



SLAB LAYOUT

(LEFT AHEAD SKEW SHOWN, RIGHT AHEAD SKEW SIMILAR)
 NOTE: CONCRETE DECK SLAB SHALL BE PLACED IN SECTIONS AND SEQUENCES INDICATED. ALTERNATE PROCEDURES FOR PLACING SLAB CONCRETE MAY BE SUBMITTED FOR APPROVAL TOGETHER WITH A STATEMENT OF THE PROPOSED METHOD AND EVIDENCE THAT THE CONTRACTOR POSSESSES THE NECESSARY EQUIPMENT AND FACILITIES TO ACCOMPLISH THE REQUIRED RESULTS.

ESTIMATED QUANTITIES (SUPERSTRUCTURE PLUS INTEGRAL ABUTMENTS)		℄-℄ ABUT. BRG.	138'-10	151'-4	163'-10	176'-4	188'-10	201'-4	213'-10	226'-4	243'-0
STRUCTURAL CONCRETE SUPERSTRUCTURE (INCLUDES ABUTMENT WINGS)	WITH BARRIER RAIL	C.Y.	247.1	262.3	289.3	304.5	320.1	349.0	364.4	380.3	401.3
	WITH OPEN RAIL	C.Y.	249.6	265.0	292.3	307.7	323.5	352.5	368.1	384.2	405.5
STRUCTURAL CONCRETE ABUTMENTS (w/ WOOD PILES) ***		C.Y.	43.1	42.9	42.8	42.7	42.7	-----	-----	-----	-----
PRESTENSIONED CONCRETE ABUTMENTS (w/ STEEL H PILES) ***		C.Y.	44.8	44.8	44.8	44.8	44.8	52.6	52.6	52.6	52.6
PRETENSIONED PRESTRESSED CONCRETE BEAM, CENTER SPAN	NO.		7-A50	7-A55	7-B59	7-B63	7-B67	7-C71	7-C75	7-C80	7-C80
PRETENSIONED PRESTRESSED CONCRETE BEAM, END SPAN	NO.		14-A42	14-A46	14-B50	14-B55	14-B59	14-C63	14-C67	14-C71	14-C80
CONCRETE RAIL (BARRIER OR OPEN)	L.F.		312.6	337.6	362.6	387.6	412.6	456.7	481.7	506.7	540.0
STRUCTURAL STEEL (w/ PILE BENT PIERS & DRAINS)	L.B.		5689	5689	5777	5777	5777	5742	5742	5742	5742
STRUCTURAL STEEL (w/ PILE BENT PIERS & NO DRAINS)	L.B.		5009	5009	5009	5009	5009	4894	4894	4894	4894
STRUCTURAL STEEL (w/ TEE PIERS & DRAINS)	L.B.		6943	6943	7031	7031	7031	7223	7223	7223	7223
STRUCTURAL STEEL (w/ TEE PIERS & NO DRAINS)	L.B.		6263	6263	6263	6263	6263	6375	6375	6375	6375
EPOXY COATED REINF. STEEL (w/ WOOD PILES & BARRIER RAIL)	L.B.		67,844	71,967	76,807	82,123	86,642	-----	-----	-----	-----
EPOXY COATED REINF. STEEL (w/ WOOD PILES & OPEN RAIL)	L.B.		68,509	72,588	77,575	83,067	87,516	-----	-----	-----	-----
EPOXY COATED REINF. (w/ STEEL H PILES & BARRIER RAIL)	L.B.		67,393	72,022	76,753	81,962	86,481	94,534	100,147	104,673	110,469
EPOXY COATED REINF. (w/ STEEL H PILES & OPEN RAIL)	L.B.		68,058	72,643	77,521	82,906	87,355	96,378	101,900	106,623	112,465
NO. OF WOOD PILES, TREATED FOR TWO ABUTMENTS	NO.		30	32	34	36	36	-----	-----	-----	-----
NO. OF STEEL H-PILES FOR TWO ABUTMENTS (HP 10 x 57)	NO.		16	16	16	16	16	22	22	22	24
PREBORED HOLES (W/WOOD PILES)	L.F.		300	320	340	360	360	-----	-----	-----	-----
PREBORED HOLES (W/STEEL H-PILES)	L.F.		160	160	160	160	160	220	220	220	240

