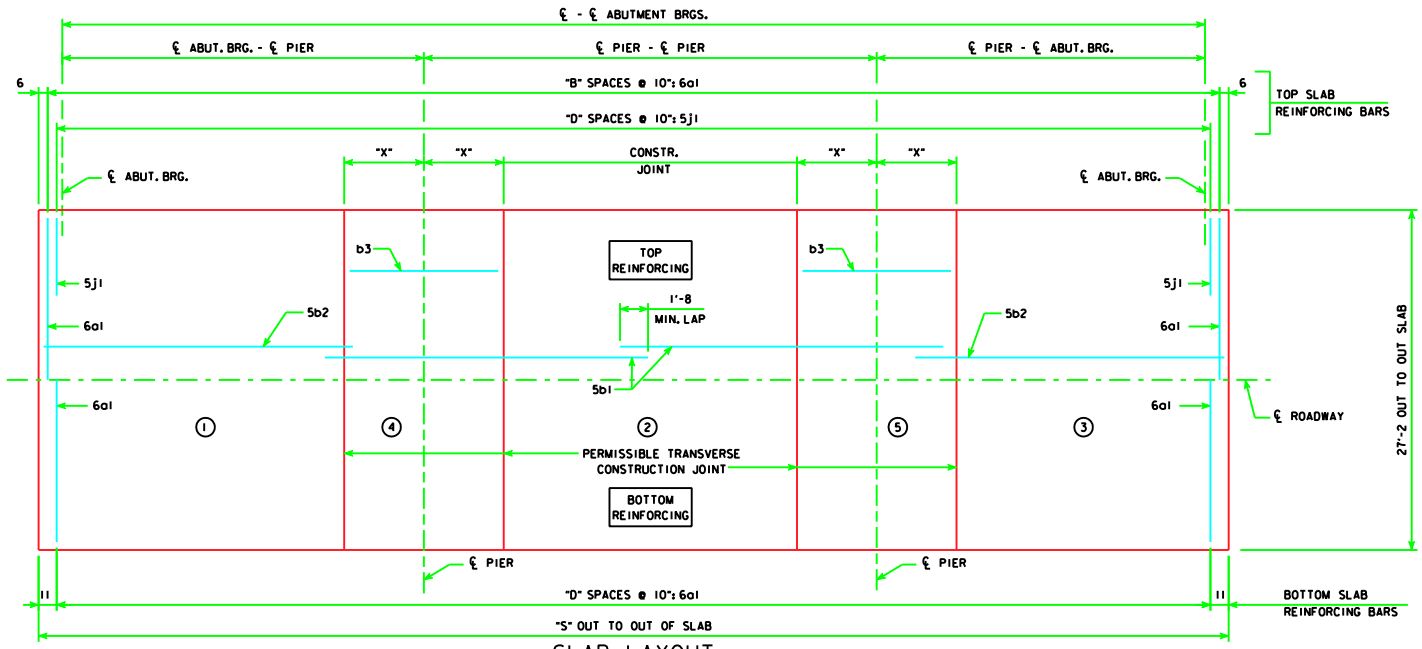

SLAB LAYOUT

THE ROADWAY SLAB IS TO BE PLACED CONTINUOUSLY FROM ONE END OF THE BRIDGE TO THE OTHER. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT EVIDENCE THAT THE NECESSARY EQUIPMENT AND FACILITIES ARE AVAILABLE TO ACCOMPLISH THE REQUIRED RESULT. PERMISSIBLE TRANSVERSE SLAB CONSTRUCTION JOINTS MAY BE USED, AT LOCATION SHOWN.

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	3'-7 7/8	4'-2 7/8	4'-2 7/8	4'-8 1/2	4'-8 11/16	4'-9 1/8	4'-9 1/2
CURVE	TOP OF SLAB TO PIER TOP AT C.L. PIER*	"U"	3'-6 3/8	3'-6 5/8	4'-1 3/8	4'-1 9/16	4'-1 15/16	4'-7 5/16	4'-7 5/16	4'-7 9/16	4'-7 5/16
STRAIGHT	TOP OF SLAB TO ABUT. CONSTR. JT. AT C.L. ABUT. BRG.	"U"	3'-8 1/16	3'-7 7/8	4'-2 15/16	4'-2 15/16	4'-3 1/16	4'-8 3/4	4'-8 7/8	4'-9 3/8	4'-9 15/16
GRADE	TOP OF SLAB TO PIER TOP AT C.L. PIER*	"U"	3'-6 3/8	3'-6 13/16	4'-1 3/8	4'-1 7/8	4'-2 5/16	4'-7 3/4	4'-7 3/4	4'-8 1/16	4'-8 1/16
D.L. PIER REACTION (D.L. + F.W.S.)		KIPS	290.2	313.8	357.4	382.2	407.2	486.5	514.4	542.4	569.7
L.L. PIER REACTION (HS25-44) NO IMPACT		KIPS	169.0	170.6	171.9	179.5	187.5	195.5	203.4	211.4	221.0
NO. OF SPACES FOR 6a1 BARS (TOP)		"B"	169	184	199	214	229	244	259	274	294
NO. OF SPACES FOR 6a1 BARS (BOTTOM) AND 5j1 BARS (TOP)		"D"	168	183	198	213	228	243	258	273	293
OUT TO OUT OF SLAB		"S"	141'-10	154'-4	166'-10	179'-4	191'-10	204'-4	216'-10	229'-4	246'-0
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

