BILL OF REINFORCING

Site No. 2290-10

MARK	TYPE	PIN DIAMETER	LENGTH	No.	MASS	BENDING DIAGRAM
1522-10	STR		2 320	8	29.14	
1522-11	STR		2 480	8	31.15	
1522-12	STR		2 650	8	33.28	
1522-13	STR		2 810	8	35.29	
1522-14	STR		2 970	8	37.30	
1522-15	STR		3 130	8	39.31	
1523	STR		4 450	74	517.00	
1524	STR		9 600	12	180.86	
1525	STR		11 700	16	293.90	
1526	BENT	90	3 840	8	48.23	700, 620, 330, 3 140
1528-1	BENT		3 020	2	9.48	80, 650, R=30, 80, 700, 2 290, 2 340
1528-2	BENT		3 570	2	11.21	80, 650, R=30, 80, 700, 2 840, 2 890
1528-3	BENT		4 120	2	12.94	80, 650, R=30, 80, 700, 3 390, 3 440

BILL OF REINFORCING

Site No. 2290-10

MARK	TYPE	PIN DIAMETER	LENGTH	No.	MASS	BENDING DIAGRAM
1528-4	BENT		4 670	2	14.66	80, 650, R=30, 80, 700, 3 940, 3 990
1528-5	BENT		5 220	2	16.39	80, 650, R=30, 80, 690, 4 490, 4 540
1528-6	BENT		5 780	2	18.15	80, 650, R=30, 80, 690, 5 050, 5 100
1528-7	BENT		6 330	2	19.88	80, 650, R=30, 80, 690, 5 600, 5 650
1528-8	BENT		6 880	2	21.60	80, 650, R=30, 80, 690, 6 150, 6 200
2001	STR		5 240	542	6688.39	

BILL OF REINFORCING

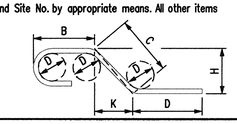
Site No. 2290-10

MARK	TYPE	PIN DIAMETER	LENGTH	No.	MASS	BENDING DIAGRAM
2002	BENT	100	4 430	24	250.38	300, 4 130
2003	BENT	100	4 130	24	233.43	300, 3 830
2004	STR		12 000	4	113.04	

Total mass of reinforcing steel	39,553.56 kg
Total volume of structural concrete	342.90 m³

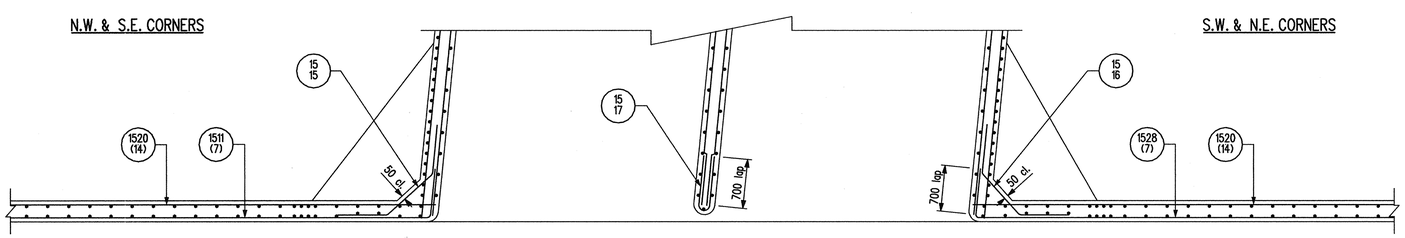
NOTES:

1. All dimensions given in bending diagram are out to out, except radii and extensions on 90°, 135° & 180° hooks. Extensions on 90°, 135° & 180° hooks are the "A" or "G" dimensions for the standard 90°, 135° & 180° hooks referenced from the RSIC "Manual of Standard Practice". Radii are inside dimensions. All reinforcing steel bends and hooks shall conform to Clause 6.6.2 of C.S.A. A23.1-04, unless noted otherwise in the BILL OF REINFORCING STEEL.
2. All reinforcing steel shall be deformed steel, unless noted otherwise in the BILL OF REINFORCING STEEL.
3. All reinforcing steel shall conform to CSA G30.18-M92 "Billet Steel Bars for Concrete Reinforcement" Grade 400W, unless noted otherwise in the BILL OF REINFORCING STEEL.
4. Like bars shall be bundled, securely tied and identified as to Mark and Site No. by appropriate means. All other items to be identified in a similar fashion.
5. All bars shall be bent in accordance with the following detail:



N.W. & S.E. CORNERS

S.W. & N.E. CORNERS



PART SECTION K-K

NOTES:

1. For location of SECTION K-K see sheet No. 9.

REVISIONS		
DATE	BY	DESCRIPTION

PROVINCE OF MANITOBA — A. H. PANKRATZ — REGISTERED PROFESSIONAL ENGINEER — Nov 9/2009

REINFORCING DETAILS

FOR DOUBLE 3 600 x 3 000 R.C. BOX CULVERT
IN COULEE DES NAULT - 5.7° SKEW
ON P.T.H. No. 59 S.E. 1/4 SEC. 16-05-04E

R.M. of DE SALABERRY

Manitoba Infrastructure and Transportation
Water Control & Structures

RELEASED FOR CONSTRUCTION BY:
for DIRECTOR — DATE Nov.09/09
STRUCTURES, DESIGN AND CONSTRUCTION BRANCH

DESIGN	BY: A.H.P.	SCALE: 1:40	SHEET No. 11
	CHECKED: M.H.		
DETAILS	BY: M.S.		
	CHECKED: A.H.P.		SITE No. 2290-10