



CITY OF MORDEN
195 STEPHEN STREET
MORDEN, MB R6M 1V3
T (204) 822-4434

ALVEY STREET BRIDGE REPLACEMENT OVER DEADHORSE CREEK (SITE 1)

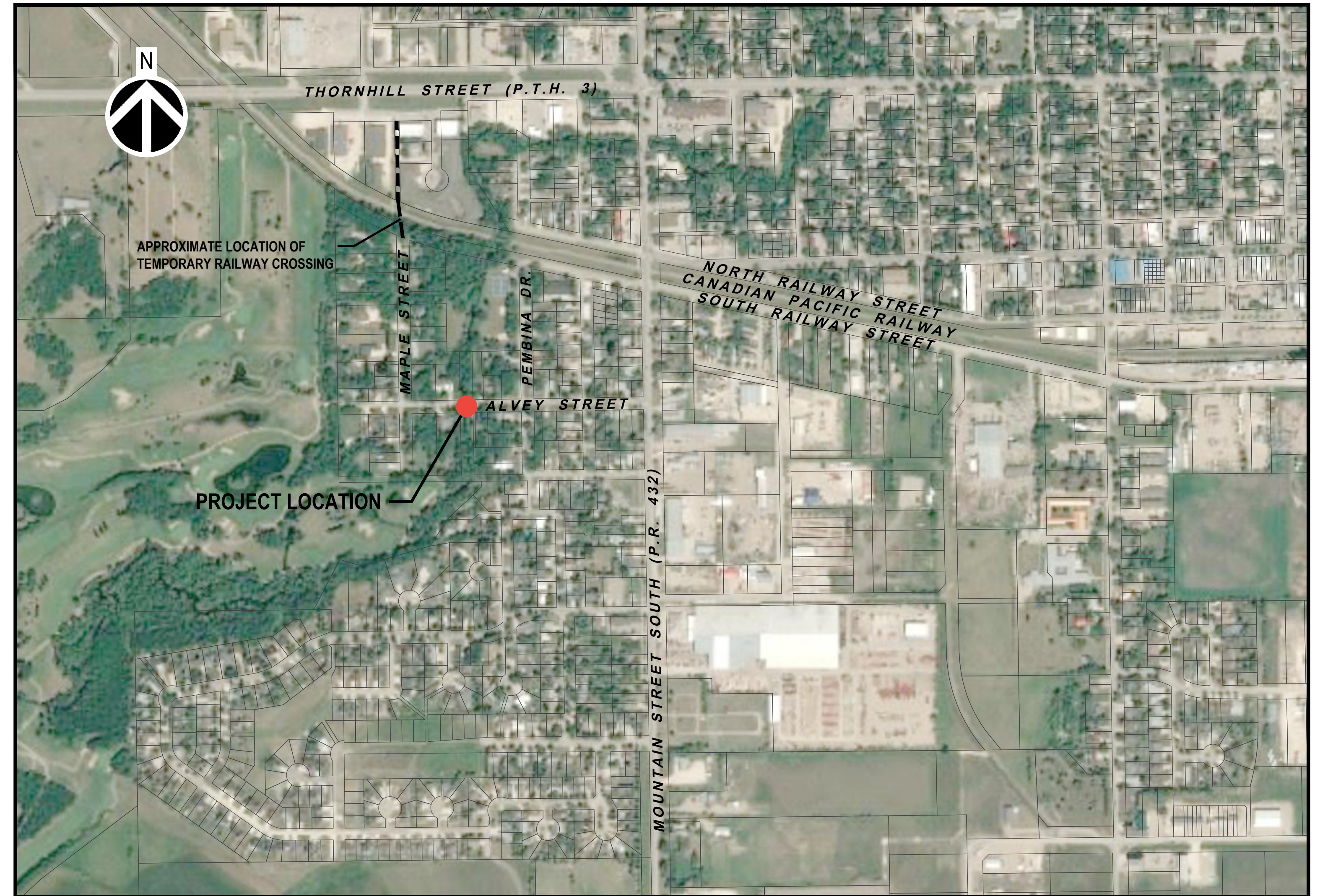
DETAILED DESIGN

Morden, Manitoba

TENDER SET (NOT FOR CONSTRUCTION)

WSP Project No: 221-07930-00

Date: January 30, 2023



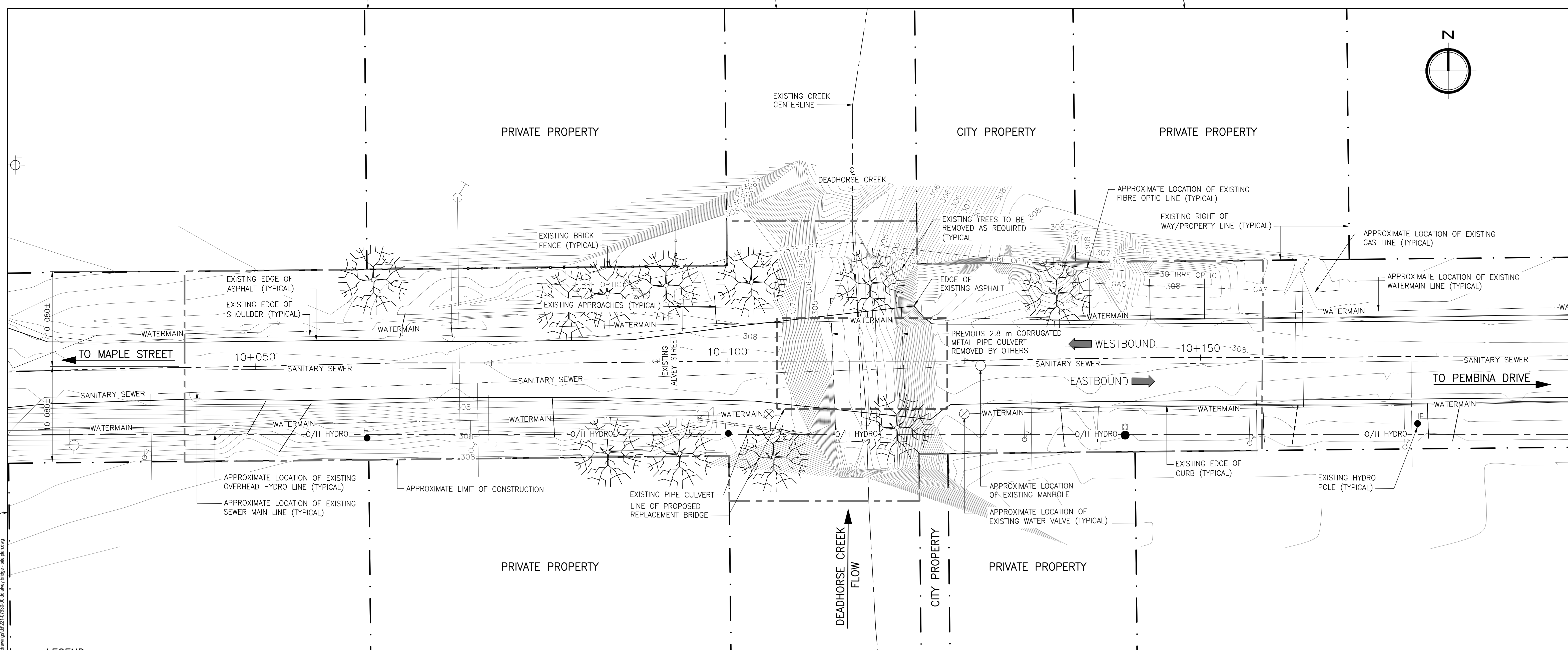
DRAWING LIST

- | | | | |
|----|---|----|---|
| 1 | COVER SHEET | 11 | PRECAST PRESTRESSED CHANNEL GIRDERS - CONCRETE DETAILS (SHEET 2 OF 2) |
| 2 | EXISTING SITE PLAN | 12 | PRECAST PRESTRESSED CHANNEL GIRDERS - PRESTRESSING DETAILS |
| 3 | GENERAL ARRANGEMENT PLAN | 13 | PRECAST PRESTRESSED CHANNEL GIRDERS - REINFORCING DETAILS |
| 4 | GENERAL ARRANGEMENT ELEVATION, TYPICAL SECTION, AND PILE DETAILS | 14 | PRECAST PRESTRESSED CHANNEL GIRDERS - MISCELLANEOUS METAL DETAILS |
| 5 | ABUTMENT ELEVATION AND DETAILS | 15 | BRIDGE RAILING LAYOUT AND ASSEMBLY DETAILS |
| 6 | PILE BENT ASSEMBLY DETAILS AND BEARING LAYOUT | 16 | BRIDGE POST DETAILS |
| 7 | PILE BENT CAP AND BEARING DETAILS | 18 | APPROACH GUARDRAIL LAYOUT |
| 8 | PRECAST PANEL DETAILS (SHEET 1 OF 2) | 19 | APPROACH GUARDRAIL DETAILS |
| 9 | PRECAST PANEL DETAILS (SHEET 2 OF 2) | 20 | ROADWAY PLAN AND PROFILE |
| 10 | PRECAST PRESTRESSED CHANNEL GIRDERS - CONCRETE DETAILS (SHEET 1 OF 2) | 21 | ROADWAY CROSS SECTIONS AND DETAILS |



