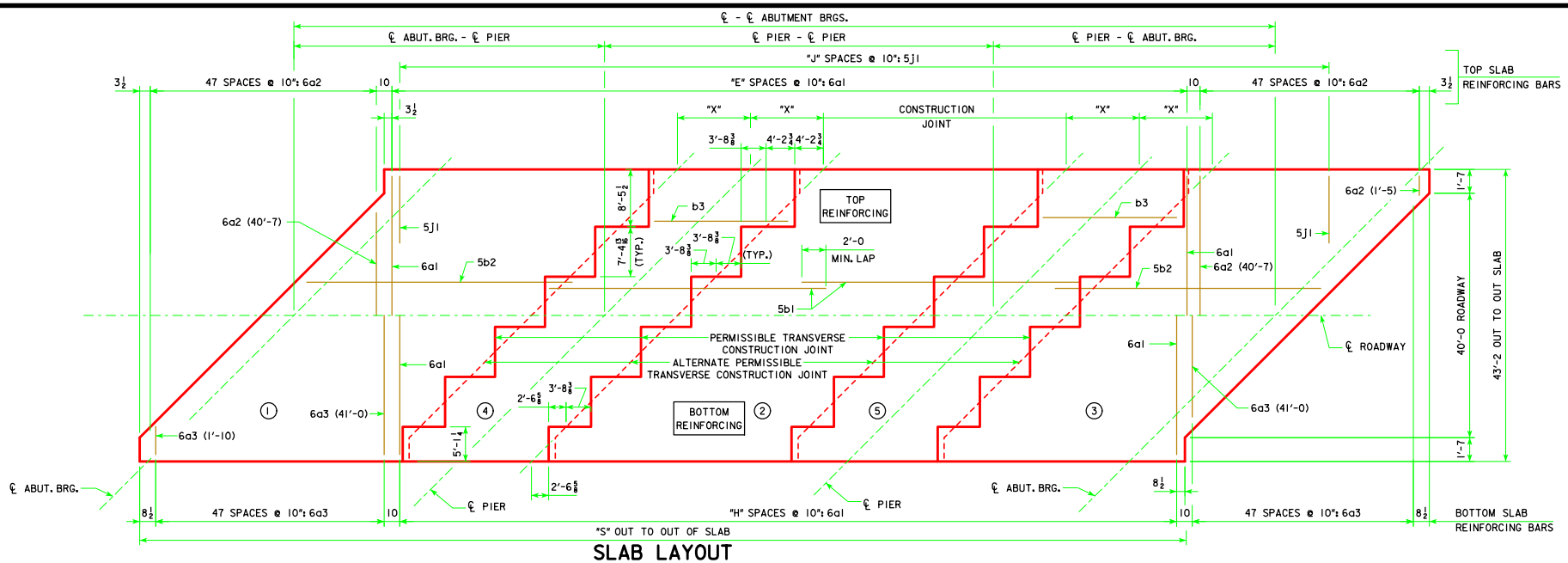

SLAB LAYOUT

(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	WITH BARRIER RAIL	C.Y.	242.3	256.2	283.3	297.4	311.7	340.1	354.2	368.9	388.1
(INCLUDES ABUTMENT WINGS)	WITH OPEN RAIL	C.Y.	244.8	258.9	286.3	300.6	315.1	343.6	357.9	372.8	392.3
STRUCTURAL CONCRETE ABUTMENTS (w/ WOOD PILES) ***		C.Y.	48.5	48.3	48.2	48.1	48.1	-----	-----	-----	-----
STRUCTURAL CONCRETE ABUTMENTS (w/ STEEL H PILES) ***		C.Y.	50.2	50.2	50.2	50.2	50.2	57.4	57.4	57.4	57.4
PRETENSIONED PRESTRESSED CONCRETE BEAM, CENTER SPAN		NO.	6-A50	6-A55	6-B59	6-B63	6-B67	6-C71	6-C75	6-C80	6-C80
PRETENSIONED PRESTRESSED CONCRETE BEAM, END SPAN		NO.	12-A42	12-A46	12-B50	12-B55	12-B59	12-C63	12-C67	12-C71	12-C80
CONCRETE RAIL (BARRIER OR OPEN)		L.F.	314.2	339.2	364.2	389.2	414.2	456.7	481.7	506.7	540.0
STRUCTURAL STEEL (w/ PILE BENT PIERS & DRAINS)		LB.	5143	5143	5231	5231	5231	5215	5215	5215	5215
STRUCTURAL STEEL (w/ PILE BENT PIERS & NO DRAINS)		LB.	4463	4463	4463	4463	4463	4367	4367	4367	4367
STRUCTURAL STEEL (w/ TEE PIERS & DRAINS)		LB.	6218	6218	6306	6306	6306	6485	6485	6485	6485
STRUCTURAL STEEL (w/ TEE PIERS & NO DRAINS)		LB.	5538	5538	5538	5538	5538	5637	5637	5637	5637
EPOXY COATED REINF. STEEL (w/ WOOD PILES & BARRIER RAIL)		LB.	66,428	70,945	75,614	79,921	84,393	-----	-----	-----	-----
EPOXY COATED REINF. STEEL (w/ WOOD PILES & OPEN RAIL)		LB.	67,093	71,566	76,382	80,865	85,267	-----	-----	-----	-----
EPOXY COATED REINF. STEEL (w/ STEEL H PILES & BARRIER RAIL)		LB.	66,284	70,650	75,166	80,067	84,539	91,813	97,096	101,572	106,934
EPOXY COATED REINF. STEEL (w/ STEEL H PILES & OPEN RAIL)		LB.	66,949	71,271	75,934	81,011	85,413	93,657	98,849	103,522	108,930
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	22
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	220

