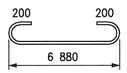
BILL OF REINFORCING STEEL
FOR APPROACH AND TRANSITION SLABS - STAGE 1

Site No. 2924-00

MARK	TYPE	PIN DIAMETER	LENGTH	No.	MASS	BENDING DIAGRAM
1501	STR		430	22	14.85	
A 1501	STR		12 020	19	358.56	
A 1502	STR		12 360	15	291.08	
A 1503	STR		6 880	50	540.08	
A 1504	STR		2 740	1	4.30	
A 1505	STR		3 260	1	5.12	
A 1506	STR		430	10	6.75	
A 2001	STR		12 020	27	764.29	
A 2002	STR		12 360	21	611.26	
A 2003	BENT	100	7 280	206	3531.75	
A 2004-1	STR		2 840	1	6.69	
A 2004-2	STR		2 800	1	6.59	
A 2004-3	STR		2 770	1	6.52	
A 2004-4	STR		2 740	1	6.45	
A 2005-1	STR		3 270	1	7.70	
A 2005-2	STR		3 240	1	7.63	
A 2005-3	STR		3 200	1	7.54	
A 2005-4	STR		3 170	1	7.47	
A 2501P	STR		810	50	158.96	
T 1501	STR		12 080	48	910.35	
T 1502-1	STR		190	2	0.60	
T 1502-2	STR		1 090	2	3.42	
T 1502-3	STR		1 980	2	6.22	
T 1502-4	STR		2 880	2	9.04	
T 1502-5	STR		3 780	2	11.87	
T 1502-6	STR		4 680	2	14.70	
T 1502-7	STR		5 580	2	17.52	
T 1502-8	STR		6 480	2	20.35	
T 1502-9	STR		7 370	2	23.14	
T 1502-10	STR		8 270	2	25.97	
T 1502-11	STR		9 170	2	28.79	
T 1502-12	STR		10 070	2	31.62	
T 1502-13	STR		10 970	2	34.45	
T 1502-14	STR		11 870	2	37.27	
T 1503-1	STR		940	2	2.95	
T 1503-2	STR		1 840	2	5.78	
T 1503-3	STR		2 740	2	8.60	
T 1503-4	STR		3 640	2	11.43	
T 1503-5	STR		4 540	2	14.26	
T 1503-6	STR		5 430	2	17.05	
T 1503-7	STR		6 330	2	19.88	
T 1503-8	STR		7 230	2	22.70	
T 1503-9	STR		8 130	2	25.53	
T 1503-10	STR		9 030	2	28.35	