**NOT FOR
CONSTRUCTION**





SITE PLAN
SCALE 1:200

- LEGEND:**
- EXISTING RIGHT OF WAY/PROPERTY LINE
 - - - O/H HYDRO - - - EXISTING OVERHEAD MANITOBA HYDRO LINE
 - WATERMAIN --- EXISTING WATERMAIN LINE
 - - - SANITARY SEWER - - - EXISTING SEWER MAIN LINE
 - FIBRE OPTIC --- EXISTING FIBRE OPTIC LINE
 - - - GAS - - - EXISTING GAS LINE
 - HP EXISTING MANITOBA HYDRO POLE

UTILITY DISCLAIMER:
LOCATIONS OF UTILITIES AS SHOWN ARE BASED ON READILY AVAILABLE INFORMATION. NO GUARANTEE IS GIVEN THAT ALL UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONTRACTOR SHALL CONFIRM THE EXISTENCE AND LOCATION OF UTILITIES BY OBTAINING FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

NOT FOR CONSTRUCTION

- NOTES:**
- ALL DIMENSIONS TO EXISTING ELEMENTS ARE APPROXIMATE.
 - CONTRACTOR SHALL FIELD VERIFY ALL CONTROLLING DIMENSIONS PRIOR TO CONSTRUCTION.
 - ALL UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL EXPOSE AND IDENTIFY EXACT LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION OR DEMOLITION.
 - TOPOGRAPHIC INFORMATION PER AUGUST 28, 2022 SURVEY BY KGS AND PER OCTOBER 24, 2022 AND DECEMBER 30, 2022 SURVEY WSP CANADA INC.
 - FOR WORKING POINT LOCATIONS, SEE SHEET 3.

REVISION:	REVISION:
0	2023-01-30
ISSUED FOR TENDER	MB
DATE	DESCRIPTION
BY	DATE
DESCRIPTION	BY

SEAL:

**ENGINEERS
GEOSCIENTISTS
MANITOBA**
Certificate of Authorization
WSP Canada Inc.
No. 5750

DISCLAIMER: THIS DRAWING AND DESIGN IS COPYRIGHT PROTECTED WHICH SHALL NOT BE USED, REPRODUCED OR REVISED WITHOUT WRITTEN PERMISSION BY WSP. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND UTILITY LOCATIONS AND REPORT ALL ERRORS AND OMISSIONS PRIOR TO COMMENCING WORK.

COPYRIGHT: WSP CANADA INC. 2023

DATE: 2023-01-30

ORIGINAL SCALE: AS NOTED

APPROVED BY: MB

CHECKED BY: EH

DRAWN BY (OPTIONAL): FD

DISCIPLINE: BRIDGE

IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.

25mm

wsp

WSP Canada Inc.
1600 Buffalo Place, Winnipeg, Manitoba R3T 6B8
T 204-477-6650 | www.wsp.com

PROJECT NUMBER: 221-07930-00

CLIENT:

The City of Morden

City of Morden
195 Stephen Street, Morden, Manitoba R6M 1V3
T 204-822-4434 | www.mymorden.ca

