

REVISED 07-2009; OPEN RAIL REINF. QTY'S CHANGED WHICH CHANGED TOTAL REINF. QTY'S.  
REVISED 09-2020; UPDATED BRIDGE ENGINEER SIGNATURE. CHANGED PAVING BLOCK LIFTING HOOP BAR MARK WAS 5X11.

### BILL OF REINFORCING STEEL FOR SUPERSTRUCTURE - 140' BRIDGE

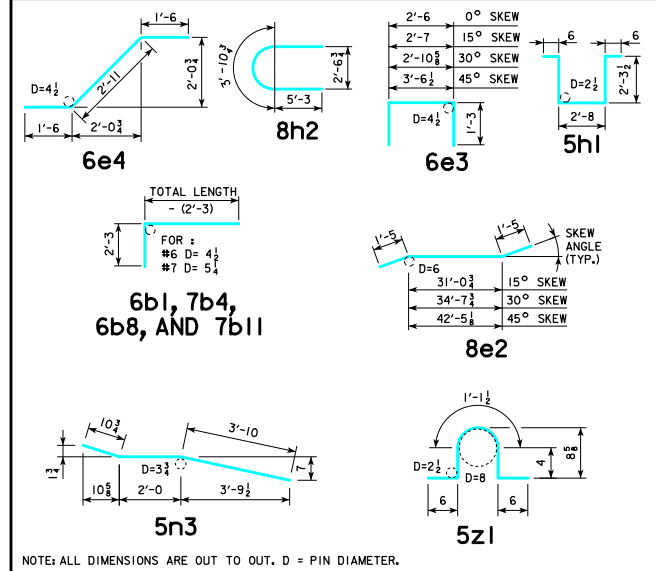
LOCATION	SKEW	SHAPE	0°				15°				30°				45°			
			BAR NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	
SLAB LONGITUDINAL BOTTOM		9a1	39	29'-3	3879	39	29'-3	3879	39	29'-3	3879	39	29'-3	3879	39	29'-3	3879	
SLAB LONGITUDINAL BOTTOM		10a2	39	45'-4	7608	39	45'-4	7608	39	45'-4	7608	39	45'-4	7608	39	45'-4	7608	
SLAB LONGITUDINAL BOTTOM		9a3	39	41'-3	5470	39	41'-3	5470	39	41'-3	5470	39	41'-3	5470	39	41'-3	5470	
SLAB LONGITUDINAL BOTTOM		10a4	40	33'-9	5810	40	33'-9	5810	40	33'-9	5810	40	33'-9	5810	40	33'-9	5810	
SLAB LONGITUDINAL BOTTOM		9a5	20	40'-6	2754	20	40'-6	2754	20	40'-6	2754	20	40'-6	2754	20	40'-6	2754	
SLAB LONGITUDINAL BOTTOM, AT RAIL		9a6	8	39'-10	1084	8	39'-10	1084	8	39'-10	1084	8	39'-10	1084	8	39'-10	1084	
SLAB LONGITUDINAL BOTTOM, AT RAIL		9a7	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		9a8	4	49'-2	669	4	49'-2	669	4	49'-2	669	4	49'-2	669	4	49'-2	669	
SLAB LONGITUDINAL BOTTOM, AT RAIL		9a9	8	33'-0	898	8	33'-0	898	8	33'-0	898	8	33'-0	898	8	33'-0	898	
SLAB LONGITUDINAL BOTTOM, AT RAIL		10a10	4	29'-8	511	4	29'-8	511	4	29'-8	511	4	29'-8	511	4	29'-8	511	
SLAB LONGITUDINAL TOP		6b1	39	7'-6	440	39	7'-6	440	39	7'-6	440	39	7'-6	440	39	7'-6	440	
SLAB LONGITUDINAL TOP		11b2	39	23'-6	4870	39	23'-6	4870	39	23'-6	4870	39	23'-6	4870	39	23'-6	4870	
SLAB LONGITUDINAL TOP		11b3	39	29'-3	6061	39	29'-3	6061	39	29'-3	6061	39	29'-3	6061	39	29'-3	6061	
SLAB LONGITUDINAL TOP		7b4	39	25'-11	2066	39	25'-11	2066	39	25'-11	2066	39	25'-11	2066	39	25'-11	2066	
SLAB LONGITUDINAL TOP		11b5	40	26'-6	5632	40	26'-6	5632	40	26'-6	5632	40	26'-6	5632	40	26'-6	5632	
SLAB LONGITUDINAL TOP		6b6	20	36'-0	1082	20	36'-0	1082	20	36'-0	1082	20	36'-0	1082	20	36'-0	1082	
SLAB LONGITUDINAL TOP, AT RAIL		6b8	8	33'-5	402	8	33'-5	402	8	33'-5	402	8	33'-5	402	8	33'-5	402	
SLAB LONGITUDINAL TOP, AT RAIL		11b9	8	31'-6	1339	8	31'-6	1339	8	31'-6	1339	8	31'-6	1339	8	31'-6	1339	
SLAB LONGITUDINAL TOP, AT RAIL		6b10	4	26'-10	162	4	26'-10	162	4	26'-10	162	4	26'-10	162	4	26'-10	162	
SLAB LONGITUDINAL TOP, AT RAIL		7b11	8	38'-8	633	8	38'-8	633	8	38'-8	633	8	38'-8	633	8	38'-8	633	
SLAB LONGITUDINAL TOP, AT RAIL		11b12	8	21'-9	925	8	21'-9	925	8	21'-9	925	8	21'-9	925	8	21'-9	925	
SLAB TRANSVERSE, BOTTOM		6c1	137	32'-10	6757	137	34'-0	6997	124	32'-10	6116	110	32'-10	5425				
SLAB TRANSVERSE ENDS, BOTTOM		6c2	-	-	-	-	-	-	30	VARIES	797	56	VARIES	1486				
SLAB TRANSVERSE, TOP		5d1	137	32'-10	4692	137	34'-0	4859	124	32'-10	4247	110	32'-10	3767				
SLAB TRANSVERSE ENDS, TOP		5d2	-	-	-	-	-	-	30	VARIES	553	56	VARIES	1032				
SLAB, TRANSVERSE AT ABUTMENT		8e1	18	32'-10	1578	-	-	-	-	-	-	-	-	-	-	-	-	
SLAB, TRANSVERSE AT ABUTMENT		8e2	-	-	-	18	33'-11	1631	18	37'-6	1803	18	45'-4	2179				
SLAB, HAIRPINS, AT ABUTMENT		6e3	72	5'-0	541	72	5'-1	550	72	5'-5	586	72	6'-1	658				
SLAB, DIAGONALS, AT ABUTMENT		6e4	72	5'-11	640	72	5'-11	640	72	5'-11	640	72	5'-11	640				
PIER CAP HOOPS		5h1	44	8'-3	379	44	8'-3	379	44	8'-3	379	66	8'-3	568				
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	29'-10	638	8	30'-11	661	8	34'-5	736	8	42'-2	901				
PIER CAP, TOP LONGITUDINAL		8h4	4	32'-10	351	4	34'-0	364	4	37'-11	405	4	46'-6	497				
TOP OF SLAB, TRANSVERSE, AT RAIL		5j1	272	8'-6	2412	272	8'-6	2412	272	8'-6	2412	270	8'-6	2394				
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				
PAVING BLOCK LIFTING HOOPS		5z1	10	2'-10	30	10	2'-10	30	10	2'-10	30	10	2'-10	30				
SUB TOTAL - LBS.					71,342			71,847			72,028			72,901				
BARRIER RAIL - SEE LIST ON RAIL SHEET J30-41-06					8602			8602			8602			8602				
OPEN RAIL - SEE LIST ON RAIL SHEET J30-44-06					9057			9057			9057			9057				
TOTAL - LBS.					79,944			80,449			80,630			81,503				
WITH MONOLITHIC PIER CAP					80,399			80,904			81,085			81,958				
TOTAL - LBS.					78,422			78,891			78,956			79,383				
WITH NON-MONOLITHIC PIER CAP					78,877			79,346			79,411			79,838				
SAME AS ABOVE EXCEPT ALL "h" BARS DELETED																		

