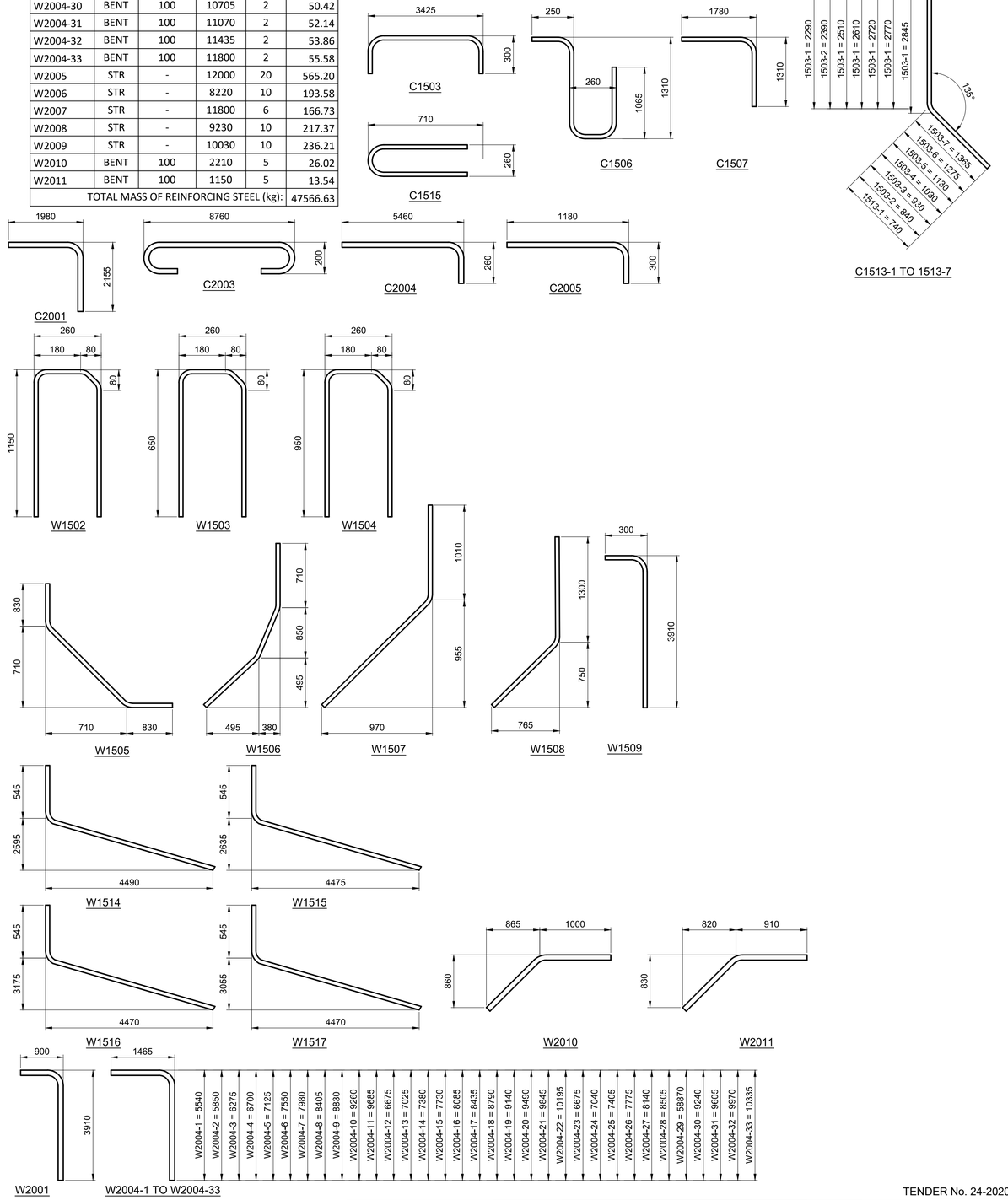
BILL OF REINFORCING STEEL (BLACK STEEL)

CULVERT (C), HEADWALLS / RETAINING WALL / WINGWALLS (W)