GENERAL DATA		℄-℄ ABUT. BRG.	138'-10	151'-4	163'-10	176'-4	188'-10	201'-4	213'-10	226'-4	243'-0
VERTICAL	TOP OF SLAB TO ABUT. CONSTR. JT. AT C.L. ABUT. BRG.	"U"	3'-8 ¹ / ₂	3'-7 ¹ / ₂	4'-2 ¹ / ₂	4'-2 ¹ / ₂	4'-2 ¹ / ₂	4'-8 ¹ / ₂	4'-8 ¹ / ₂	4'-9 ¹ / ₂	4'-9 ¹ / ₂
CURVE	TOP OF SLAB TO PIER TOP AT C.L. PIER*	"U"	3'-6 ¹ / ₂	3'-6 ¹ / ₂	4'-1 ¹ / ₂	4'-1 ¹ / ₂	4'-1 ¹ / ₂	4'-7 ¹ / ₂	4'-7 ¹ / ₂	4'-7 ¹ / ₂	4'-7 ¹ / ₂
STRAIGHT	TOP OF SLAB TO ABUT. CONSTR. JT. AT C.L. ABUT. BRG.	"U"	3'-8 ¹ / ₂	3'-7 ¹ / ₂	4'-2 ¹ / ₂	4'-2 ¹ / ₂	4'-3 ¹ / ₂	4'-8 ¹ / ₂	4'-8 ¹ / ₂	4'-9 ¹ / ₂	4'-10
GRADE	TOP OF SLAB TO PIER TOP AT C.L. PIER*	"U"	3'-6 ¹ / ₂	3'-6 ¹ / ₂	4'-1 ¹ / ₂	4'-1 ¹ / ₂	4'-2 ¹ / ₂	4'-7 ¹ / ₂	4'-7 ¹ / ₂	4'-8 ¹ / ₂	4'-8 ¹ / ₂
D.L. PIER REACTION (D.L. + F.W.S.) SERVICE LOADS		KIPS	489.3	527.5	604.3	644.6	685.2	822.9	868.4	914.4	959.2
L.L. PIER REACTION (HL93) NO IMPACT SERVICE LOADS		KIPS	264.7	274.5	283.9	293.1	302.2	311.0	322.9	341.9	362.6
NO. OF SPACES FOR 6a1 BARS (TOP)	"E"		138	153	168	183	198	213	228	243	263
NO. OF SPACES FOR 6a1 BARS (BOTTOM)	"H"		139	154	169	184	199	214	229	244	264
NO. OF SPACES FOR 5j1 BARS (TOP)	"J"		165	180	195	210	225	240	255	270	290
OUT TO OUT OF SLAB	"S"		142'-3 ¹ / ₂	154'-9 ¹ / ₂	167'-3 ¹ / ₂	179'-9 ¹ / ₂	192'-3 ¹ / ₂	204'-9 ¹ / ₂	217'-3 ¹ / ₂	229'-9 ¹ / ₂	246'-5 ¹ / ₂
SLAB TRANSVERSE CONSTR. JT. DISTANCE FROM C.L. PIER	"X"		6'-7	7'-1	7'-7	8'-1	8'-8	9'-2	9'-8	10'-2	10'-2

CONCRETE PLACEMENT QUANT.		℄-℄ ABUT. BRG.	138'-10	151'-4	163'-10	176'-4	188'-10	201'-4	213'-10	226'-4	243'-0
SLAB INCLUDING HAUNCH, ABUT. DIAPHRAGM, & WINGWALLS** , SECTIONS 1 & 3	WITH BARRIER RAIL	C.Y.	135.0	143.8	159.2	168.0	176.8	195.6	204.6	214.0	235.0
	WITH OPEN RAIL	C.Y.	136.3	145.2	160.8	169.7	178.6	197.5	206.6	216.1	237.4
SLAB INCLUDING HAUNCH, SECTION 2	WITH BARRIER RAIL	C.Y.	47.3	51.1	54.9	58.7	62.3	66.4	70.2	74.1	74.1
	WITH OPEN RAIL	C.Y.	48.0	51.9	55.7	59.6	63.3	67.4	71.2	75.2	75.2
SLAB INCLUDING HAUNCH & PIER DIAPHRAGM, SECTIONS 4 & 5	WITH BARRIER RAIL	C.Y.	57.6	60.2	67.6	70.2	73.4	78.6	81.2	83.8	83.8
	WITH OPEN RAIL	C.Y.	58.1	60.7	68.2	70.8	74.0	79.2	81.9	84.5	84.5
ABUTMENT WINGS		C.Y.	7.2	7.2	7.6	7.6	8.4	8.4	-----	-----	-----
ABUTMENT FOOTINGS (w/ WOOD PILES) ***		C.Y.	43.1	42.9	42.8	42.7	42.7	-----	-----	-----	-----
ABUTMENT FOOTINGS (w/ STEEL H PILES) ***		C.Y.	44.8	44.8	44.8	44.8	44.8	52.6	52.6	52.6	52.6

* VALUES SHOWN ARE FOR FIXED PIERS ONLY AND ALLOW FOR 1/8 INCH DEFLECTION OF THE 1 INCH NEOPRENE BEARING PAD. AT EXPANSION PIER LOCATIONS ADD 3/8 INCHES TO "U" VALUES SHOWN.
 ** WINGWALLS APPLY ONLY TO BRIDGES USING "C" BEAMS.
 *** SEE SHEET H44-24-07 FOR ADDITIONAL CONCRETE REQUIRED IN ABUTMENT FOOTINGS.

LATEST REVISION DATE
 05-13
 Approved by Bridge Engineer
 Thomas E. McQuillan

Iowa Department of Transportation
 Highway Division

STANDARD DESIGN - 44' ROADWAY, THREE SPAN BRIDGE

PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGES

MARCH, 2007

SUPERSTRUCTURE DETAILS 30° SKEW	H44-22-07
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REVISED 05-13 - REVISION FOR LRFD PILE DESIGN.