

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 - 90' BRIDGE

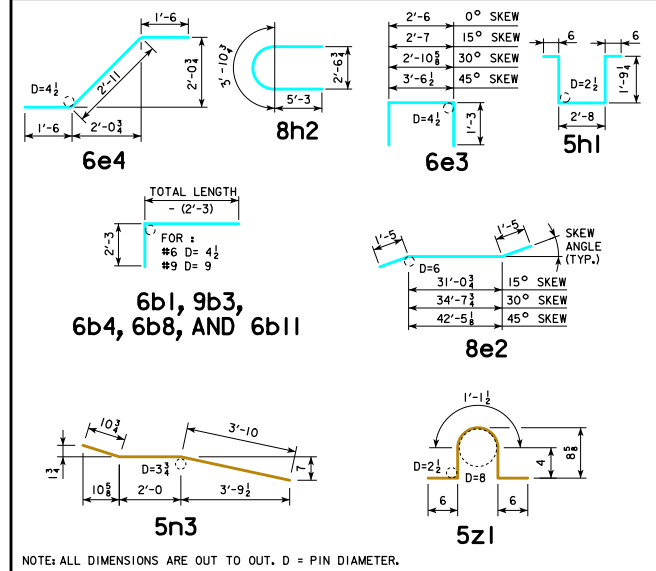
LOCATION	SKEW	SHAPE	0°				15°				30°				45°				
			BAR NO.	LENGTH	WEIGHT		BAR NO.	LENGTH	WEIGHT		BAR NO.	LENGTH	WEIGHT		BAR NO.	LENGTH	WEIGHT		
SLAB LONGITUDINAL BOTTOM			8a1	39	19'-0	1979	39	19'-0	1979	39	19'-0	1979	39	19'-0	1979	39	19'-0	1979	
SLAB LONGITUDINAL BOTTOM			8a2	39	28'-3	2942	39	28'-3	2942	39	28'-3	2942	39	28'-3	2942	39	28'-3	2942	
SLAB LONGITUDINAL BOTTOM			8a3	39	26'-6	2760	39	26'-6	2760	39	26'-6	2760	39	26'-6	2760	39	26'-6	2760	
SLAB LONGITUDINAL BOTTOM			8a4	40	24'-6	2617	40	24'-6	2617	40	24'-6	2617	40	24'-6	2617	40	24'-6	2617	
SLAB LONGITUDINAL BOTTOM			8a5	20	27'-0	1442	20	27'-0	1442	20	27'-0	1442	20	27'-0	1442	20	27'-0	1442	
SLAB LONGITUDINAL BOTTOM, AT RAIL			8a6	8	32'-3	689	8	32'-3	689	8	32'-3	689	8	32'-3	689	8	32'-3	689	
SLAB LONGITUDINAL BOTTOM, AT RAIL			8a7	4	31'-8	339	4	31'-8	339	4	31'-8	339	4	31'-8	339	4	31'-8	339	
SLAB LONGITUDINAL BOTTOM, AT RAIL			8a8	8	21'-9	465	8	21'-9	465	8	21'-9	465	8	21'-9	465	8	21'-9	465	
SLAB LONGITUDINAL BOTTOM, AT RAIL			8a9	4	19'-0	203	4	19'-0	203	4	19'-0	203	4	19'-0	203	4	19'-0	203	
SLAB LONGITUDINAL TOP			6b1	39	7'-9	454	39	7'-9	454	39	7'-9	454	39	7'-9	454	39	7'-9	454	
SLAB LONGITUDINAL TOP			9b2	39	21'-3	2818	39	21'-3	2818	39	21'-3	2818	39	21'-3	2818	39	21'-3	2818	
SLAB LONGITUDINAL TOP			9b3	39	34'-3	4542	39	34'-3	4542	39	34'-3	4542	39	34'-3	4542	39	34'-3	4542	
SLAB LONGITUDINAL TOP			6b4	40	12'-9	767	40	12'-9	767	40	12'-9	767	40	12'-9	767	40	12'-9	767	
SLAB LONGITUDINAL TOP			9b5	40	26'-0	3536	40	26'-0	3536	40	26'-0	3536	40	26'-0	3536	40	26'-0	3536	
SLAB LONGITUDINAL TOP			6b6	20	17'-6	526	20	17'-6	526	20	17'-6	526	20	17'-6	526	20	17'-6	526	
SLAB LONGITUDINAL TOP, AT RAIL			6b8	8	26'-2	315	8	26'-2	315	8	26'-2	315	8	26'-2	315	8	26'-2	315	
SLAB LONGITUDINAL TOP, AT RAIL			9b9	8	18'-0	490	8	18'-0	490	8	18'-0	490	8	18'-0	490	8	18'-0	490	
SLAB LONGITUDINAL TOP, AT RAIL			6b10	4	18'-4	111	4	18'-4	111	4	18'-4	111	4	18'-4	111	4	18'-4	111	
SLAB LONGITUDINAL TOP, AT RAIL			6b11	8	28'-8	345	8	28'-8	345	8	28'-8	345	8	28'-8	345	8	28'-8	345	
SLAB LONGITUDINAL TOP, AT RAIL			10b12	8	11'-9	405	8	11'-9	405	8	11'-9	405	8	11'-9	405	8	11'-9	405	
SLAB TRANSVERSE, BOTTOM			5h1	87	32'-10	4291	87	34'-0	4443	74	32'-10	3650	60	32'-10	2959				
SLAB TRANSVERSE ENDS, BOTTOM			6c2	-	-	-	-	-	-	30	VARIES	797	56	VARIES	1486				
SLAB TRANSVERSE, TOP			5d1	87	32'-10	2980	87	34'-0	3086	74	32'-10	2535	60	32'-10	2055				
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	5'-11	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	56	7'-3	424	56	7'-3	424	56	7'-3	424	70	7'-3	530				
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	172	8'-6	1525	172	8'-6	1525	172	8'-6	1525	170	8'-6	1508				
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.						41,418			41,774			42,104			42,895				
BARRIER RAIL - SEE LIST ON RAIL SHEET J30-41-06						5950			5950			5950			5950				
OPEN RAIL - SEE LIST ON RAIL SHEET J30-44-06						6330			6330			6330			6330				
TOTAL - LBS.		WITH MONOLITHIC PIER CAP				47,368			47,724			48,054			48,845				
		WITH OPEN RAIL				47,748			48,104			48,434			49,225				
TOTAL - LBS.		WITH NON-MONOLITHIC PIER CAP				45,801			46,121			46,335			46,763				
SAME AS ABOVE EXCEPT ALL "H" BARS DELETED		WITH OPEN RAIL				46,181			46,501			46,715			47,143				

### ESTIMATED QUANTITIES FOR SUPERSTRUCTURE - 90' 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.		176.5	177.3	180.1	186.1	171.9	172.5	174.9	179.7
BARRIER RAIL REINFORCING STEEL LBS.		47,368	47,724	48,054	48,845	45,801	46,121	46,335	46,763
CONCRETE BARRIER OR OPEN RAIL LIN. FT.		202.0	202.2	202.9	204.5	202.0	202.2	202.9	204.5
WITH STRUCTURAL CONCRETE (BRIDGE) C.Y.		176.3	177.1	180.0	185.9	171.7	172.4	174.7	179.5
OPEN RAIL REINFORCING STEEL LBS.		47,748	48,104	48,434	49,225	46,181	46,501	46,715	47,143

\* 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 90'-0 BRIDGE</b>		<b>J30-07B-06</b>	
NON-EPOXY COATED REINFORCING			