CLIENT REF. #: --

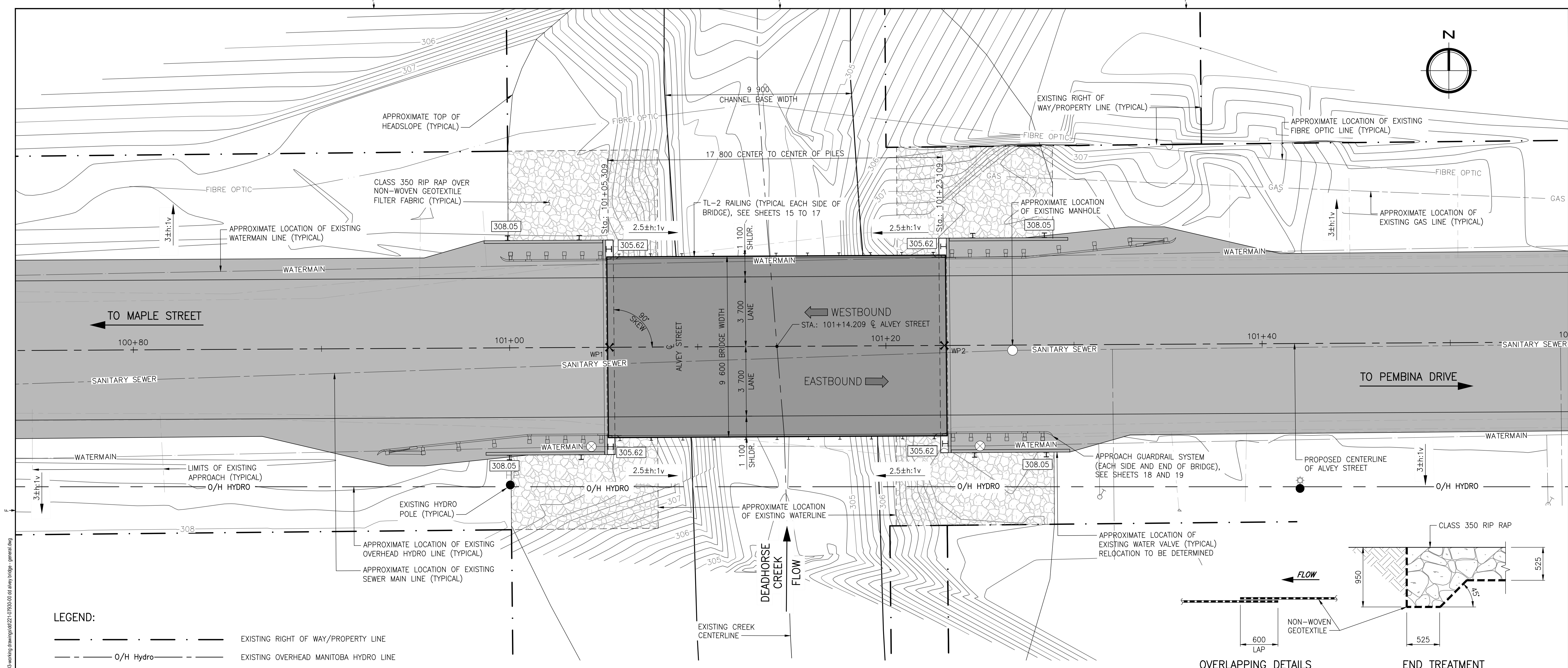
TITLE: EXISTING SITE PLAN

PROJECT: ALVEY STREET BRIDGE REPLACEMENT OVER DEADHORSE CREEK

DRAWING NUMBER: 2

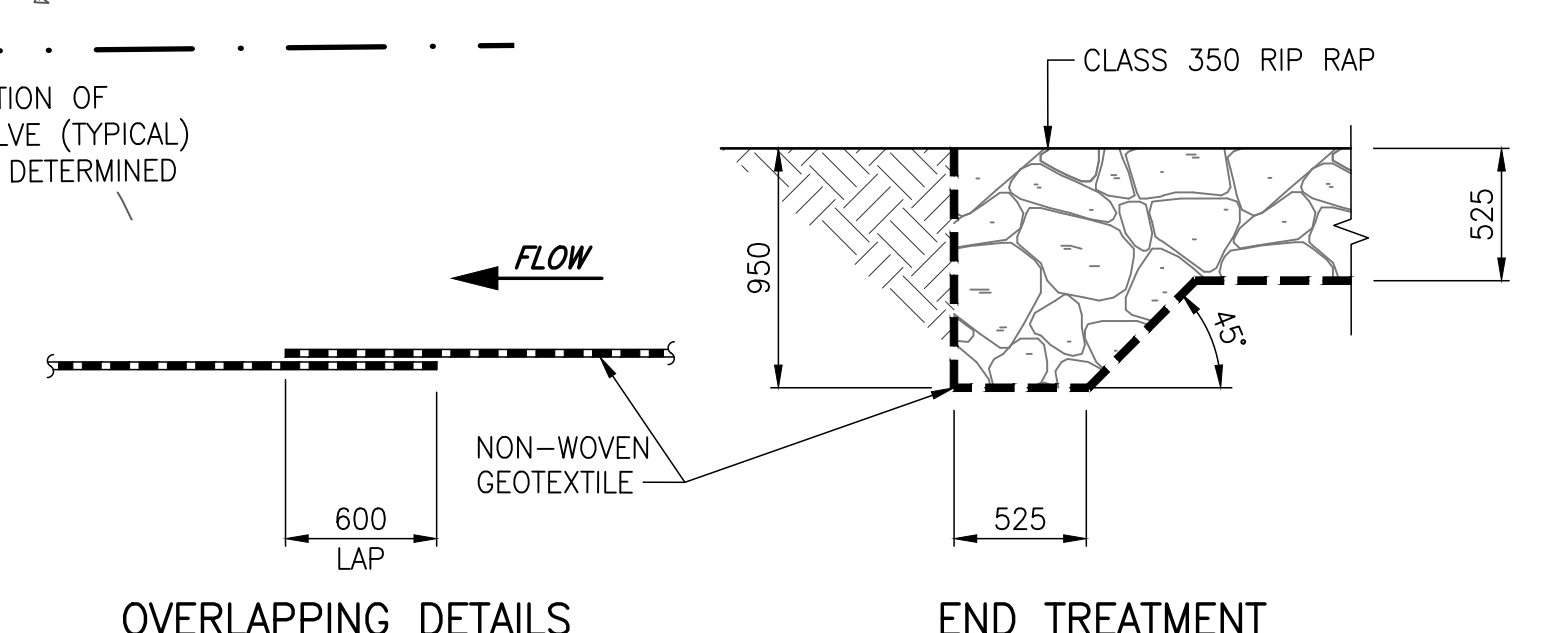
REV: 0

C:\B:\wsp\winipeg\transportation\standard\plans\full_size.ctb
 FILE C:\Users\mordent\OneDrive\Documents\wsp\projects\221-07930-00 - alvey bridge replacement - c22\project files\01 bridge\03 working drawings\221-07930-00 - alvey bridge - site plan.dwg
 2023-01-30 10:51:11 AM



GENERAL ARRANGEMENT PLAN

SCALE 1:100



RIP RAP AND GEOTEXTILE DETAILS

SCALE 1:30

LEGEND:

	EXISTING RIGHT OF WAY/PROPERTY LINE
	EXISTING OVERHEAD MANITOBA HYDRO LINE
	EXISTING WATERMAIN LINE
	EXISTING SEWER MAIN LINE
	EXISTING FIBRE OPTIC LINE
	EXISTING GAS LINE
	EXISTING MANITOBA HYDRO POLE
	PROPOSED ELEVATION (METRES)

UTILITY DISCLAIMER:
 LOCATIONS OF UTILITIES AS SHOWN ARE BASED ON READILY AVAILABLE INFORMATION. NO GUARANTEE IS GIVEN THAT ALL UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONTRACTOR SHALL CONFIRM THE EXISTENCE AND LOCATION OF UTILITIES BY OBTAINING FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

WORKING POINTS

No.	STATION	NORTHING	EASTING	ELEVATION	LOCATION
WP1	101+05.309	5448706.830	564246.493	308.171	TOP OF PROPOSED ROADWAY AT CL OF SU.1 PILES
WP2	101+23.109	5447838.842	564486.090	308.066	TOP OF PROPOSED ROADWAY AT CL OF SU.2 PILES

ALL POINTS UTM ZONE 14 NORTH, HORIZONTAL DATUM: NAD83CRS, VERTICAL DATUM: CGVD28, ELLIPSOID: GRS 1980, GEOD (HT.0): -, CORRECTION SCALE FACTOR = 0.999600000

- NOTES:**
- CONTRACTOR SHALL FIELD VERIFY ALL CONTROLLING DIMENSIONS AND ELEVATIONS, AND EXISTING UTILITIES PRIOR TO CONSTRUCTION.
 - FOR SOUTH ELEVATION AND TYPICAL CROSS SECTION, SEE SHEET 4.
 - FOR APPROXIMATE LIMITS OF WORK, SEE SHEET 2.
 - GEOTEXTILE TO BE PLACED UNDERNEATH ALL RIP RAP TO LIMITS AS SHOWN ON AND IN ACCORDANCE WITH "RIP RAP AND GEOTEXTILE DETAILS" ON THIS SHEET.
 - GEOTEXTILE TO BE NON-WOVEN HEAVY DUTY GEOTEXTILE.
 - FOR PROPOSED ROADWAY ALIGNMENT, PROFILE AND SECTIONS, SEE SHEETS 20 TO 21.

NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	REV	DATE	DESCRIPTION	BY
0	2023-01-30	ISSUED FOR TENDER	MB				

SEAL:

ENGINEERS GEOSCIENTISTS MANITOBA
 Certificate of Authorization
WSP Canada Inc.
 No. 5750

DISCLAIMER: THIS DRAWING AND DESIGN IS COPYRIGHT PROTECTED WHICH SHALL NOT BE USED, REPRODUCED OR REVISED WITHOUT WRITTEN PERMISSION BY WSP. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND UTILITY LOCATIONS AND REPORT ALL ERRORS AND OMISSIONS PRIOR TO COMMENCING WORK.

COPYRIGHT: WSP Canada Inc. 2023-01-30

DATE: 2023-01-30

APPROVED BY: MB

CHECKED BY: EH

DRAWN BY (OPTIONAL): FD

DISCIPLINE: BRIDGE

IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.

25mm

wsp

WSP Canada Inc.
 1600 Buffalo Place, Winnipeg, Manitoba R3T 6B8
 T 204-477-6650 | www.wsp.com

PROJECT NUMBER: 221-07930-00

CLIENT:

The City of Morden

City of Morden
 195 Stephen Street, Morden, Manitoba R6M 1V3
 T 204-822-4434 | www.mymorden.ca

CLIENT REF. #: --

TITLE:

GENERAL ARRANGEMENT PLAN

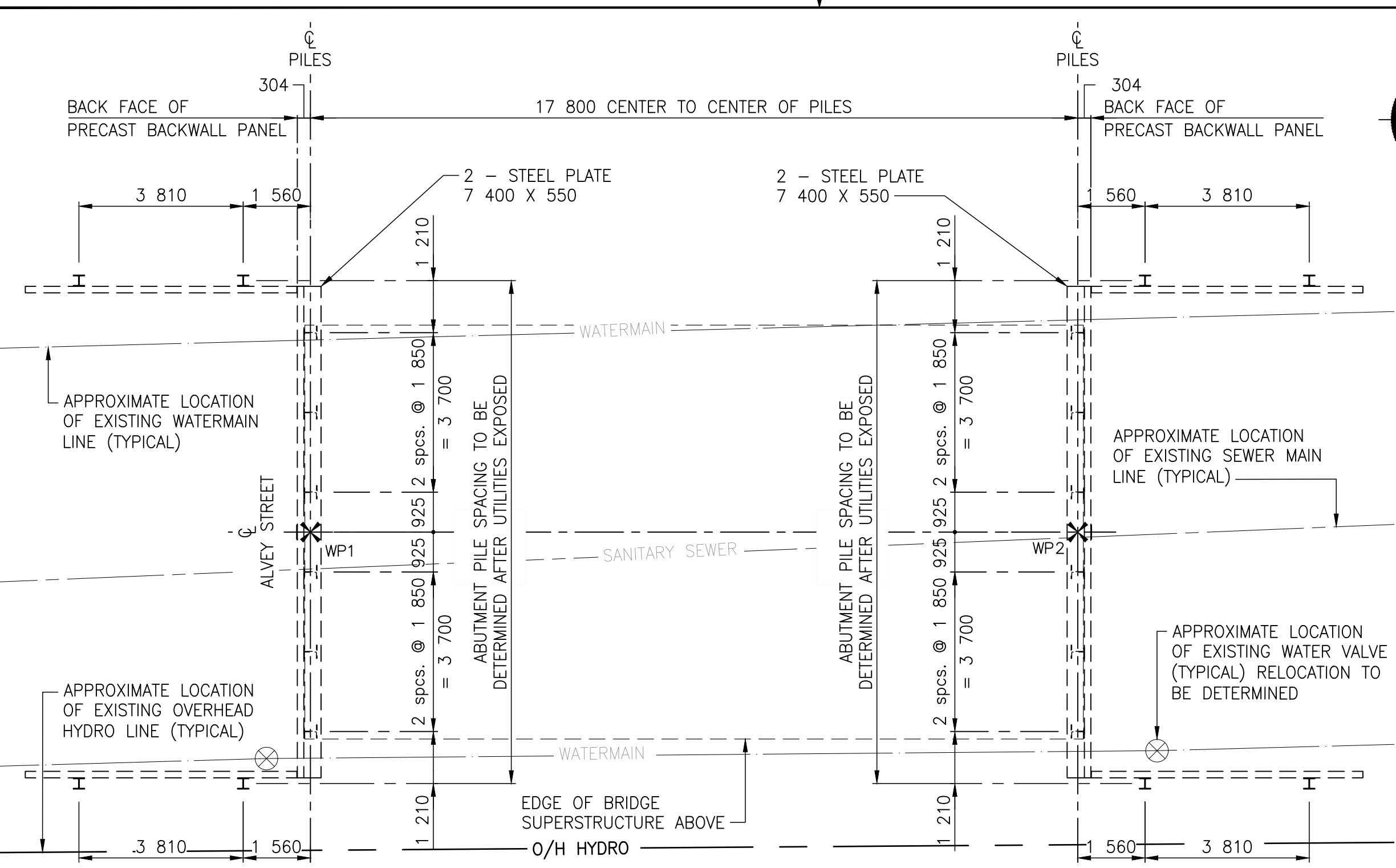
PROJECT:

