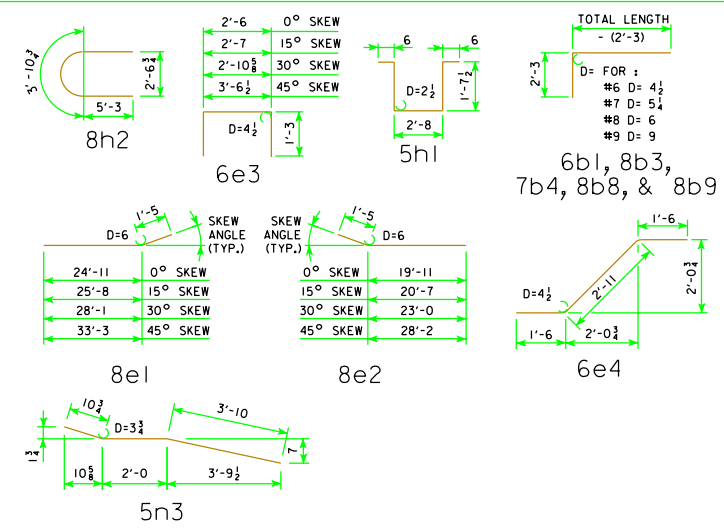


**BILL OF REINFORCING STEEL FOR SUPERSTRUCTURE - 70' BRIDGE**

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			7a1	53	16'-0	1734	53	16'-0	1734	53	16'-0	1734	53	16'-0	1734	53	16'-0	1734
SLAB LONGITUDINAL BOTTOM			8a2	53	25'-0	3538	53	25'-0	3538	53	25'-0	3538	53	25'-0	3538	53	25'-0	3538
SLAB LONGITUDINAL BOTTOM			7a3	53	24'-3	2628	53	24'-3	2628	53	24'-3	2628	53	24'-3	2628	53	24'-3	2628
SLAB LONGITUDINAL BOTTOM			8a4	52	20'-9	2881	52	20'-9	2881	52	20'-9	2881	52	20'-9	2881	52	20'-9	2881
SLAB LONGITUDINAL BOTTOM			7a5	26	22'-0	1170	26	22'-0	1170	26	22'-0	1170	26	22'-0	1170	26	22'-0	1170
SLAB LONGITUDINAL BOTTOM, AT RAIL			7a6	8	24'-9	405	8	24'-9	405	8	24'-9	405	8	24'-9	405	8	24'-9	405
SLAB LONGITUDINAL BOTTOM, AT RAIL			7a7	4	27'-4	224	4	27'-4	224	4	27'-4	224	4	27'-4	224	4	27'-4	224
SLAB LONGITUDINAL BOTTOM, AT RAIL			8a8	8	18'-3	390	8	18'-3	390	8	18'-3	390	8	18'-3	390	8	18'-3	390
SLAB LONGITUDINAL BOTTOM, AT RAIL			8a9	4	23'-6	251	4	23'-6	251	4	23'-6	251	4	23'-6	251	4	23'-6	251
SLAB LONGITUDINAL TOP			6b1	53	9'-0	717	53	9'-0	717	53	9'-0	717	53	9'-0	717	53	9'-0	717
SLAB LONGITUDINAL TOP			8b2	53	18'-3	2583	53	18'-3	2583	53	18'-3	2583	53	18'-3	2583	53	18'-3	2583
SLAB LONGITUDINAL TOP			8b3	53	27'-6	3892	53	27'-6	3892	53	27'-6	3892	53	27'-6	3892	53	27'-6	3892
SLAB LONGITUDINAL TOP			7b4	52	22'-3	2365	52	22'-3	2365	52	22'-3	2365	52	22'-3	2365	52	22'-3	2365
SLAB LONGITUDINAL TOP			8b5	52	12'-6	1736	52	12'-6	1736	52	12'-6	1736	52	12'-6	1736	52	12'-6	1736
SLAB LONGITUDINAL TOP			6b6	26	20'-4	795	26	20'-4	795	26	20'-4	795	26	20'-4	795	26	20'-4	795
SLAB LONGITUDINAL TOP, AT RAIL			8b8	8	40'-0	855	8	40'-0	855	8	40'-0	855	8	40'-0	855	8	40'-0	855
SLAB LONGITUDINAL TOP, AT RAIL			8b9	8	30'-0	641	8	30'-0	641	8	30'-0	641	8	30'-0	641	8	30'-0	641
SLAB TRANSVERSE BOTTOM			6c1	67	23'-5	2357	67	24'-3	2441	58	23'-5	2040	48	23'-5	1689			
SLAB TRANSVERSE BOTTOM			6c2	67	21'-3	2139	67	22'-0	2214	59	21'-3	1884	51	21'-3	1628			
SLAB TRANSVERSE ENDS, BOTTOM			6c3	-	-	-	-	-	-	12	VARIABLES	223	20	VARIABLES	411			
SLAB TRANSVERSE ENDS, BOTTOM			6c4	-	-	-	-	-	-	11	VARIABLES	219	20	VARIABLES	386			
SLAB TRANSVERSE ENDS, BOTTOM			6c5	-	-	-	-	-	-	11	VARIABLES	176	18	VARIABLES	302			
SLAB TRANSVERSE ENDS, BOTTOM			6c6	-	-	-	-	-	-	11	VARIABLES	190	17	VARIABLES	311			
SLAB TRANSVERSE TOP			5d1	67	23'-9	1660	67	24'-7	1718	58	23'-9	1437	48	23'-9	1190			
SLAB TRANSVERSE TOP			5d2	67	21'-3	1485	67	22'-0	1538	59	21'-3	1308	51	21'-3	1131			
SLAB TRANSVERSE ENDS, TOP			5d3	-	-	-	-	-	-	12	VARIABLES	155	20	VARIABLES	286			
SLAB TRANSVERSE ENDS, TOP			5d4	-	-	-	-	-	-	11	VARIABLES	152	20	VARIABLES	268			
SLAB TRANSVERSE ENDS, TOP			5d5	-	-	-	-	-	-	11	VARIABLES	122	18	VARIABLES	210			
SLAB TRANSVERSE ENDS, TOP			5d6	-	-	-	-	-	-	11	VARIABLES	132	17	VARIABLES	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	6'-11	520	72	6'-11	520	72	6'-11	520	108	6'-11	780			
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	132	8'-6	1171	132	8'-6	1171	122	8'-6	1082	116	8'-6	1029			
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.						42,091			42,491			42,960			44,080			
BARRIER RAIL - SEE LIST ON RAIL SHEET J40-46-06						4957			4957			4957			4957			
OPEN RAIL - SEE LIST ON RAIL SHEET J40-49-06						5100			5100			5100			5100			
TOTAL - LBS.			WITH MONOLITHIC PIER CAP			47,048			47,448			47,917			49,037			
			WITH OPEN RAIL			47,191			47,591			48,060			49,180			
TOTAL - LBS.			WITH NON-MONOLITHIC PIER CAP			44,896			45,246			45,562			46,088			
SAME AS ABOVE EXCEPT ALL "h" BARS DELETED			WITH OPEN RAIL			45,039			45,389			45,705			46,231			

