8289
SLAB LONGITUDINAL TOP		6b6	26	37'-4	1458	26	37'-4	1458	26	37'-4	1458	26	37'-4	1458
SLAB LONGITUDINAL TOP, AT RAIL		6b8	8	35'-0	421	8	35'-0	421	8	35'-0	421	8	35'-0	421
SLAB LONGITUDINAL TOP, AT RAIL		11b9	8	35'-6	1509	8	35'-6	1509	8	35'-6	1509	8	35'-6	1509
SLAB LONGITUDINAL TOP, AT RAIL		6b10	4	28'-0	169	4	28'-0	169	4	28'-0	169	4	28'-0	169
SLAB LONGITUDINAL TOP, AT RAIL		7b11	8	40'-9	667	8	40'-9	667	8	40'-9	667	8	40'-9	667
SLAB LONGITUDINAL TOP, AT RAIL		11b12	8	25'-6	1084	8	25'-6	1084	8	25'-6	1084	8	25'-6	1084
SLAB TRANSVERSE BOTTOM		6c1	147	23'-5	5171	147	24'-3	5355	138	23'-5	4854	128	23'-5	4502
SLAB TRANSVERSE BOTTOM		6c2	147	21'-3	4692	147	22'-0	4858	139	21'-3	4437	131	21'-3	4182
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	147	23'-9	3642	147	24'-7	3770	139	23'-9	3444	128	23'-9	3171
SLAB TRANSVERSE TOP		5d2	147	21'-3	3259	147	22'-0	3374	139	21'-3	3081	131	21'-3	2904
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'-6	532	60	8'-6	532	60	8'-6	532	90	8'-6	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	292	8'-6	2589	292	8'-6	2589	282	8'-6	2501	276	8'-6	2447
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.					106,891			107,614			107,785			108,884
BARRIER RAIL - SEE LIST ON RAIL SHEET J40-46-14					5795			5795			5795			5795
OPEN RAIL - SEE LIST ON RAIL SHEET J40-49-14					6338			6338			6338			6338
EPOXY COATED RAIL TOTAL - LBS. WITH MONOLITHIC PIER CAP		WITH BARRIER RAIL			112,686			113,409			113,580			114,679
		WITH OPEN RAIL			113,229			113,952			114,123			115,222
EPOXY COATED RAIL TOTAL - LBS. WITH NON-MONOLITHIC PIER CAP		WITH BARRIER RAIL			110,522			111,195			111,213			111,712
SAME AS ABOVE EXCEPT ALL "h" BARS DELETED		WITH OPEN RAIL			111,065			111,738			111,756			112,255
STAINLESS STEEL RAIL TOTAL - LBS.		WITH BARRIER RAIL			3366			3366			3366			3366
		WITH OPEN RAIL			3267			3267			3267			3267

ESTIMATED QUANTITIES FOR SUPERSTRUCTURE - 150' 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.	508.8	509.8	512.8	519.5	502.8	503.5	505.9	511.1
	REINF. STEEL EPOXY COATED	LBS.	112,686	113,409	113,580	114,679	110,522	111,195	111,213	111,712
	Δ REINF. STEEL STAINLESS STEEL	LBS.	3589	3589	3589	3589	3589	3589	3589	3589
CONCRETE BARRIER OR OPEN RAIL		LIN. FT.	322.0	322.2	322.9	324.5	322.0	322.2	322.9	324.5
WITH OPEN RAIL	✱ STRUCTURAL CONCRETE (BRIDGE)	C.Y.	508.6	509.5	512.5	519.2	502.5	503.2	505.6	510.8
	REINF. STEEL EPOXY COATED	LBS.	113,229	113,952	114,123	115,222	111,065	111,738	111,756	112,255
	Δ REINF. STEEL STAINLESS STEEL	LBS.	3490	3490	3490	3490	3490	3490	3490	3490

✱ INCLUDES 4 WINGS @ 0.68 C.Y. EACH; EXCLUDES RAIL CONCRETE.
Δ INCLUDES ABUTMENT PAVING NOTCH BAR WEIGHT.

BENT BAR DETAILS



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

STAINLESS STEEL REINFORCING FOR SUPERSTRUCTURE - BRIDGE

LOCATION \ ALL SKEWS	SHAPE	BAR	NO.	LENGTH	WEIGHT
ABUTMENT PAVING NOTCH BAR		8u1	40	2'-1	223

8u1 BARS SHALL BE PAID FOR UNDER THE BID ITEM "REINFORCING STEEL, STAINLESS STEEL". WEIGHT = LBS.

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.

REVISED 09-14 - CHANGED REFERENCE TO THE BARRIER RAIL & OPEN RAIL TO THE J40-14 STANDARDS INSTEAD OF J40-06 STANDARDS.
REVISED 03-2016 - REVISION FOR ADDITION OF PAVING NOTCH BAR 8u1.
REVISED 04-2016 - REVISION TO INCLUDE PAVING NOTCH BAR 8u1 WEIGHT IN ESTIMATED QUANTITIES TABLE.

04-2016
LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

IOWADOT Highway Division

STANDARD DESIGN - 40' ROADWAY, 3 SPAN BRIDGES

CONTINUOUS CONCRETE SLAB BRIDGES

JULY, 2014

SUPERSTRUCTURE DETAILS 150'-0 BRIDGE

J40-19-14