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 INCLUDING HAUNCH, ABUT. DIAPHRAGM,	WITH BARRIER RAIL	C.Y.	133.8	141.8	157.2	165.4	173.4	191.8	200.2	208.8	228.0
& WINGWALLS** , SECTIONS 1 & 3	WITH OPEN RAIL	C.Y.	135.1	143.2	158.8	167.1	175.2	193.7	202.2	210.9	230.4
SLAB INCLUDING	WITH BARRIER RAIL	C.Y.	43.5	47.0	50.5	54.0	57.3	61.1	64.6	68.1	68.1
HAUNCH, SECTION 2	WITH OPEN RAIL	C.Y.	44.2	47.8	51.3	54.9	58.3	62.1	65.6	69.2	69.2
SLAB INCLUDING HAUNCH &	WITH BARRIER RAIL	C.Y.	57.8	60.2	68.0	70.4	73.4	78.8	81.0	83.6	83.6
PIER DIAPHRAGM, SECTIONS 4 & 5	WITH OPEN RAIL	C.Y.	58.3	60.7	68.6	71.0	74.0	79.4	81.7	84.3	84.3
ABUTMENT WINGS		C.Y.	7.2	7.2	7.6	7.6	7.6	8.4	8.4	8.4	8.4
ABUTMENT FOOTINGS (w/ WOOD PILES) ***		C.Y.	48.5	48.3	48.2	48.1	48.1	-----	-----	-----	-----
ABUTMENT FOOTINGS (w/ STEEL H PILES) ***		C.Y.	50.2	50.2	50.2	50.2	50.2	57.4	57.4	57.4	57.4

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 13/16	4'-2 7/8	4'-2 13/16	4'-2 7/8	4'-8 9/16	4'-8 11/16	4'-9 1/8	4'-9 7/16
CURVE	TOP OF SLAB TO PIER TOP AT C.L. PIER*	"U"	3'-6 3/8	3'-6 9/16	4'-1 5/16	4'-1 1/2	4'-1 7/8	4'-7 5/16	4'-7 1/4	4'-7 1/2	4'-7 1/2
STRAIGHT	TOP OF SLAB TO ABUT. CONSTR. JT. AT C.L. ABUT. BRG.	"U"	3'-8 1/16	3'-7 7/8	4'-2 15/16	4'-2 15/16	4'-3	4'-8 3/4	4'-8 7/8	4'-9 5/16	4'-9 7/8
GRADE	TOP OF SLAB TO PIER TOP AT C.L. PIER*	"U"	3'-6 9/16	3'-6 3/4	4'-1 9/16	4'-1 13/16	4'-2 1/4	4'-7 11/16	4'-7 11/16	4'-8	4'-8
D.L. PIER REACTION (D.L. + F.W.S.)		KIPS	456.2	490.9	561.4	598.1	635.1	756.6	797.7	839.3	879.7
L.L. PIER REACTION (HL93) NO IMPACT		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"	123	138	153	168	183	198	213	228	248
NO. OF SPACES FOR 6a1 BARS (BOTTOM)		"H"	122	137	152	167	182	197	212	227	247
NO. OF SPACES FOR 5j1 BARS (TOP)		"J"	164	179	194	209	224	239	254	269	289
OUT TO OUT OF SLAB		"S"	143'-0 7/8	155'-6 7/8	168'-0 7/8	180'-6 7/8	193'-0 7/8	205'-6 7/8	218'-0 7/8	230'-6 7/8	247'-2 7/8
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

* 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 3/16 INCHES TO "U" VALUES SHOWN.

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

*** SEE SHEET H40-31-06 FOR ADDITIONAL CONCRETE REQUIRED IN ABUTMENT FOOTINGS.

10-11
LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

Iowa Department of Transportation
Highway Division

STANDARD DESIGN - 40' ROADWAY, THREE SPAN BRIDGE

PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGES

AUGUST, 2009

SUPERSTRUCTURE DETAILS
45° SKEW

H40-29-06

REVISED 10-11 - THE ESTIMATED QUANTITIES FOR THE STRUCTURAL STEEL WITH DRAINS WAS CHANGED.