**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.

**ESTIMATED QUANTITIES FOR SUPERSTRUCTURE - 70' 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.		168.1	169.1	172.7	180.3	162.1	162.9	165.8	171.9
BARRIER RAIL REINFORCING STEEL EPOXY COATED LBS.		47,048	47,448	47,917	49,037	44,896	45,246	45,562	46,088
CONCRETE BARRIER OR OPEN RAIL LIN. FT.		162.0	162.2	162.9	164.5	162.0	162.2	162.9	164.5
WITH *STRUCTURAL CONCRETE ( BRIDGE ) C.Y.		168.0	169.0	172.5	180.2	161.9	162.8	165.6	171.8
OPEN RAIL REINFORCING STEEL EPOXY COATED LBS.		47,191	47,591	48,060	49,180	45,039	45,389	45,705	46,231

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

LATEST REVISION DATE	APPROVED BY BRIDGE ENGINEER	Iowa Department of Transportation Highway Division
		STANDARD DESIGN - 40' ROADWAY, 3 SPAN BRIDGES <b>CONTINUOUS CONCRETE                  SLAB BRIDGES</b> NOVEMBER, 2006
		SUPERSTRUCTURE DETAILS 70'-0 BRIDGE

REVISED 07-09 - OPEN RAIL REINF. QTY'S. CHANGED WHICH CHANGED TOTAL REINF. QTY'S.