BILL OF REINFORCING STEEL
FOR APPROACH AND TRANSITION SLABS - STAGE 1

Site No. 2924-00

MARK	TYPE	PIN DIAMETER	LENGTH	No.	MASS	BENDING DIAGRAM
T 1503-11	STR		9 930	2	31.18	
T 1503-12	STR		10 830	2	34.01	
T 1503-13	STR		11 720	2	36.80	
T 1504-1	STR		7 920	2	24.87	
T 1504-2	STR		8 100	2	25.43	
T 1504-3	STR		8 280	2	26.00	
T 1504-4	STR		8 460	2	26.56	
T 1504-5	STR		8 640	2	27.13	
T 1504-6	STR		8 810	2	27.66	
T 1504-7	STR		8 990	2	28.23	
T 1504-8	STR		9 170	2	28.79	
T 1504-9	STR		9 350	2	29.36	
T 1504-10	STR		9 530	2	29.92	
T 1504-11	STR		9 700	2	30.46	
T 1504-12	STR		9 880	2	31.02	
T 1504-13	STR		10 060	2	31.59	
T 1504-14	STR		10 240	2	32.15	
T 1504-15	STR		10 420	2	32.72	
T 1504-16	STR		10 590	2	33.25	
T 1504-17	STR		10 770	2	33.82	
T 1504-18	STR		10 950	2	34.38	
T 1504-19	STR		11 130	2	34.95	
T 1504-20	STR		11 310	2	35.51	
T 1504-21	STR		11 480	2	36.05	
T 1504-22	STR		11 660	2	36.61	
T 1504-23	STR		11 840	2	37.18	
T 1504-24	STR		12 020	2	37.74	
T 1504-25	STR		12 200	2	38.31	
T 1504-26	STR		12 380	2	38.87	
T 1504-27	STR		12 550	2	39.41	
T 1504-28	STR		12 730	2	39.97	
T 1504-29	STR		7 920	2	24.87	
T 1505-1	STR		1 900	2	5.97	
T 1505-2	STR		2 080	2	6.53	
T 1505-3	STR		2 260	2	7.10	
T 1505-4	STR		2 440	2	7.66	
T 1505-5	STR		2 620	2	8.23	
T 1505-6	STR		2 790	2	8.76	
T 1505-7	STR		2 970	2	9.33	
T 1505-8	STR		3 150	2	9.89	
T 1505-9	STR		3 330	2	10.46	
T 1505-10	STR		3 510	2	11.02	
T 1505-11	STR		3 680	2	11.56	
T 1505-12	STR		3 860	2	12.12	
T 1505-13	STR		4 040	2	12.69	
T 1505-14	STR		4 220	2	13.25	
T 1505-15	STR		4 400	2	13.82	
T 1505-16	STR		4 580	2	14.38	
T 1505-17	STR		4 750	2	14.91	
T 1505-18	STR		4 930	2	15.48	
T 1505-19	STR		5 110	2	16.05	
T 1505-20	STR		5 290	2	16.61	

BILL OF REINFORCING STEEL
FOR APPROACH AND TRANSITION SLABS - STAGE 1

Site No. 2924-00

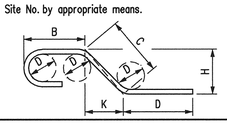
MARK	TYPE	PIN DIAMETER	LENGTH	No.	MASS	BENDING DIAGRAM
T 1505-21	STR		5 470	2	17.18	
T 1505-22	STR		5 640	2	17.71	
T 1505-23	STR		5 820	2	18.27	
T 1505-24	STR		6 000	2	18.84	
T 1505-25	STR		6 180	2	19.41	
T 1505-26	STR		6 360	2	19.97	
T 1505-27	STR		6 530	2	20.50	
T 1505-28	STR		6 710	2	21.07	
T 1505-29	STR		6 890	2	21.63	
T 1506	STR		2 870	24	108.14	
T 1507	STR		4 570	24	172.20	
T 1510-1	STR		2 810	2	8.82	
T 1510-2	STR		2 990	2	9.39	
T 1510-3	STR		3 160	2	9.92	
T 1510-4	STR		3 340	2	10.49	
T 1510-5	STR		3 520	2	11.05	
T 1510-6	STR		3 700	2	11.62	
T 1510-7	STR		3 880	2	12.18	
T 1510-8	STR		4 050	2	12.72	
T 1510-9	STR		4 230	2	13.28	
T 1510-10	STR		4 410	2	13.85	
T 1510-11	STR		4 590	2	14.41	
T 1510-12	STR		4 770	2	14.98	
T 1510-13	STR		4 940	2	15.51	
T 1510-14	STR		5 120	2	16.08	
T 1510-15	STR		5 300	2	16.64	
T 1510-16	STR		5 480	2	17.21	
T 1510-17	STR		5 660	2	17.77	
T 1510-18	STR		5 830	2	18.31	
T 1510-19	STR		6 010	2	18.87	
T 1510-20	STR		6 190	2	19.44	
T 1510-21	STR		6 370	2	20.00	
T 1510-22	STR		6 550	2	20.57	
T 1510-23	STR		6 730	2	21.13	
T 1510-24	STR		6 900	2	21.67	
T 1510-25	STR		7 080	2	22.23	
T 1510-26	STR		7 260	2	22.80	
T 1510-27	STR		7 440	2	23.36	
T 1514-1	STR		7 300	2	22.92	
T 1514-2	STR		7 120	2	22.36	
T 1514-3	STR		6 940	2	21.79	
T 2501P	STR		810	12	38.15	
T 3001P	STR		800	56	246.18	