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 ABUT. WINGS)	C.Y.	140.2	149.0	163.4	172.6	181.8	199.6	208.8	218.4	230.8
STRUCTURAL CONCRETE ABUTMENTS (w/ WOOD PILES)	C.Y.	20.6	20.4	20.4	20.4	20.4	-----	-----	-----	-----
STRUCTURAL CONCRETE ABUTMENTS (w/ STEEL H PILES)	C.Y.	21.6	21.6	21.6	21.6	21.6	29.4	29.4	29.4	29.4
PRETENSIONED PRESTRESSED CONCRETE BEAM, CENTER SPAN	NO.	4-A50	4-A55	4-B59	4-B63	4-B67	4-C71	4-C75	4-C80	4-C80
PRETENSIONED PRESTRESSED CONCRETE BEAM, END SPAN	NO.	8-A42	8-A46	8-B50	8-B55	8-B59	8-C63	8-C67	8-C71	8-C80
CONCRETE RAIL	L.F.	311.7	336.7	361.7	386.7	411.7	456.7	481.7	506.7	540.0
STRUCTURAL STEEL (w/ PILE BENT PIERS)	LB.	2451	2451	2451	2451	2451	2388	2388	2388	2388
STRUCTURAL STEEL (w/ TEE PIERS)	LB.	3168	3168	3168	3168	3168	3234	3234	3234	3234
REINFORCING STEEL (w/ WOOD PILES)	LB.	42,114	45,008	48,260	51,654	54,484	-----	-----	-----	-----
REINFORCING STEEL (w/ STEEL H PILES)	LB.	42,111	44,831	48,083	51,477	54,307	60,407	63,778	66,861	70,686
NO. OF WOOD PILES, TREATED FOR TWO ABUTMENTS	NO.	18	20	20	20	20	-----	-----	-----	-----
NO. OF STEEL H-PILES (HP 10 x 57) FOR TWO ABUTMENTS	NO.	8	10	10	10	10	14	16	16	16
PREBORED HOLES (w/ WOOD PILES)	L.F.	180	200	200	200	200	-----	-----	-----	-----
PREBORED HOLES (w/ STEEL H-PILES)	L.F.	80	100	100	100	100	140	160	160	160

CONCRETE PLACEMENT QUANT. (SUPERSTRUCTURE PLUS INTEGRAL ABUTMENTS)	℄-℄ ABUT. BRG.	138'-10	151'-4	163'-10	176'-4	188'-10	201'-4	213'-10	226'-4	243'-0
SLAB INCL. HAUNCH, ABUT. DIAPHR., & WINGWALLS** , SECT. 1 & 3	C.Y.	76.1	81.2	90.0	95.3	100.5	113.5	119.0	124.6	137.0
SLAB INCLUDING HAUNCH, SECTION 2	C.Y.	28.4	30.7	33.0	35.3	37.5	39.9	42.1	44.5	44.5
SLAB INCLUDING HAUNCH & PIER DIAPHRAGM, SECTIONS 4 & 5	C.Y.	28.5	29.9	33.2	34.8	36.6	39.0	40.5	42.1	42.1
ABUTMENT WINGS	C.Y.	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
ABUTMENT FOOTINGS (w/ WOOD PILES)	C.Y.	20.6	20.4	20.4	20.4	20.4	-----	-----	-----	-----
ABUTMENT FOOTINGS (w/ STEEL H PILES)	C.Y.	21.6	21.6	21.6	21.6	21.6	29.4	29.4	29.4	29.4

* VALUES SHOWN ARE FOR FIXED PIERS ONLY AND ALLOW FOR 1/16 INCH DEFLECTION OF THE 1 INCH NEOPRENE BEARING PAD. AT EXPANSION PIER LOCATIONS ADD 3 1/16 INCHES TO "U" VALUES SHOWN.

** WINGWALLS APPLY ONLY TO BRIDGES USING "C" BEAMS.

LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

Iowa Department of Transportation
Highway Division

STANDARD DESIGN - 24' ROADWAY, THREE SPAN BRIDGE

PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGES

HL93 SUPERSTRUCTURE DECEMBER, 2006 HS25 SUBSTRUCTURE

SUPERSTRUCTURE DETAILS
0° SKEW

H24-09-06