MARK	TYPE	PIN DIAMETER	LENGTH	No.	MASS
C1501	STR	-	12000	142	2675.28
C1502	STR	-	6160	142	1373.31
C1503	BENT	90	4025	142	897.33
C1504	STR	-	12000	142	2675.28
C1505	STR	-	9160	142	2042.13
C1506	BENT	90	3910	290	1780.22
C1507	BENT	90	3090	290	1406.88
C1508	STR	-	12000	50	942.00
C1509	STR	-	10610	28	466.42
C1510	STR	-	8420	72	951.80
C1511	STR	-	7100	22	245.23
C1512-1	STR	-	9050	2	28.42
C1512-2	STR	-	9185	2	28.84
C1512-3	STR	-	9435	2	29.63
C1512-4	STR	-	9685	2	30.41
C1512-5	STR	-	9725	2	30.54
C1512-6	STR	-	9475	2	29.75
C1512-7	STR	-	9340	2	29.33
C1512-8	STR	-	9090	2	28.54
C1512-9	STR	-	8840	2	27.76
C1512-10	STR	-	8590	2	26.97
C1512-11	STR	-	8340	2	26.19
C1512-12	STR	-	8095	2	25.42
C1512-13	STR	-	7845	2	24.63
C1512-14	STR	-	7595	2	23.85
C1513-1	BENT	90	3070	2	9.64
C1513-2	BENT	90	3270	2	10.27
C1513-3	BENT	90	3480	2	10.93
C1513-4	BENT	90	3680	2	11.56
C1513-5	BENT	90	3890	2	12.21
C1513-6	BENT	90	4085	2	12.83
C1513-7	BENT	90	4250	2	13.35
C1514-1	STR	-	3220	2	10.11
C1514-2	STR	-	3450	2	10.83
C1514-3	STR	-	3710	2	11.65
C1514-4	STR	-	3960	2	12.43
C1514-5	STR	-	4215	2	13.24
C1514-6	STR	-	4465	2	14.02
C1514-7	STR	-	4570	2	14.35
C1514-8	STR	-	4320	2	13.56
C1514-9	STR	-	4070	2	12.78
C1514-10	STR	-	3820	2	11.99
C1514-11	STR	-	3570	2	11.21
C1514-12	STR	-	3320	2	10.42
C1514-13	STR	-	3070	2	9.64
C1514-14	STR	-	2825	2	8.87
C1515	BENT	90	1540	20	48.36
C2001	BENT	100	4135	540	5258.48
C2002	STR	-	6500	270	4133.03
C2003	BENT	100	9320	270	5926.12
C2004	BENT	100	5720	342	4606.95
C2005	BENT	100	1480	290	1010.77
W1501-1	STR	-	700	2	2.20
W1501-2	STR	-	850	2	2.67
W1501-3	STR	-	1010	2	3.17
W1501-4	STR	-	1165	2	3.66
W1501-5	STR	-	1320	2	4.14
W1501-6	STR	-	1475	2	4.63
W1501-7	STR	-	1630	2	5.12
W1501-8	STR	-	1785	2	5.60
W1501-9	STR	-	1940	2	6.09
W1501-10	STR	-	2095	2	6.58
W1501-11	STR	-	2250	2	7.07
W1501-12	STR	-	2400	2	7.54
W1501-13	STR	-	2560	2	8.04
W1501-14	STR	-	2710	2	8.51
W1501-15	STR	-	2870	2	9.01
W1501-16	STR	-	2960	2	9.29
W1501-17	STR	-	3150	2	9.89
W1501-18	STR	-	3900	2	12.25
W1502	BENT	90	2560	178	715.42
W1503	BENT	90	1560	76	186.14
W1504	BENT	90	2160	116	393.38
W1505	BENT	90	2660	33	137.81
W1506	BENT	90	2330	33	120.72
W1507	BENT	90	2360	12	44.46
W1508	BENT	90	2360	12	44.46
W1509	BENT	90	4210	178	1176.53
W1510-1	STR	-	730	2	2.29
W1510-2	STR	-	910	2	2.86
W1510-3	STR	-	1090	2	3.42
W1510-4	STR	-	1260	2	3.96
W1510-5	STR	-	1440	2	4.52
W1510-6	STR	-	1620	2	5.09
W1510-7	STR	-	1800	2	5.65
W1510-8	STR	-	1980	2	6.22
W1510-9	STR	-	2160	2	6.78
W1510-10	STR	-	2340	2	7.35
W1510-11	STR	-	2520	2	7.91
W1510-12	STR	-	2700	2	8.48
W1510-13	STR	-	2875	2	9.03
W1510-14	STR	-	3055	2	9.59
W1510-15	STR	-	3230	2	10.14
W1510-16	STR	-	3425	2	10.75
W1510-17	STR	-	3600	2	11.30
W1510-18	STR	-	4340	2	13.63
W1510-19	STR	-	4260	2	13.38
W1510-20	STR	-	3520	2	11.05
W1510-21	STR	-	3340	2	10.49
W1510-22	STR	-	3180	2	9.99
W1510-23	STR	-	3005	2	9.44
W1510-24	STR	-	2830	2	8.89
W1510-25	STR	-	2655	2	8.34
W1510-26	STR	-	2480	2	7.79
W1510-27	STR	-	2305	2	7.24
W1510-28	STR	-	2130	2	6.69
W1510-29	STR	-	1955	2	6.14
W1510-30	STR	-	1780	2	5.59
W1510-31	STR	-	1600	2	5.02
W1510-32	STR	-	1430	2	4.49
W1510-33	STR	-	1240	2	3.89
W1510-34	STR	-	1070	2	3.36
W1510-35	STR	-	900	2	2.83