Total mass of reinforcing steel 10176.65 kg

Total volume of structural concrete 94.27 m³

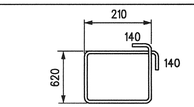
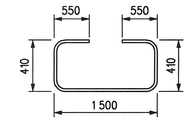
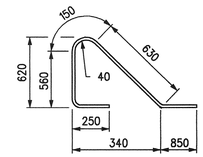
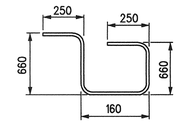
NOTES:

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 "C" 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. Bars marked with the suffix "P" shall be plain undeformed bars in accordance with CAN/CSA G40.21-M92 Grade 300W.
6. All bars shall be bent in accordance with the following detail:



BILL OF REINFORCING STEEL (MMFX 2)
FOR APPROACH SLABS - STAGE 1

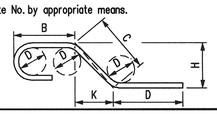
Site No. 2924-00

MARK	TYPE	PIN DIAMETER	LENGTH	No.	MASS	BENDING DIAGRAM
M1601	BENT	65	1 940	28	84.30	
M1602	BENT	90	3 420	30	159.24	
M1603	BENT	90	2 450	67	254.76	
M1604	BENT	90	1 980	28	86.04	
M1605	STR		6 880	10	106.78	
M1606	STR		1 520	39	92.00	
M1607	STR		2 710	6	25.24	
M1608	STR		3 190	6	29.71	

Total mass of reinforcing steel 838.06 kg

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 "C" dimensions for standard 90°, 135° & 180° hooks referenced from the RSIC "Manual of Standard Practice". Radii are inside dimensions. All reinforcing steel bends and hooks for low carbon chromium steel bars shall conform to the same requirements listed for C.S.A. G30.18 Grade 400W in Clause 6.6.2 of C.S.A. A23.1-04, unless noted otherwise in the BILL OF REINFORCING STEEL (MMFX - 2).
2. All reinforcing steel shall be deformed steel, unless noted otherwise in the BILL OF REINFORCING STEEL (MMFX - 2)
3. All reinforcing steel shall be low carbon chromium steel bars conforming to ASTM A615 Grade 75 and ASTM A1035 unless noted otherwise in the BILL OF REINFORCING STEEL (MMFX - 2)
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:



REVISIONS

DATE	BY	DESCRIPTION

PROVINCE OF MANITOBA
Mar. 15/10
S.S RIHAL
REGISTERED PROFESSIONAL ENGINEER

APPROACH SLABS, TRANSITION SLABS AND PEDESTRIAN SIDEWALK & CURB - STAGE 1 - REINFORCING DETAILS

RECONSTRUCTION AND STRENGTHENING OF EXISTING BRIDGE
OVER ASSINIBOINE RIVER - CONTRACT THREE
ON P.T.H. No. 100 IN R.L.'S 72, 73 & 94
PARISH OF ST. CHARLES

CITY OF WINNIPEG

Manitoba
Infrastructure and Transportation
Water Control & Structures

DESIGN — BY: M.B.C. — CHECKED: S.S.R.

DETAILS — BY: G.S. & K.P. — CHECKED: S.S.R./J.J.

RELEASED FOR CONSTRUCTION BY:
Ruth Eden March 15/10
DIRECTOR — DATE
STRUCTURES, DESIGN AND CONSTRUCTION BRANCH

SCALE: ~~1:50~~ N.T.S. ~~AS SHOWN~~

SHEET No. 134

SITE No. 2924-00

...\292400_Approach Slab.dgn 2010-03-15 9:45:06 AM