ALVEY STREET
 BRIDGE REPLACEMENT
 OVER DEADHORSE CREEK

DRAWING NUMBER: 3

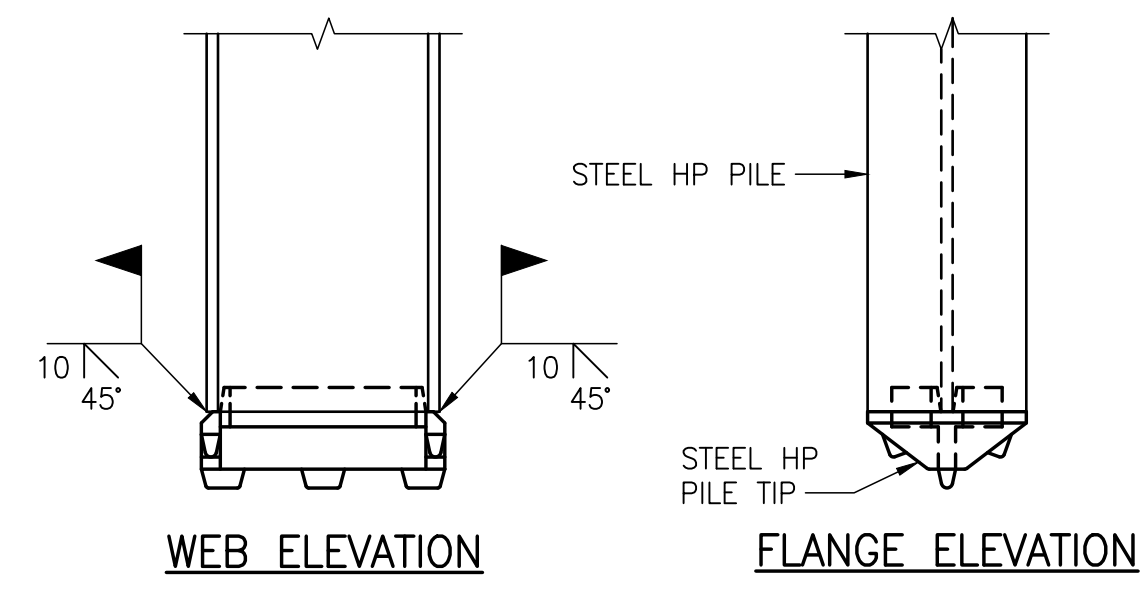
REV: 0

C:\Users\morden\OneDrive\Desktop\221-07930-00 - Alvey bridge replacement - 221-07930-00 - Alvey bridge replacement - 221-07930-00 - Alvey bridge - general.dwg
 2023-01-30 10:58 AM
 C:\Users\morden\OneDrive\Desktop\221-07930-00 - Alvey bridge replacement - 221-07930-00 - Alvey bridge replacement - 221-07930-00 - Alvey bridge - general.dwg



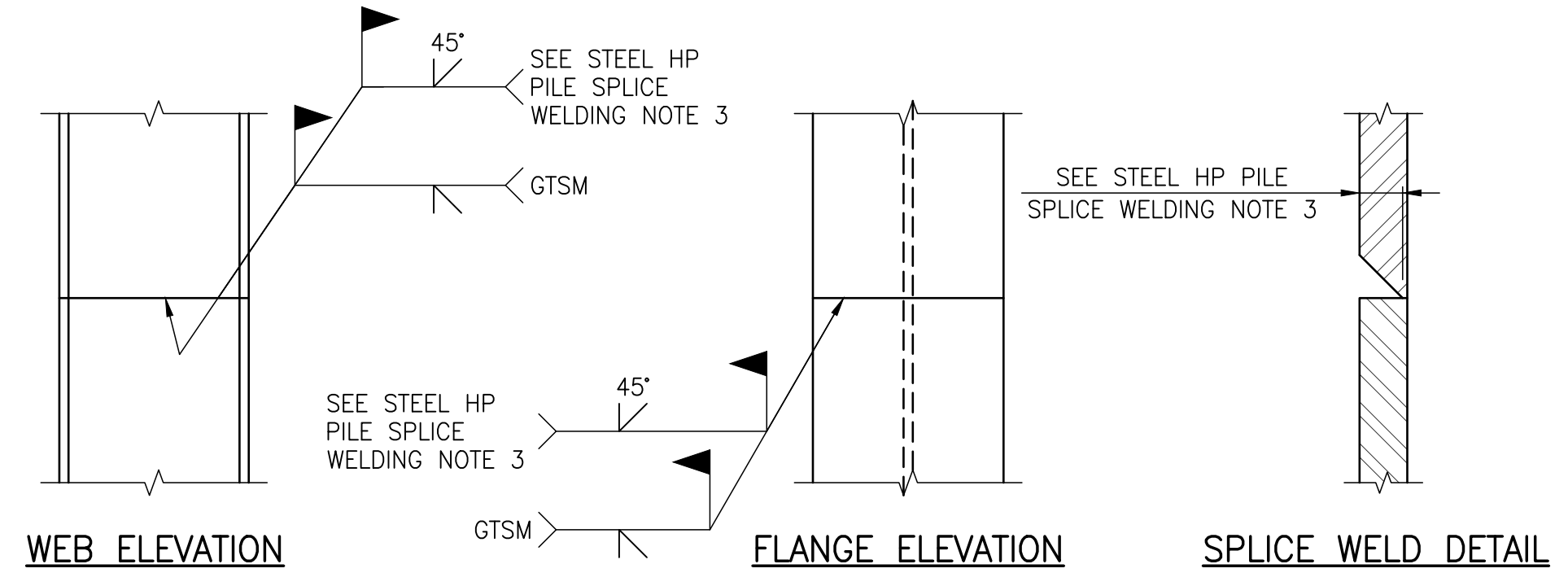
PILE LAYOUT

SCALE 1:100



DETAIL OF STEEL HP PILE TIP

SCALE 1:110



DETAIL OF STEEL HP PILE SPLICE

SCALE 1:110

BILL OF STEEL PILES FOR ABUTMENTS

LOCATION	DESCRIPTION	No. OF PILES	ESTIMATED LENGTH (m)	TOTAL ESTIMATED LENGTH (m)
SU.1	Steel piles - HP 310 x 110	6	15.0	90.00
	Steel piles - HP 250 x 85	4	12.0	48.00
SU.2	Steel piles - HP 310 x 110	6	15.0	90.00
	Steel piles - HP 250 x 85	4	12.0	48.00
SU.1 & SU.2	Hard-Bite Point Model HP-77750-B for HP 310 x 110 piles	12	-	-

NOTES:

