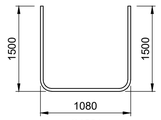
BILL OF REINFORCING STEEL

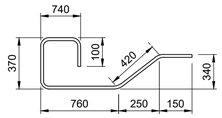
GIRDER (G)

MARK	TYPE	PIN DIAMETER	LENGTH (mm)	NO. BARS	MASS
G1001	BENT	60	4080	120	384.34
G1002	BENT	60	2540	240	478.54
G1003	BENT	60	3250	480	1224.60
G1004	STR	-	1000	120	94.20
G1501	STR	-	6300	180	1780.38
G1502	STR	-	1100	360	621.72
G1503	BENT	90	1745	780	2136.93
G1301SS	BENT	60	750	2400	1789.20
G1601SS	BENT	90	1050	60	97.78
G1602SS	BENT	90	1160	60	108.02
TOTAL REINFORCING MASS - PLAIN STEEL (kg):					6720.70
TOTAL REINFORCING MASS - STAINLESS STEEL (kg):					1995.00

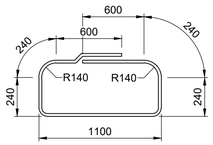
BENDING DIAGRAM



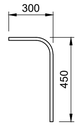
G1001



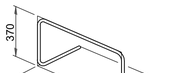
G1002



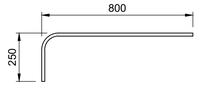
G1003



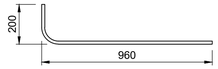
G1301SS



G1503



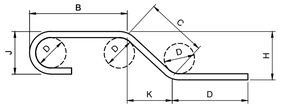
G1601SS



G1602SS

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 SHALL CONFORM TO THE LATEST EDITION OF CAN/CSA-S6 CLAUSE 8.14 "DETAILS OF REINFORCEMENT AND SPECIAL DETAILING PROVISIONS", 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 WITH SUFFIX "SS" SHALL BE STAINLESS STEEL CONFORMING TO THE REQUIREMENTS OF ASTM A955M, 300 SERIES, MINIMUM GRADE 420, OF ONE OF THE FOLLOWING UNS DESIGNATIONS: S31653, S31803, OR S32304.
4. ALL REINFORCING STEEL SHALL CONFORM TO THE LATEST EDITION OF CAN/CSA G30.18 "CARBON STEEL BARS FOR CONCRETE REINFORCEMENT" GRADE 400W, UNLESS NOTED OTHERWISE.
5. 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.
6. UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME ALL HOOKS AND BENDS ON A BAR. WHERE SLOPE DIFFERS FROM 45° DIMENSIONS "H" AND "K" MUST BE SHOWN.
7. BILL OF REINFORCING AND BENDING DIAGRAMS DO NOT INCLUDE CHANGES MADE DURING CONSTRUCTION. RECORD DRAWING REINFORCEMENT CHANGES ARE INCLUDED IN THE RESPECTIVE REINFORCING DETAILS.



ENLARGED VIEW BAR BENDING DETAILS

ENGINEERS GEOSCIENTISTS MANITOBA
Certificate of Authorization
MORRISON HERSHFIELD
No. 1736

TENDER No. 335-2023

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 78-009
ELEV 232.749 m
N.W. Cor. Paddington Rd. & Dakota St., 19 mm dia. x 6.1 m I.B. in Valve Box, 5.5 m S. of N.L. Paddington Rd. & on W.L. of Dakota St., in traffic island.

No.	REVISIONS	YY/MM/DD	BY
C	ISSUED FOR TENDER	23/08/02	BAP
B	ISSUED FOR 95% REVIEW	23/06/27	BAP
A	ISSUED FOR 50% REVIEW	23/04/14	BAP

MORRISON HERSHFIELD

DESIGNED BY	AGG	CHECKED BY	SAL
DRAWN BY	AS	APPROVED BY	BAP
HOR SCALE	AS SHOWN	RELEASED FOR CONSTRUCTION	
VERT SCALE	AS SHOWN		
DATE	JUNE 27, 2023	DATE	

PROFESSIONAL'S SEAL
PROVINCE OF MANITOBA
A.D.G. GILARSKI
Member
32144
2023-06-02
REGISTERED PROFESSIONAL ENGINEER

CONSULTANT FILE NAME
2203665-CBR DD-GIRDER05.dwg

Winnipeg

THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

CREEK BEND ROAD BRIDGE REPLACEMENT AND RELATED WORKS

GIRDER BILL OF REINFORCING

CITY DRAWING NUMBER: B149-23-21
SHEET 21 OF 52
DRAWING NUMBER: 21

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

ISO A1 - 594mm x 841mm

X:\Proj\2022\2203665\0-CdW 293-2022 Creek Bend Road Bridge\09. CAD\07 Sheets\Structural\Detailed Design\2203665-CBR DD-GIRDER05.dwg Last Saved: 8/1/2023 2:05 PM by AHeppner Plotted: 8/2/2023 3:18 PM by Alex Heppner PM