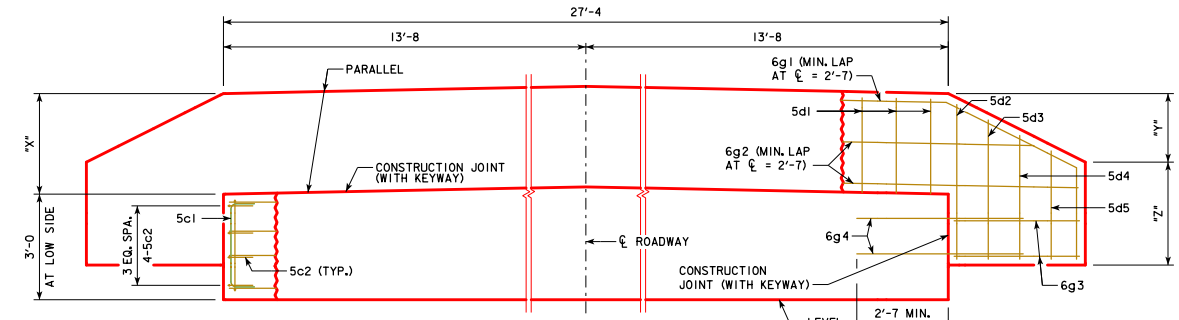


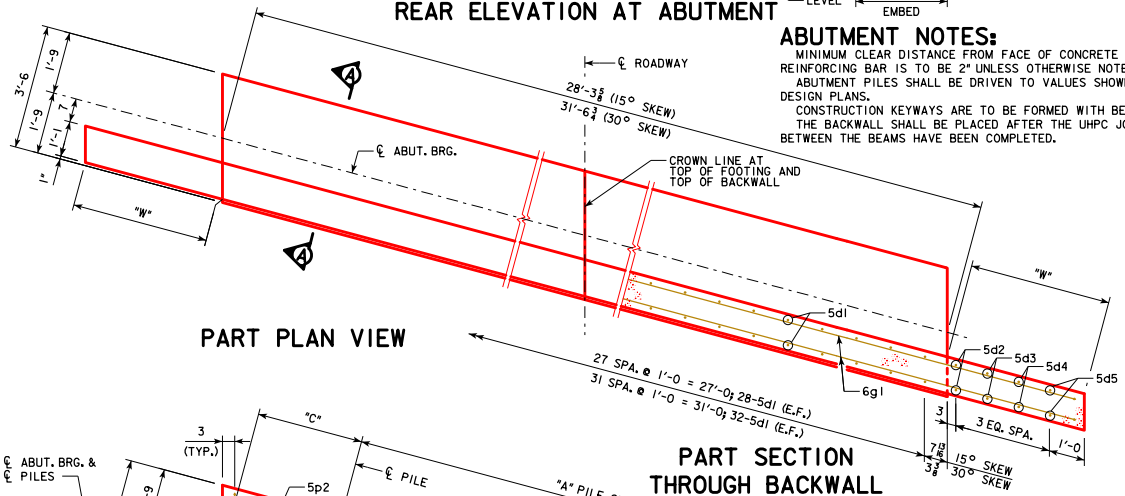
REAR ELEVATION AT ABUTMENT

ABUTMENT NOTES:

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.

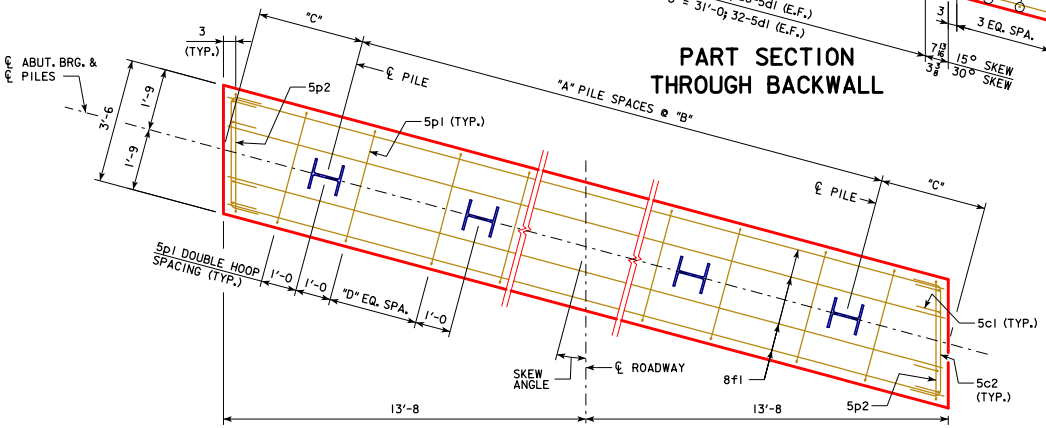
ABUTMENT PILES SHALL BE DRIVEN TO VALUES SHOWN IN THE DESIGN PLANS.

CONSTRUCTION KEYWAYS ARE TO BE FORMED WITH BEVELED 2x6's. THE BACKWALL SHALL BE PLACED AFTER THE UHPC JOINTS BETWEEN THE BEAMS HAVE BEEN COMPLETED.



