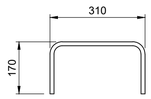
BILL OF REINFORCING STEEL

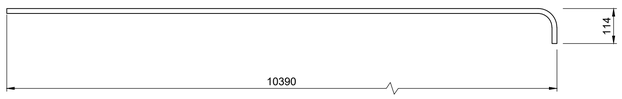
APPROACH (A)

MARK	TYPE	PIN DIAMETER	LENGTH (mm)	NO. BARS	MASS
A1301SS	BENT	60	650	31	20.03
A1302SS	STR	-	9100	2	18.09
A1601SS	STR	-	5880	84	766.56
A1602SS	STR	-	10505	40	652.15
A1603SS	BENT	90	3180	40	197.41
A1604SS	STR	-	2740	40	170.10
A1605SS	BENT	90	2430	80	301.71
A1901SS	BENT	100	6280	166	2329.94
A1902SS	STR	-	10390	40	928.87
TOTAL REINFORCING STEEL MASS (kg):					5384.87

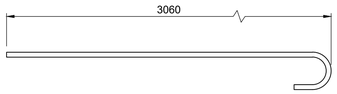
BENDING DIAGRAM



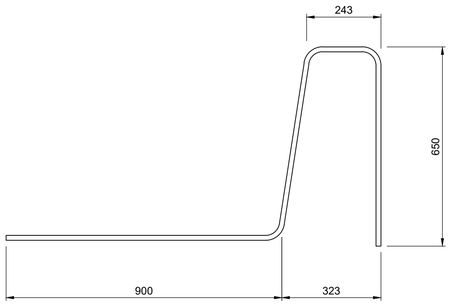
A1301SS



A1602SS



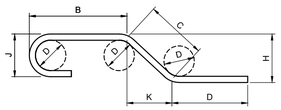
A1603SS



A1605SS

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	ALP	CHECKED BY	AGG
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
2023-08-02
REGISTERED PROFESSIONAL ENGINEER

CONSULTANT FILE NAME
2203665-CBR DD-APPROACH03.dwg

Winnipeg

THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

CREEK BEND ROAD BRIDGE REPLACEMENT AND RELATED WORKS

APPROACH BILL OF REINFORCING

CITY DRAWING NUMBER: B149-23-37
SHEET 37 OF 52
DRAWING NUMBER: 37

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

ISO A1 - 594mm x 841mm
Plotted: 8/2/2023 3:33 PM by Alex Heppner
Last Saved: 7/31/2023 3:31 PM by AHeppner
X:\Proj\2022\2203665\00\W 293-2022 Creek Bend Road Bridge, CAD\07 Sheets\Structural\Detailed Design\2203665-CBR DD-APPROACH03.dwg