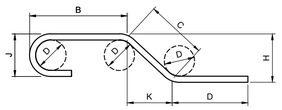
BILL OF REINFORCING STEEL
PRE-CAST PANELS (P)

MARK	TYPE	PIN DIAMETER	LENGTH (mm)	NO. BARS	MASS
P1501	STR	-	6300	40	395.64
P1502	STR	-	1200	88	165.79
P1503	STR	-	4900	72	553.90
P1504	STR	-	1900	68	202.84
TOTAL REINFORCING MASS - PLAIN STEEL (kg):					1318.17

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.

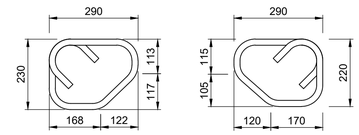


ENLARGED VIEW BAR BENDING DETAILS

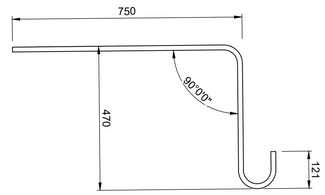
BILL OF REINFORCING STEEL
ABUTMENT END BLOCK CORBEL (E)

MARK	TYPE	PIN DIAMETER	LENGTH (mm)	NO. BARS	MASS
E1501	STR	-	12680	12	238.89
E2001	BENT	100	1290	62	188.35
E2002	BENT	100	1275	62	186.16
E1601SS	STR	-	12680	4	78.72
E1602SS	STR	-	500	8	6.21
E1603SS	BENT	90	1340	84	174.69
TOTAL REINFORCING MASS - PLAIN STEEL (kg):					613.41
TOTAL REINFORCING MASS - STAINLESS STEEL (kg):					259.62

BENDING DIAGRAM



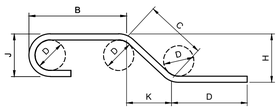
E2001 E2002



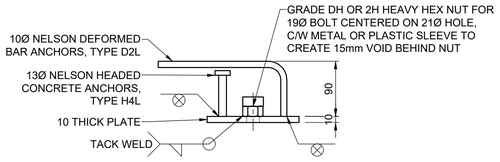
E1603SS

NOTES:

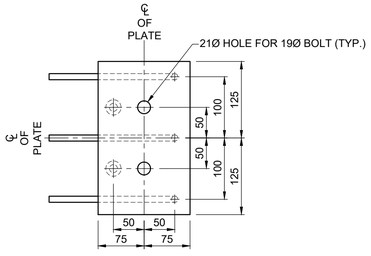
1. ALL DIMENSIONS GIVEN IN BENDING DIAGRAM ARE OUT-TO-OUT, EXCEPT RADII AND EXTENSIONS ON 90°, 135° & 180° HOOKS. EXTENSIONS ON 90°, 135° & 180° HOOKS ARE THE "A" OR "G" DIMENSIONS FOR THE STANDARD 90°, 135° & 180° HOOKS REFERENCED FROM THE RSIC "MANUAL OF STANDARD PRACTICE". RADII ARE INSIDE DIMENSIONS. 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



TOP VIEW



FRONT VIEW

PANEL INSERT MK "Q5"

SCALE: 1:5

ISO A1 - 594mm x 841mm

Plotted: 8/2/2023 3:14 PM by Alex Heppner

Last Saved: 8/2/2023 12:21 PM by AScott

X:\Proj\2022\2203665\0-CdW 293-2022 Creek Bend Road Brit09, CAD\07 Sheets\Structural\Detailed Design\2203665-CBR DD-ABUT04.dwg

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-ABUT04.dwg

Winnipeg

THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

CREEK BEND ROAD BRIDGE REPLACEMENT AND RELATED WORKS

ABUTMENT DETAILS AND BILL OF REINFORCING

CITY DRAWING NUMBER: B149-23-12
SHEET 12 OF 52
DRAWING NUMBER: 12

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES