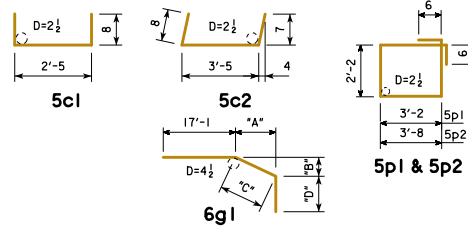


EPOXY COATED REINFORCING BAR LIST, CAST-IN-PLACE ABUTMENT (TWO ABUTMENTS)

BAR		LOCATION	SPAN	REINFORCED CONCRETE BOX BEAMS									PRETENSIONED PRESTRESSED CONCRETE BOX BEAMS																				
				30'-0			40'-0			50'-0			30'-0			40'-0			50'-0			60'-0			70'-0								
			SHAPE	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT			
5c1	FOOTING END, VERTICAL		U	16	3'-9	63	16	3'-9	63	16	3'-9	63	16	3'-9	63	16	3'-9	63	16	3'-9	63	16	3'-9	63	16	3'-9	63	16	3'-9	63			
5c2	FOOTING END, HORIZONTAL		U	16	4'-9	79	16	4'-9	79	16	4'-9	79	16	4'-9	79	16	4'-9	79	16	4'-9	79	16	4'-9	79	16	4'-9	79	16	4'-9	79			
5d1	BACKWALL, VERTICAL		U	128	4'-0	534	128	4'-0	534	128	4'-6	601	128	3'-6	467	128	3'-6	467	128	4'-0	534	128	4'-0	534	128	4'-0	534	128	4'-6	601			
5d2	BACKWALL, VERTICAL		U	8	3'-10	32	8	3'-10	32	8	4'-4	36	8	3'-4	28	8	3'-4	28	8	3'-10	32	8	3'-10	32	8	3'-10	32	8	4'-4	36			
5d3	BACKWALL, VERTICAL		U	8	3'-4	28	8	3'-4	28	8	3'-10	32	8	3'-0	25	8	3'-0	25	8	3'-4	28	8	3'-4	28	8	3'-4	28	8	3'-10	32			
5d4	BACKWALL, VERTICAL		U	8	2'-11	24	8	2'-11	24	8	3'-5	29	8	2'-9	23	8	2'-9	23	8	2'-11	24	8	2'-11	24	8	2'-11	24	8	3'-5	29			
5d5	BACKWALL, VERTICAL		U	8	2'-5	20	8	2'-5	20	8	2'-11	24	8	2'-5	20	8	2'-5	20	8	2'-5	20	8	2'-5	20	8	2'-5	20	8	2'-11	24			
8f1	FOOTING, LONGITUDINAL		U	24	31'-2	1997	24	31'-2	1997	24	31'-2	1997	24	31'-2	1997	24	31'-2	1997	24	31'-2	1997	24	31'-2	1997	24	31'-2	1997	24	31'-2	1997			
6g1	BACKWALL, HORIZONTAL		U	8	23'-3	279	8	23'-3	279	8	23'-9	285	8	22'-2	266	8	22'-2	266	8	23'-3	279	8	23'-3	279	8	23'-3	279	8	23'-9	285			
6g2	BACKWALL, HORIZONTAL		U	16	20'-11	503	16	20'-11	503	16	20'-11	503	16	19'-11	479	16	19'-11	479	16	20'-11	503	16	20'-11	503	16	20'-11	503	16	20'-11	503			
6g3	BACKWALL, HORIZONTAL		U	16	3'-7	86	16	3'-7	86	16	3'-7	86	16	2'-7	62	16	2'-7	62	16	3'-7	86	16	3'-7	86	16	3'-7	86	16	3'-7	86			
6g4	FOOTING TO BACKWALL, HORIZONTAL		U	16	5'-4	128	16	5'-4	128	16	5'-4	128	16	5'-4	128	16	5'-4	128	16	5'-4	128	16	5'-4	128	16	5'-4	128	16	5'-4	128			
5p1	FOOTING HOOPS		□	104	11'-8	1266	104	11'-8	1266	104	11'-8	1266	104	11'-8	1266	104	11'-8	1266	104	11'-8	1266	104	11'-8	1266	104	11'-8	1266	108	11'-8	1314			
5p2	FOOTING HOOPS		□	8	12'-8	106	8	12'-8	106	8	12'-8	106	8	12'-8	106	8	12'-8	106	8	12'-8	106	8	12'-8	106	8	12'-8	106	8	12'-8	106			
	1 1/4" DIA. SMOOTH DOWELS		U	12	2'-9	138	12	2'-9	138	12	3'-3	163	12	2'-3	113	12	2'-3	113	12	2'-9	138	12	2'-9	138	12	2'-9	138	12	3'-3	163			
#2	PILE SPIRAL *		U	10	38'-6	64	10	38'-6	64	10	38'-6	64	10	38'-6	64	10	38'-6	64	10	38'-6	64	10	38'-6	64	10	38'-6	64	12	38'-6	77			
	SPIRAL SPACERS L 1/2 x 1/2 x 0.70 *		U	30	1'-10	38	30	1'-10	38	30	1'-10	38	30	1'-10	38	30	1'-10	38	30	1'-10	38	30	1'-10	38	30	1'-10	38	36	1'-10	46			
TOTAL (LBS.)				5,385			5,385			5,500			5,224			5,224			5,385			5,385			5,569								