STEEL HP PILE SPLICE WELDING

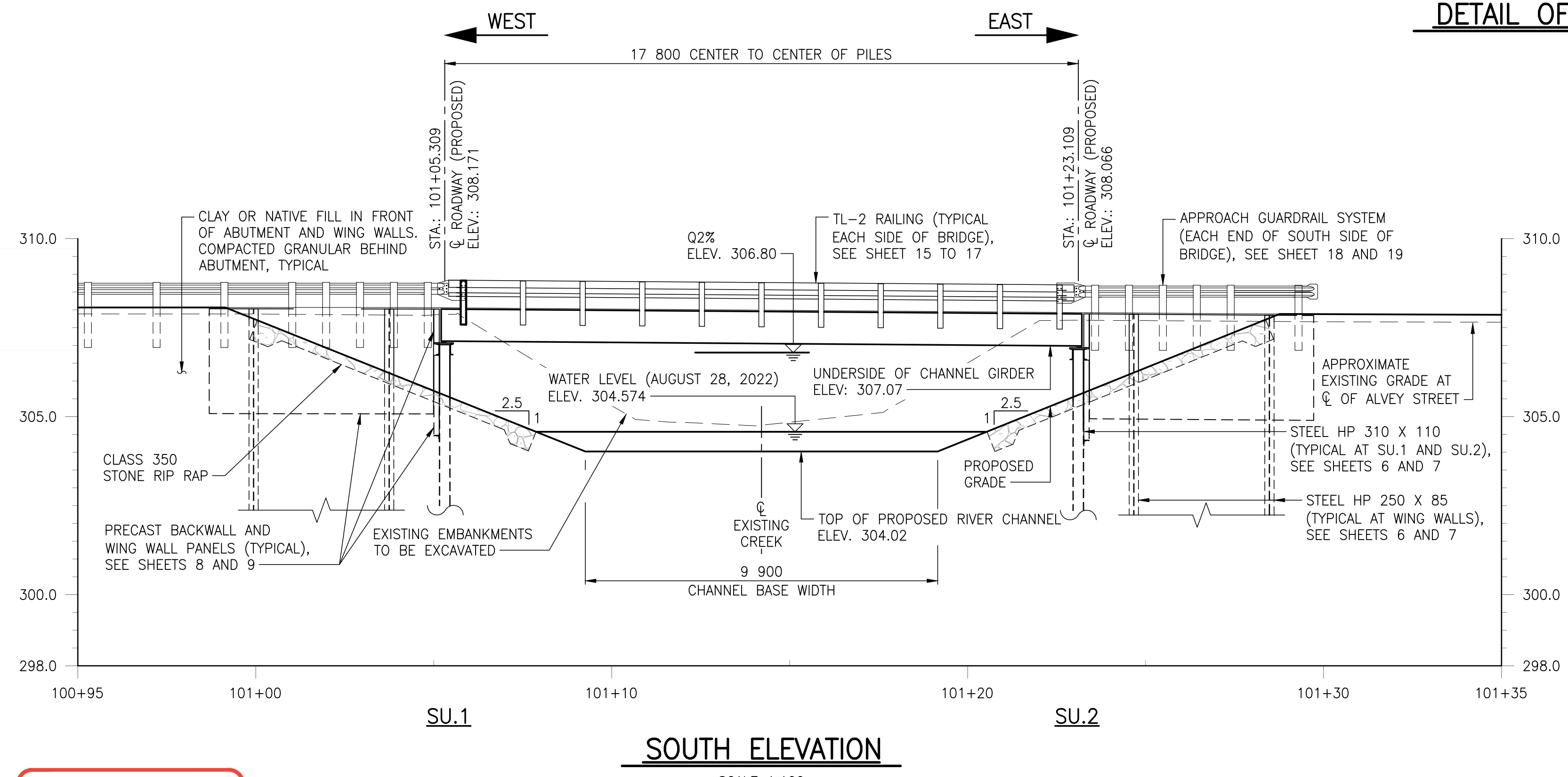
1. LOW HYDROGEN *E70 SERIES ELECTRODES SHALL BE USED.
2. THE MINIMUM ROOT PASS SHALL BE 6 mm.
3. PREPARATION FOR WELDING REQUIRES 14 mm BEVEL FOR HP 310 PILES AND 13 mm BEVEL FOR HP 250 PILES.
4. WELD BOTH FLANGES AND WEB AS SHOWN. THE INSIDE BEVELING AND WELDS TO BE COMPLETED FIRST.

* E49 EQUIVALENT METRIC ELECTRODE

STEEL PILE TIP WELDING

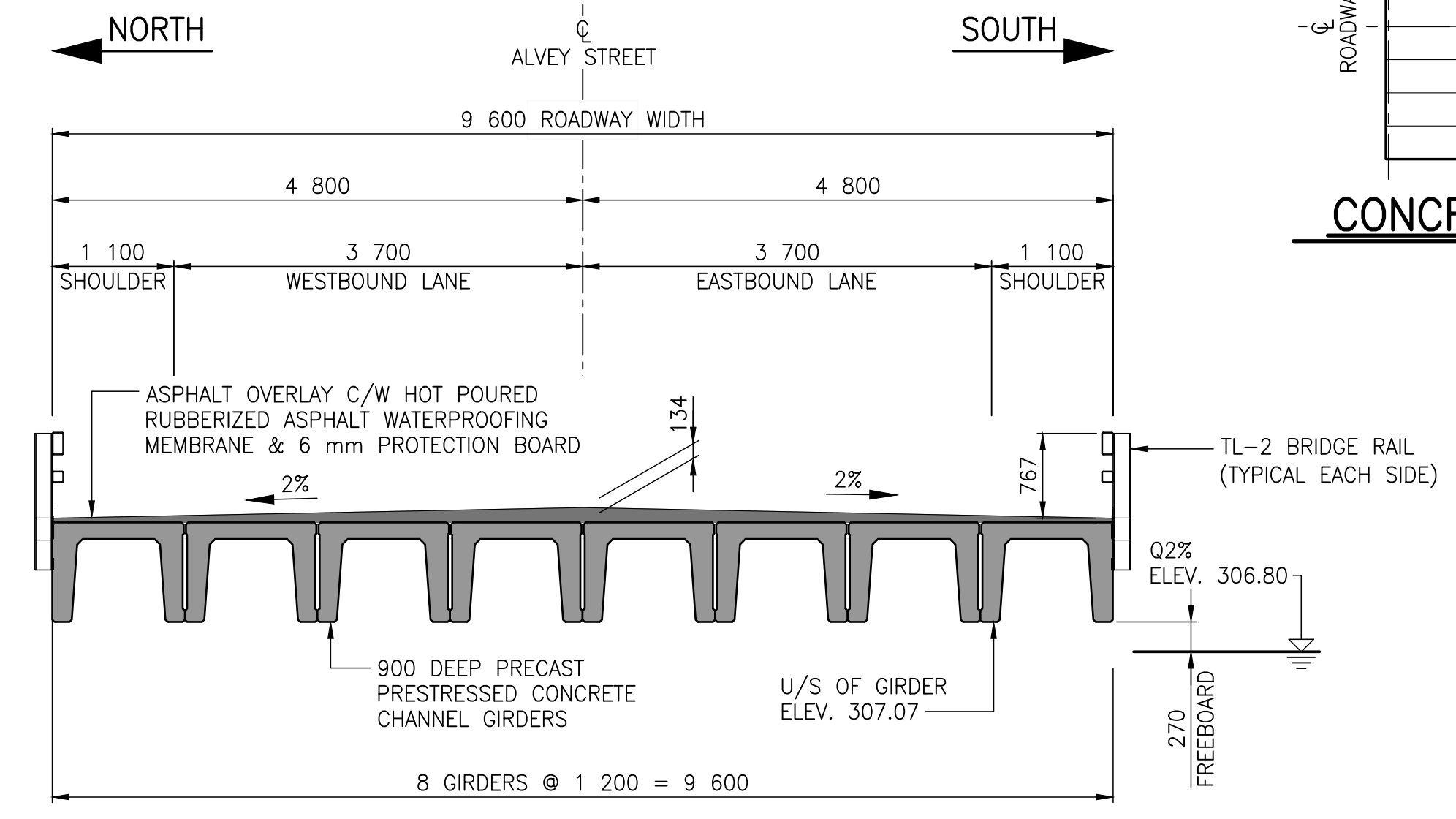
1. EDGES OF HARD-BITE POINT PILE TIP TO BE GROUND ON 45° BEVEL FOR 10 mm.
2. LOW HYDROGEN *E70 SERIES ELECTRODES SHALL BE USED.
3. THE MINIMUM ROOT PASS SHALL BE 6 mm.

* E49 EQUIVALENT METRIC ELECTRODE



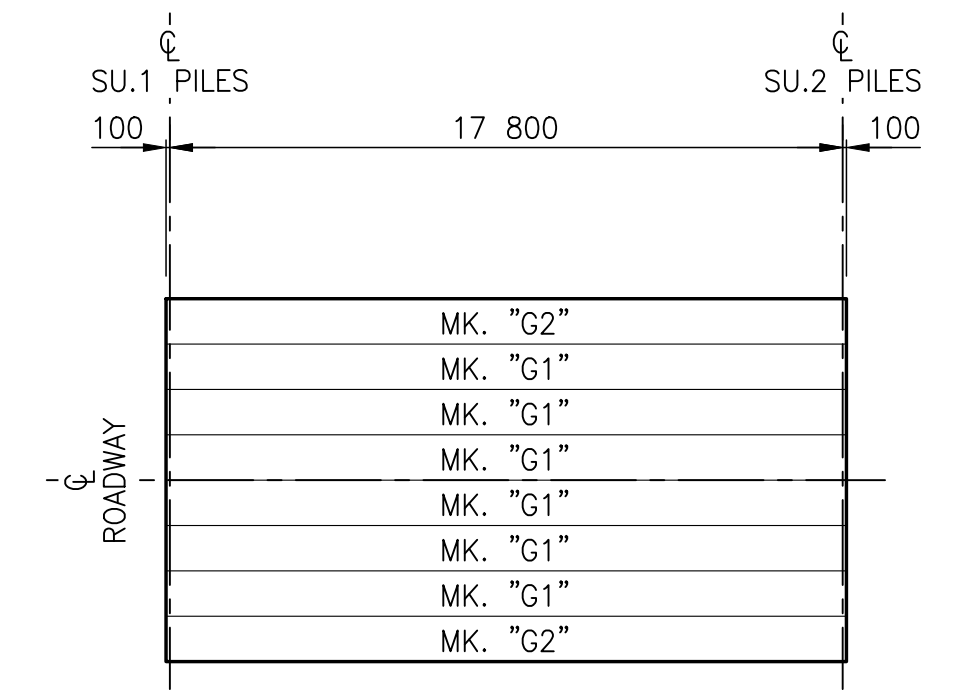
SOUTH ELEVATION

SCALE 1:100



TYPICAL CROSS SECTION

SCALE 1:100



CONCRETE GIRDER KEY PLAN

SCALE 1:200

NOT FOR CONSTRUCTION

REVISION:	REVISION:
0	2023-01-30
ISSUED FOR TENDER	MB

SEAL:

ORIGINAL SCALE: AS NOTED
 APPROVED BY: MB
 CHECKED BY: EH
 DATE: 2023-01-30
 IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.
 DISCIPLINE: BRIDGE

WSP Canada Inc.
 1600 Buffalo Place, Winnipeg, Manitoba R3T 6B8
 T 204-477-6650 | www.wsp.com

CLIENT: *The City of Morden*

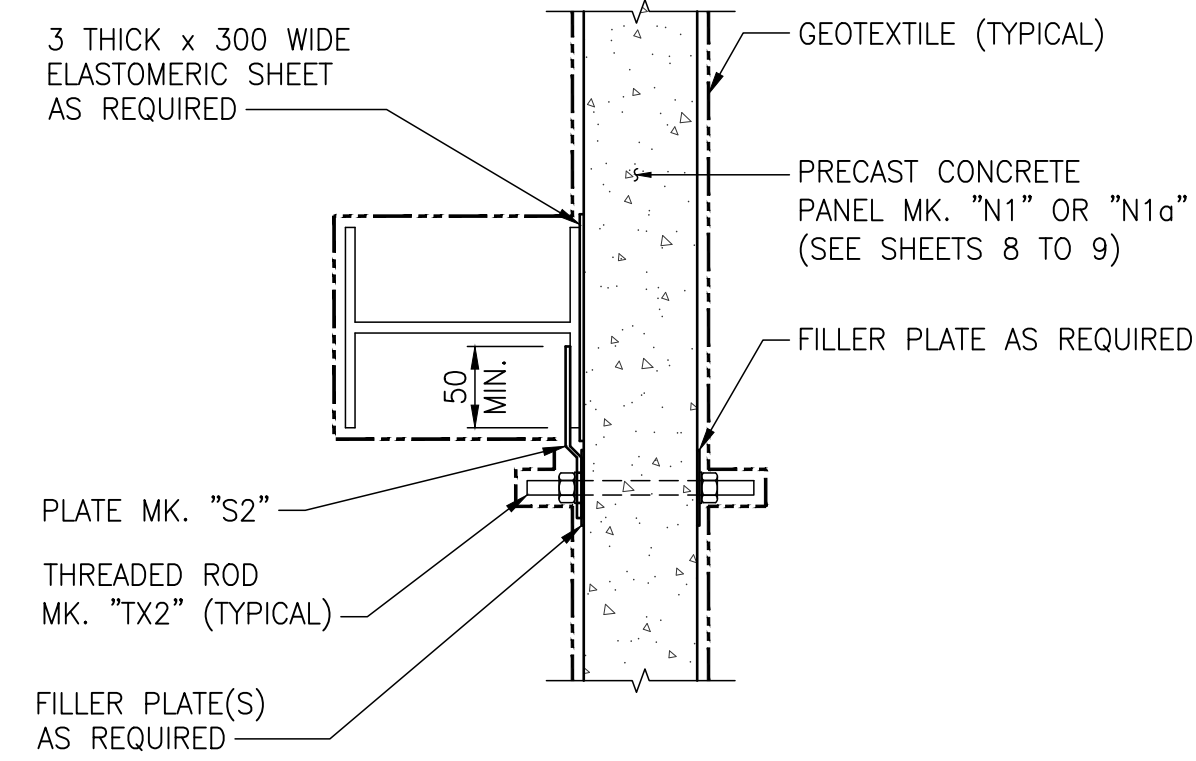
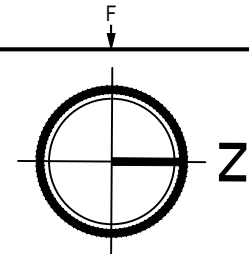
City of Morden
 195 Stephen Street, Morden, Manitoba R6M 1V3
 T 204-822-4434 | www.mymorden.ca

TITLE: GENERAL ARRANGEMENT ELEVATION, TYPICAL SECTION, AND PILE DETAILS

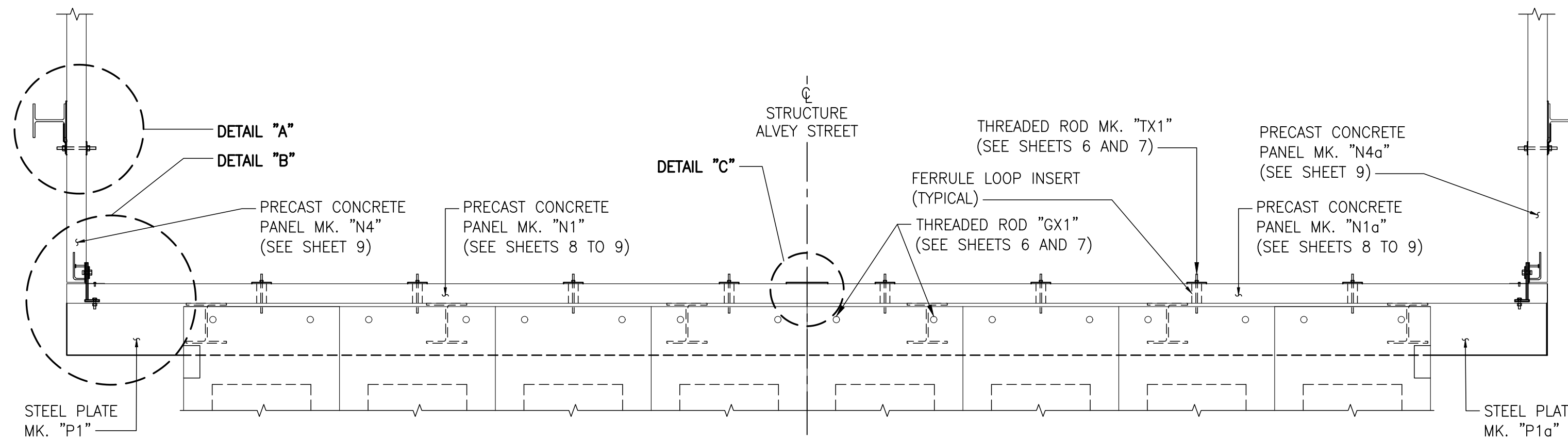
PROJECT: ALVEY STREET BRIDGE REPLACEMENT OVER DEADHORSE CREEK

DRAWING NUMBER: 4
 REV: 0

C:\Users\morden\OneDrive\Desktop\221-07930-00 - Alvey bridge replacement - 221-07930-00.dwg
 2023-01-30 10:10:10 AM
 FILE: C:\Users\morden\OneDrive\Desktop\221-07930-00 - Alvey bridge replacement - 221-07930-00.dwg
 2023-01-30 10:10:10 AM
 C:\Users\morden\OneDrive\Desktop\221-07930-00 - Alvey bridge replacement - 221-07930-00.dwg
 2023-01-30 10:10:10 AM