### ESTIMATED QUANTITIES FOR SUPERSTRUCTURE - 140' BRIDGE

ITEM	SKEW	WITH MONOLITHIC PIER CAP				WITH NON-MONOLITHIC PIER CAP			
		0°	15°	30°	45°	0°	15°	30°	45°
WITH STRUCTURAL CONCRETE (BRIDGE) C.Y.		347.4	348.1	350.7	356.2	342.8	343.4	345.5	349.8
BARRIER RAIL REINFORCING STEEL LBS.		79,944	80,449	80,630	81,503	78,422	78,891	78,956	79,383
CONCRETE BARRIER OR OPEN RAIL LIN. FT.		302.0	302.2	302.9	304.5	302.0	302.2	302.9	304.5
WITH STRUCTURAL CONCRETE (BRIDGE) C.Y.		347.2	347.9	350.5	355.9	342.6	343.1	345.2	349.5
OPEN RAIL REINFORCING STEEL LBS.		80,399	80,904	81,085	81,958	78,877	79,346	79,411	79,838

\* INCLUDES 4 WINGS @ 0.68 C.Y. EACH AND 2 TEMPORARY PAVING BLOCKS; EXCLUDES RAIL CONCRETE.

### BENT BAR DETAILS



08-2020 LATEST REVISION DATE	APPROVED BY BRIDGE ENGINEER	<b>IOWA DOT</b> Highway Division	
		STANDARD DESIGN - 30' ROADWAY, 3 SPAN BRIDGES	
		<b>CONTINUOUS CONCRETE SLAB BRIDGES</b>	
		NOVEMBER, 2006	
<b>SUPERSTRUCTURE DETAILS 140'-0' BRIDGE</b>		<b>J30-17B-06</b>	
NON-EPOXY COATED REINFORCING			