W1510-36	STR	-	715	2	2.25
W1511	STR	-	12000	20	376.80
W1512	STR	-	8220	10	129.05
W1513	STR	-	11800	6	111.16
W1514	BENT	90	5730	2	17.99
W1515	BENT	90	5740	2	18.02
W1516	BENT	90	6030	2	18.93
W1517	BENT	90	5960	2	18.71
W2001	BENT	100	4810	178	2016.30
W2002-1	STR	-	7295	1	17.18
W2002-2	STR	-	7610	1	17.92
W2002-3	STR	-	8045	1	18.95
W2002-4	STR	-	8475	1	19.96
W2002-5	STR	-	8910	1	20.98
W2002-6	STR	-	9345	1	22.01
W2002-7	STR	-	9775	1	23.02
W2002-8	STR	-	10210	1	24.04
W2002-9	STR	-	10640	1	25.06
W2002-10	STR	-	11075	1	26.08
W2002-11	STR	-	11510	1	27.11
W2002-12	STR	-	11800	1	27.79
W2002-13	STR	-	11800	1	27.79
W2002-14	STR	-	11800	1	27.79
W2002-15	STR	-	11800	1	27.79
W2003-1	STR	-	7415	1	17.46
W2003-2	STR	-	7830	1	18.44
W2003-3	STR	-	8260	1	19.45
W2003-4	STR	-	8695	1	20.48
W2003-5	STR	-	9130	1	21.50
W2003-6	STR	-	9560	1	22.51
W2003-7	STR	-	9995	1	23.54
W2003-8	STR	-	10430	1	24.56
W2003-9	STR	-	10860	1	25.58
W2003-10	STR	-	11295	1	26.60
W2003-11	STR	-	11725	1	27.61
W2003-12	STR	-	11795	1	27.78
W2003-13	STR	-	11800	1	27.79
W2003-14	STR	-	11800	1	27.79
W2003-15	STR	-	5650	1	13.31
W2003-16	STR	-	6050	1	14.25
W2003-17	STR	-	6470	1	15.24
W2003-18	STR	-	6900	1	16.25
W2003-19	STR	-	7325	1	17.25
W2003-20	STR	-	7750	1	18.25
W2003-21	STR	-	8175	1	19.25
W2003-22	STR	-	8600	1	20.25
W2003-23	STR	-	9025	1	21.25
W2003-24	STR	-	9450	1	22.25
W2003-25	STR	-	9875	1	23.26
W2003-26	STR	-	10040	1	23.64
W2003-27	STR	-	10045	1	23.66
W2003-28	STR	-	10050	1	23.67
W2003-29	STR	-	6675	4	62.88
W2003-30	STR	-	6850	2	32.26
W2003-31	STR	-	7205	2	33.94
W2003-32	STR	-	7555	2	35.58
W2003-33	STR	-	7910	2	37.26
W2003-34	STR	-	8260	2	38.90
W2003-35	STR	-	8610	2	40.55
W2003-36	STR	-	8965	2	42.23
W2003-37	STR	-	9320	2	43.90
W2003-38	STR	-	9670	2	45.55
W2003-39	STR	-	10020	2	47.19
W2003-40	STR	-	10375	2	48.87
W2003-41	STR	-	10725	2	50.51
W2003-42	STR	-	11080	2	52.19
W2003-43	STR	-	11140	2	52.47
W2003-44	STR	-	11140	2	52.47
W2004-1	BENT	100	7005	2	32.99
W2004-2	BENT	100	7315	2	34.45
W2004-3	BENT	100	7740	2	36.46
W2004-4	BENT	100	8165	2	38.46
W2004-5	BENT	100	8590	2	40.46
W2004-6	BENT	100	9015	2	42.46
W2004-7	BENT	100	9445	2	44.49
W2004-8	BENT	100	9870	2	46.49
W2004-9	BENT	100	10295	2	48.49
W2004-10	BENT	100	11725	2	55.22
W2004-11	BENT	100	11150	2	52.52
W2004-12	BENT	100	8140	2	38.34
W2004-13	BENT	100	8490	2	39.99
W2004-14	BENT	100	8845	2	41.66
W2004-15	BENT	100	9195	2	43.31
W2004-16	BENT	100	9550	2	44.98
W2004-17	BENT	100	9900	2	46.63
W2004-18	BENT	100	10255	2	48.30
W2004-19	BENT	100	10605	2	49.95
W2004-20	BENT	100	10955	2	51.60
W2004-21	BENT	100	11310	2	53.27
W2004-22	BENT	100	11660	2	54.92
W2004-23	BENT	100	8140	2	38.34
W2004-24	BENT	100	8505	2	40.06
W2004-25	BENT	100	8870	2	41.78
W2004-26	BENT	100	9240	2	43.52
W2004-27	BENT	100	9605	2	45.24
W2004-28	BENT	100	9970	2	46.96
W2004-29	BENT	100	10335	2	48.68
W2004-30	BENT	100	10705	2	50.42
W2004-31	BENT	100	11070	2	52.14
W2004-32	BENT	100	11435	2	53.86
W2004-33	BENT	100	11800	2	55.58
W2005	STR	-	12000	20	565.20
W2006	STR	-	8220	10	193.58
W2007	STR	-	11800	6	166.73
W2008	STR	-	9230	10	217.37
W2009	STR	-	10030	10	236.21
W2010	BENT	100	2210	5	26.02
W2011	BENT	100	1150	5	13.54
TOTAL MASS OF REINFORCING STEEL (kg):					47566.63