* EPOXY COATING NOT REQUIRED

BENT BAR DETAILS



	REINFORCED CONCRETE BOX BEAMS			PRETENSIONED PRESTRESSED CONCRETE BOX BEAMS				
	30'-0	40'-0	50'-0	30'-0	40'-0	50'-0	60'-0	70'-0
A	3'-9	3'-9	3'-9	2'-9	2'-9	3'-9	3'-9	3'-9
B	1'-10 1/2	1'-10 1/2	1'-10 1/2	1'-4 1/2	1'-4 1/2	1'-10 1/2	1'-10 1/2	1'-10 1/2
C	4'-2	4'-2	4'-2	3'-1	3'-1	4'-2	4'-2	4'-2
D	2'-0	2'-0	2'-6	2'-0	2'-0	2'-0	2'-0	2'-6

NOTE: ALL DIMENSIONS ARE OUT TO OUT. D= PIN DIAMETER.

CONCRETE PLACEMENT QUANTITIES (TWO ABUTMENTS)

LOCATION	SPAN	REINFORCED CONCRETE BOX BEAMS			PRETENSIONED PRESTRESSED CONCRETE BOX BEAMS				
		30'-0	40'-0	50'-0	30'-0	40'-0	50'-0	60'-0	70'-0
BACKWALLS (C.Y.)		8.2	8.2	9.8	6.3	6.3	8.2	8.2	9.8
FOOTINGS (C.Y.)		25.7	25.7	25.7	25.7	25.7	25.7	25.7	25.7
TOTAL (C.Y.)		33.9	33.9	35.5	32.0	32.0	33.9	33.9	35.5

ADDITIONAL CONCRETE

EACH FOOTING (C.Y.)	ROADWAY GRADE AT ABUTMENT				
	1%	2%	3%	4%	5%
	-	0.6	1.0	1.3	1.6

NOTES:

THE ADDITIONAL CONCRETE TABLE LISTS THE ADDITIONAL CONCRETE VOLUME REQUIRED IN EACH ABUTMENT FOOTING BASED ON THE ROADWAY GRADE AT EACH ABUTMENT. ADDITIONAL CONCRETE SHOULD BE ADDED TO THE PLANS FOR EACH ABUTMENT FOOTING THAT HAS 0.5 CU.YDS. OR MORE OF ADDITIONAL CONCRETE. VALUES SHOULD BE EXCLUDED FOR SCENARIOS THAT HAVE LESS THAN 0.5 CU.YDS. OF ADDITIONAL CONCRETE PER ABUTMENT FOOTING. VALUES MAY BE INTERPOLATED FOR GRADES BETWEEN THE VALUES SHOWN IN THE TABLE.

LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

IOWA DOT Highway Division

STANDARD DESIGN - 24'-0 ROADWAY, SINGLE SPAN
CONCRETE BOX BEAM BRIDGES

DECEMBER, 2016

**ABUTMENT DETAILS (CAST-IN-PLACE)
CONCRETE WINGS
QUANTITIES
30° SKEW**

B24-16-16