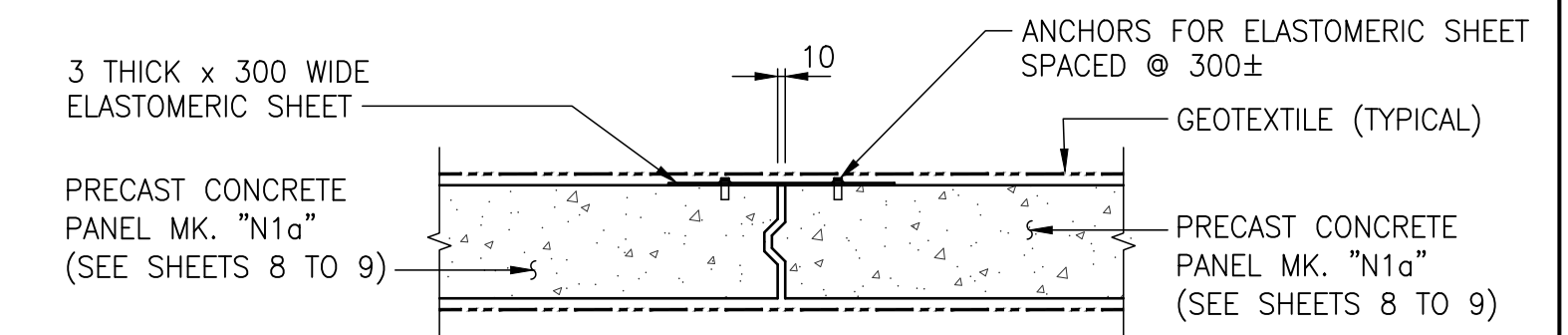
DETAIL "A"
SCALE 1:10



PLAN
SHOWING ABUTMENT SU.1, SU.2 SIMILAR
ASPHALT AND BRIDGE RAILING NOT SHOWN FOR CLARITY
SCALE 1:30

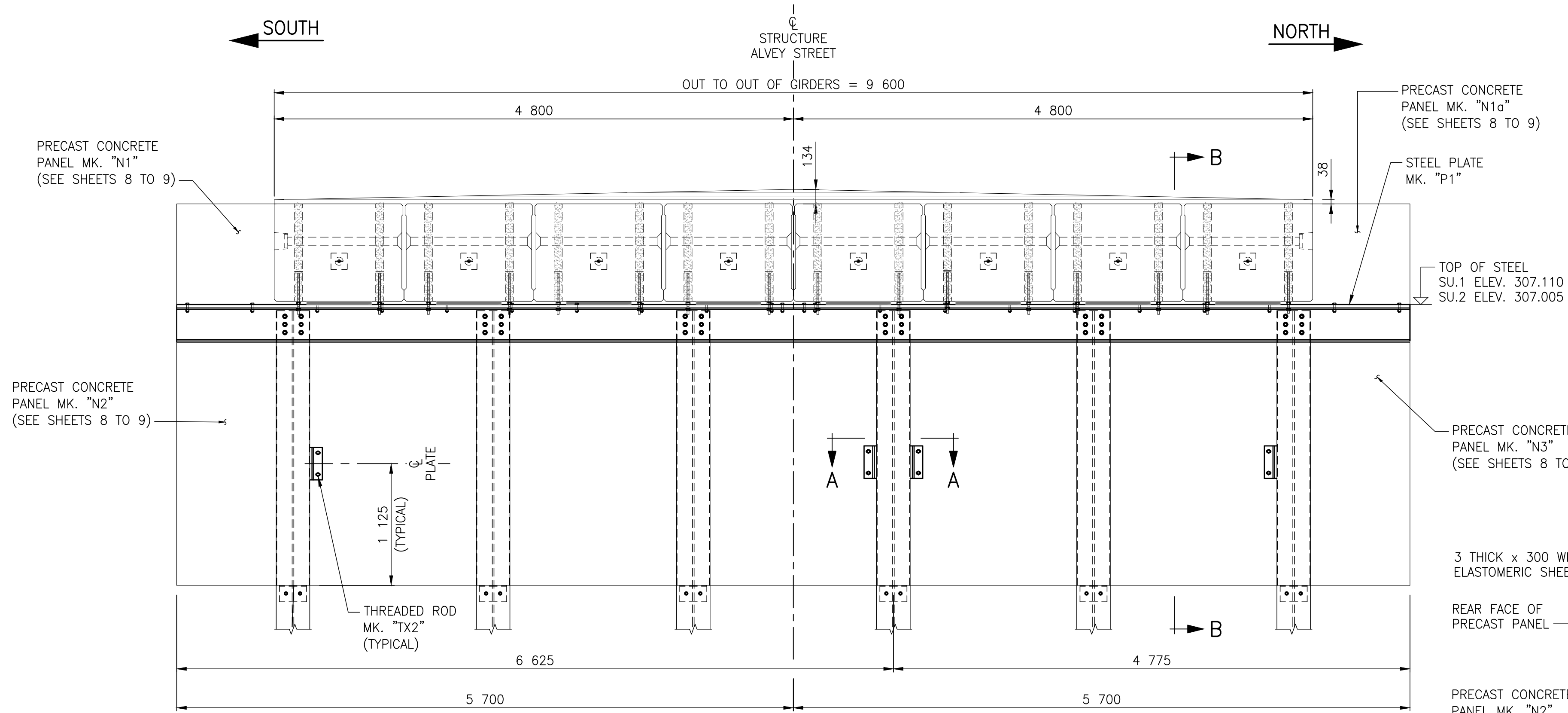
NOTES

1. THE CONTRACTOR SHALL FIELD DRILL 22 Ø HOLES IN THE PRECAST PANELS FOR THREADED RODS MK. "TX2", SHOULD REBAR BE ENCOUNTERED, ABANDON HOLE, PATCH AND DRILL IN NEW LOCATION. REBAR LOCATIONS ARE MARKED ON THE PANELS BY THE PANEL FABRICATOR.
2. BACK FACES OF THE UPPER AND LOWER BALLAST WALLS SHALL BE ALIGNED IN THE SAME VERTICAL PLANE.
3. THE CONTRACTOR SHALL ENSURE THAT THE UPPER BALLAST WALLS ARE PLACED WITH THE EDGE 5 mm FROM THE CL OF ROADWAY.
4. FOR SECTION B-B, SEE SHEET 7.