TENDER No. 24-2020

ISO A1 - 594mm x 841mm

P:\2019\19038\100-Sherwin Road Reconstruction\09. CAD\07 Sheets\Structural\1903811 - Sherwin - Bill of Reinforcing.dwg Last Saved: 7/15/2020 10:08 AM by AHeppner Plotted: 7/15/2020 11:02 AM by Alex Heppner

ENGINEERS GEOSCIENTISTS MANITOBA
Certificate of Authorization
MORRISON HERSHFIELD
No. 1736

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

LOCATION APPROVED
UNDERGROUND STRUCTURES

SUPR, U/G STRUCTURES COMMITTEE — DATE

NOTE:
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

BM 23-018
ELEV 235.300 m
S.E. Cor. Notre Dame Ave. & Sherwin Rd., Tblt. in W. Conc. foundation No. 2070 Notre Dame Ave., 0.8 m S. & 0.7 m below Conc. block of N.W. Cor. of bldg.

No.	REVISIONS	YY/MM/DD	BY
D	ISSUED FOR TENDER	20/07/15	BE
C	ISSUED FOR 100% REVIEW	20/07/10	BE
B	ISSUED FOR 95% REVIEW	20/05/26	BE
A	ISSUED FOR 50% REVIEW	20/04/08	BE

MORRISON HERSHFIELD

DESIGNED BY	TN	CHECKED BY	AGG
DRAWN BY	AH	APPROVED BY	BE
HOR SCALE / VERT SCALE	AS SHOWN	RELEASED FOR CONSTRUCTION	
DATE		DATE	

PROFESSIONAL'S SEAL
PRELIMINARY DRAWING
NOT TO BE USED FOR CONSTRUCTION

CONSULTANT FILE NAME
1903811 - SHERWIN - BILL OF REINFORCING.DWG

Winnipeg
THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

RECONSTRUCTION OF SHERWIN ROAD AND REPLACEMENT OF EXISTING CULVERT AT OMAND'S CREEK

BILL OF REINFORCING

CITY DRAWING NUMBER C319-20-16
SHEET 16 OF 44
DRAWING No. 16
REV