PART PLAN VIEW

PART SECTION THROUGH BACKWALL



ABUTMENT PILE PLAN

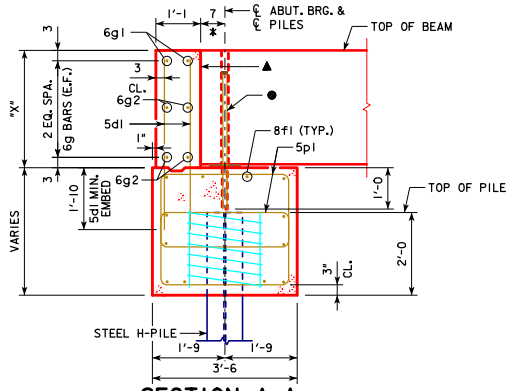
ABUTMENT DATA (15° SKEW)

	REINFORCED CONCRETE BOX BEAMS			PRETENSIONED PRESTRESSED CONCRETE BOX BEAMS				
SPAN	30'-0	40'-0	50'-0	30'-0	40'-0	50'-0	60'-0	70'-0
"W" (FT. - IN.)	4'-0	4'-0	4'-0	3'-0	3'-0	4'-0	4'-0	4'-0
"X" (FT. - IN.)	2'-4 3/4	2'-4 3/4	2'-10 3/4	1'-10 3/4	1'-10 3/4	2'-4 3/4	2'-4 3/4	2'-10 3/4
"Y" (FT. - IN.)	2'-0	2'-0	2'-0	1'-6	1'-6	2'-0	2'-0	2'-0
"Z" (FT. - IN.)	2'-4	2'-4	2'-10	2'-4	2'-4	2'-4	2'-4	2'-10
"A" PILE SPACES	4	4	4	4	4	4	4	5
"B" (FT. - IN.)	6'-0	6'-0	6'-0	6'-0	6'-0	6'-0	6'-0	4'-10
"C" (FT. - IN.)	2'-1 13/16	2'-1 13/16	2'-1 13/16	2'-1 13/16	2'-1 13/16	2'-1 13/16	2'-1 13/16	2'-0 13/16
"D" EQUAL SPACES	4	4	4	4	4	4	4	3
NO. OF PILES PER ABUT.	5	5	5	5	5	5	5	6
Pu, STRENGTH I DESIGN LOAD (KIPS)	97	113	133	93	109	127	141	135

ABUTMENT DATA (30° SKEW)

	REINFORCED CONCRETE BOX BEAMS			PRETENSIONED PRESTRESSED CONCRETE BOX BEAMS				
SPAN	30'-0	40'-0	50'-0	30'-0	40'-0	50'-0	60'-0	70'-0
"W" (FT. - IN.)	4'-0	4'-0	4'-0	3'-0	3'-0	4'-0	4'-0	4'-0
"X" (FT. - IN.)	2'-4 3/4	2'-4 3/4	2'-10 3/4	1'-10 3/4	1'-10 3/4	2'-4 3/4	2'-4 3/4	2'-10 3/4
"Y" (FT. - IN.)	2'-0	2'-0	2'-0	1'-6	1'-6	2'-0	2'-0	2'-0
"Z" (FT. - IN.)	2'-4	2'-4	2'-10	2'-4	2'-4	2'-4	2'-4	2'-10
"A" PILE SPACES	4	4	4	4	4	4	4	5
"B" (FT. - IN.)	6'-9	6'-9	6'-9	6'-9	6'-9	6'-9	6'-9	5'-5
"C" (FT. - IN.)	2'-3 3/8	2'-3 3/8	2'-3 3/8	2'-3 3/8	2'-3 3/8	2'-3 3/8	2'-3 3/8	2'-2 7/8
"D" EQUAL SPACES	5	5	5	5	5	5	5	4
NO. OF PILES PER ABUT.	5	5	5	5	5	5	5	6
Pu, STRENGTH I DESIGN LOAD (KIPS)	99	115	135	95	110	129	143	137

NOTE:
Pu, STRENGTH I DESIGN LOAD (KIPS) IS NOT THE VALUE USED IN THE FIELD FOR DRIVING PILES.



SECTION A-A

NOTES:

● $1\frac{1}{4}$"Φ SMOOTH DOWELS (A36). DRILL A $1\frac{1}{2}$"Φ HOLE 12" DEEP INTO ABUTMENT AFTER BEAMS ARE IN PLACE. USE LOW IMPACT ROTARY DRILL. PRIOR TO SETTING DOWEL, FILL HOLE TO A DEPTH OF 4" WITH A POLYMER GROUT SYSTEM IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. PLACE 2"Φ x 1" THICK POLYSTYRENE PLUG ON TOP OF DOWEL. FILL REMAINDER OF HOLE ABOVE PLUG WITH NON-SHRINK GROUT.

* THIS DIMENSION MAY VARY. TILTING OF THE BACKWALL DURING CONSTRUCTION MAY BE NECESSARY TO ACCOMMODATE BEAM CAMBER AND LONGITUDINAL GRADE.

THE SPIRAL AT THE TOP OF EACH PILE TO BE 7 TURNS OF NO. 2 BAR, 21" DIAMETER, 3" PITCH WITH 3-$L\frac{7}{8} \times \frac{7}{8} \times \frac{1}{8}$ SPACERS PUNCHED TO HOLD SPIRAL.

▲ FOR CAST-IN-PLACE ABUTMENT BACKWALLS, CAST BACKWALL CONCRETE DIRECTLY AGAINST ENDS OF CONCRETE BOXES.

LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

IOWADOT Highway Division

STANDARD DESIGN - 24'-0 ROADWAY, SINGLE SPAN

CONCRETE BOX BEAM BRIDGES

DECEMBER, 2016

ABUTMENT DETAILS (CAST-IN-PLACE) CONCRETE WINGS 15° AND 30° SKEW

B24-14-16