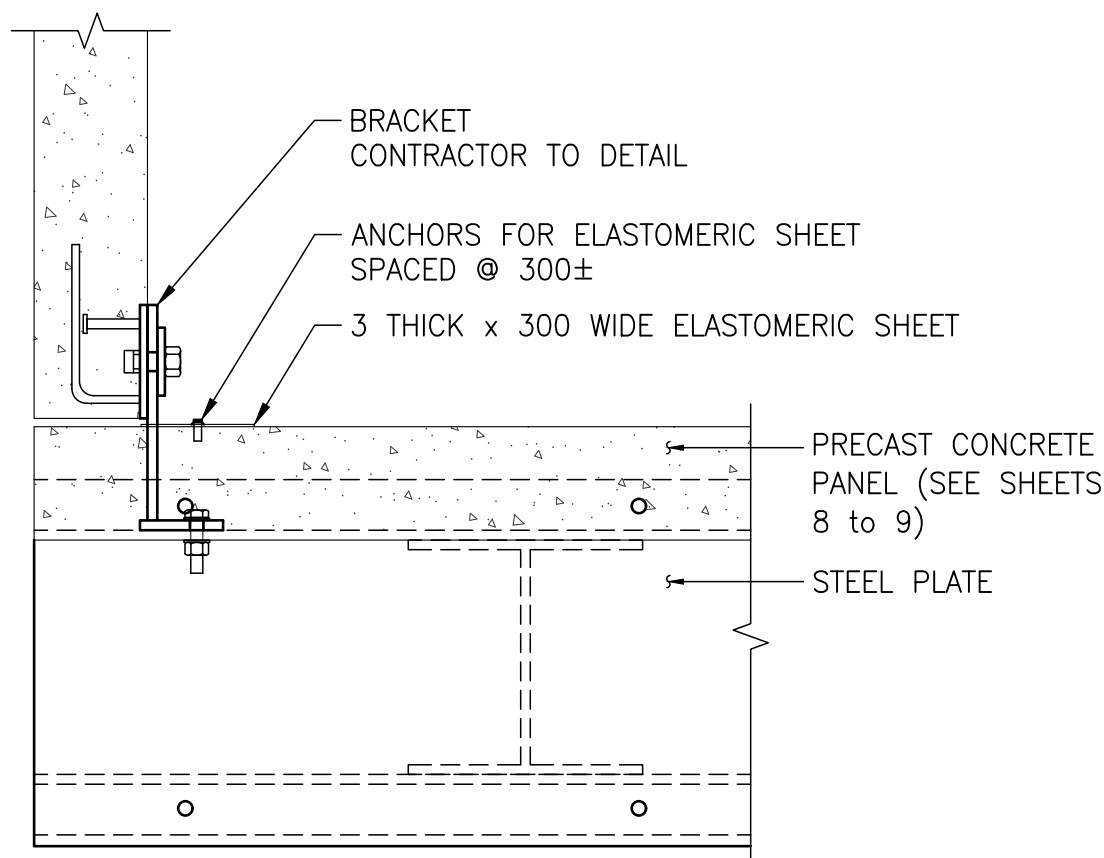


DETAIL "C"
SCALE 1:10

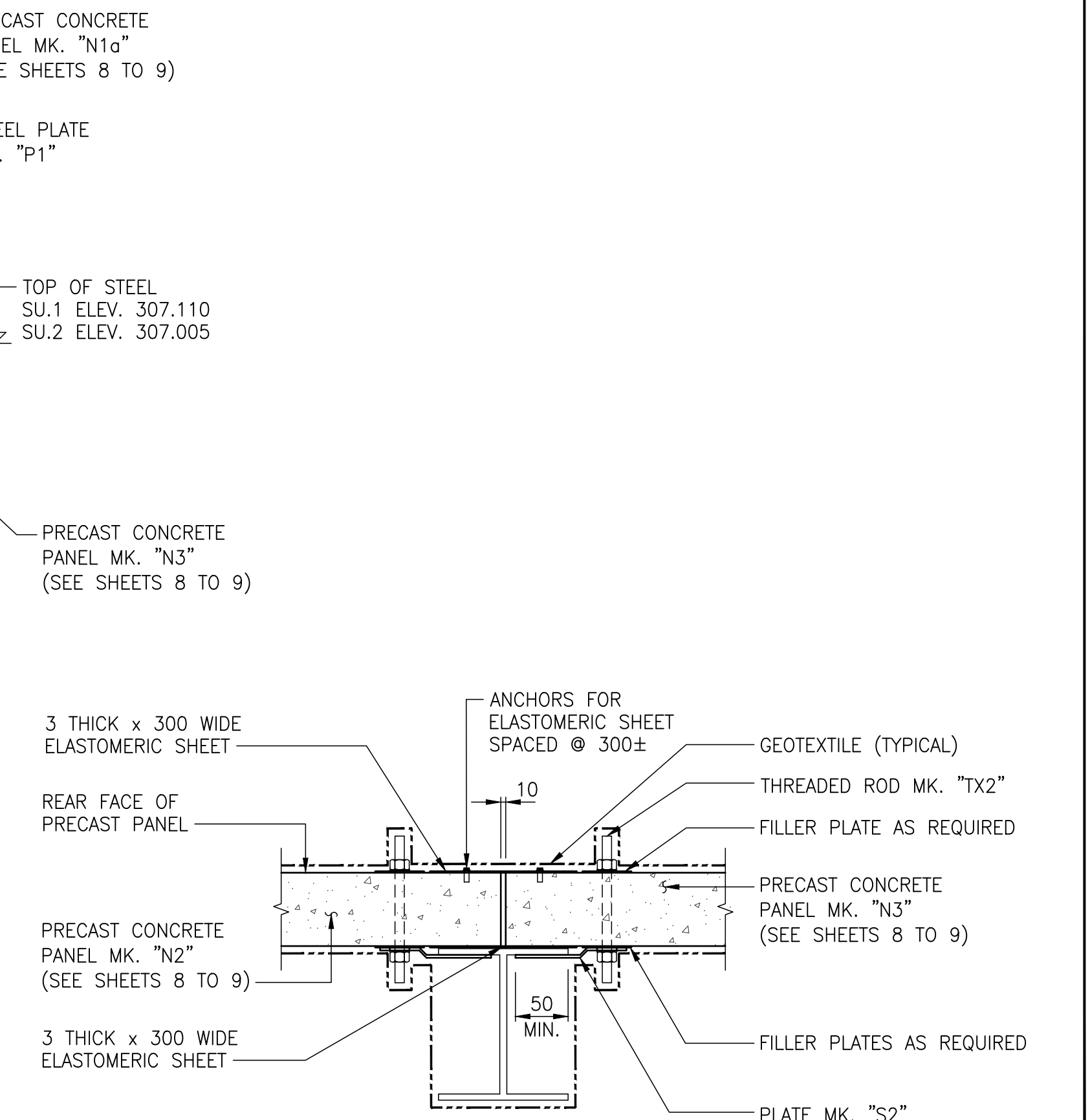
SOUTH **NORTH**



FRONT VIEW AT ABUTMENT
BRIDGE RAILING NOT SHOWN FOR CLARITY
SCALE 1:30



DETAIL "B"
SCALE 1:10



SECTION A-A
SCALE 1:10

NOT FOR CONSTRUCTION

REVISION:	REVISION:
0	2023-01-30
ISSUED FOR TENDER	MB
DATE	DESCRIPTION
BY	DATE
DESCRIPTION	BY

SEAL:

ORIGINAL SCALE: AS NOTED
APPROVED BY: MB
CHECKED BY: EH
DRAWN BY (OPTIONAL): KD

DATE: 2023-01-30

IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.

DISCIPLINE: BRIDGES

DISCLAIMER: THIS DRAWING AND DESIGN IS COPYRIGHT PROTECTED WHICH SHALL NOT BE USED, REPRODUCED OR REVISED WITHOUT WRITTEN PERMISSION BY WSP. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND UTILITY LOCATIONS AND REPORT ALL ERRORS AND OMISSIONS PRIOR TO COMMENCING WORK.

WSP Canada Inc.
1600 Buffalo Place, Winnipeg, Manitoba R3T 6B8
T 204-477-6650 | www.wsp.com

PROJECT NUMBER: 221-07930-00

CLIENT:

The City of Morden
195 Stephen Street, Morden, Manitoba R6M 1V3
T 204-822-4434 | www.mymorden.ca

CITY OF MORDEN

TITLE:

**ABUTMENT
ELEVATION & DETAILS**

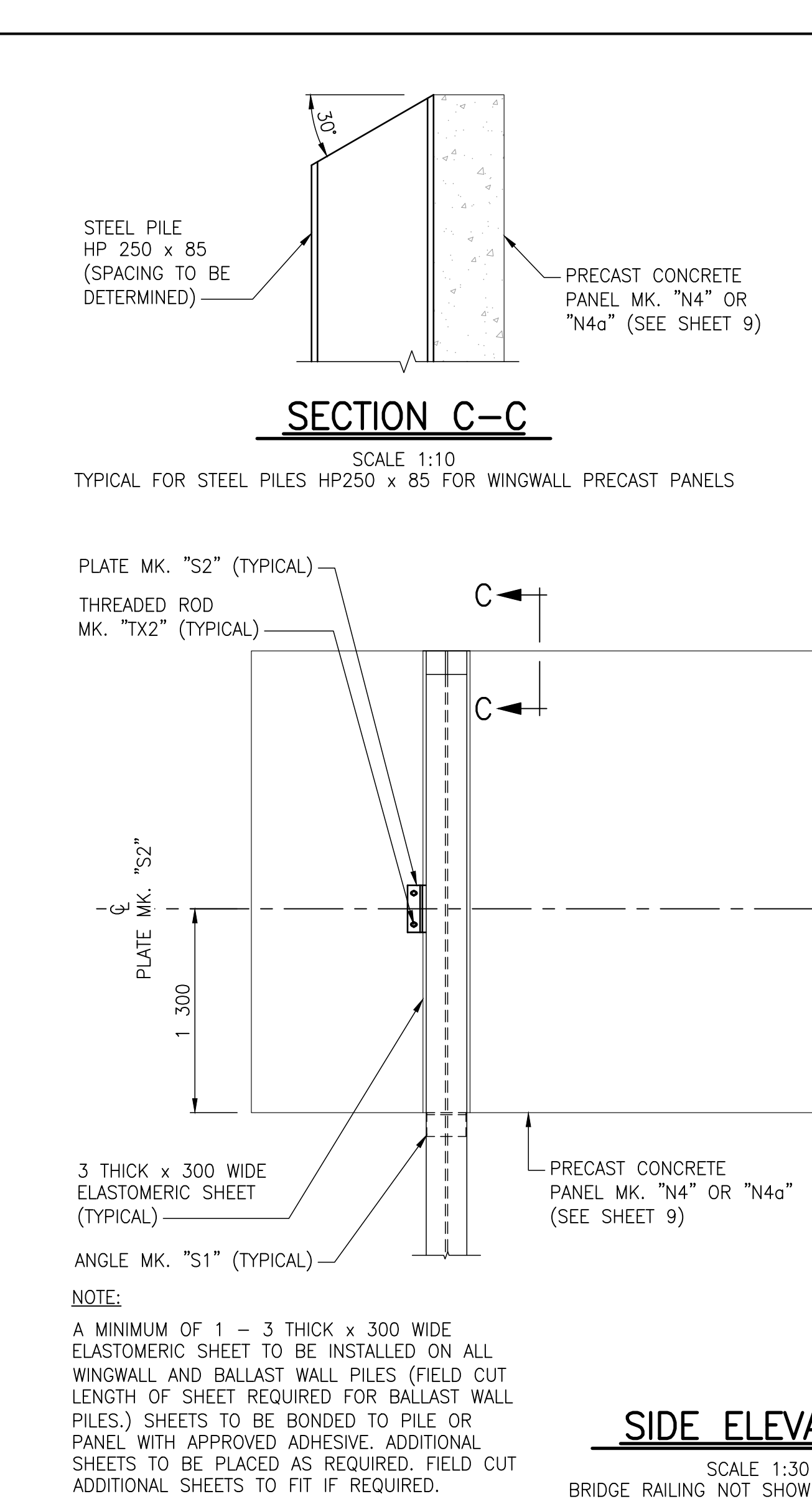
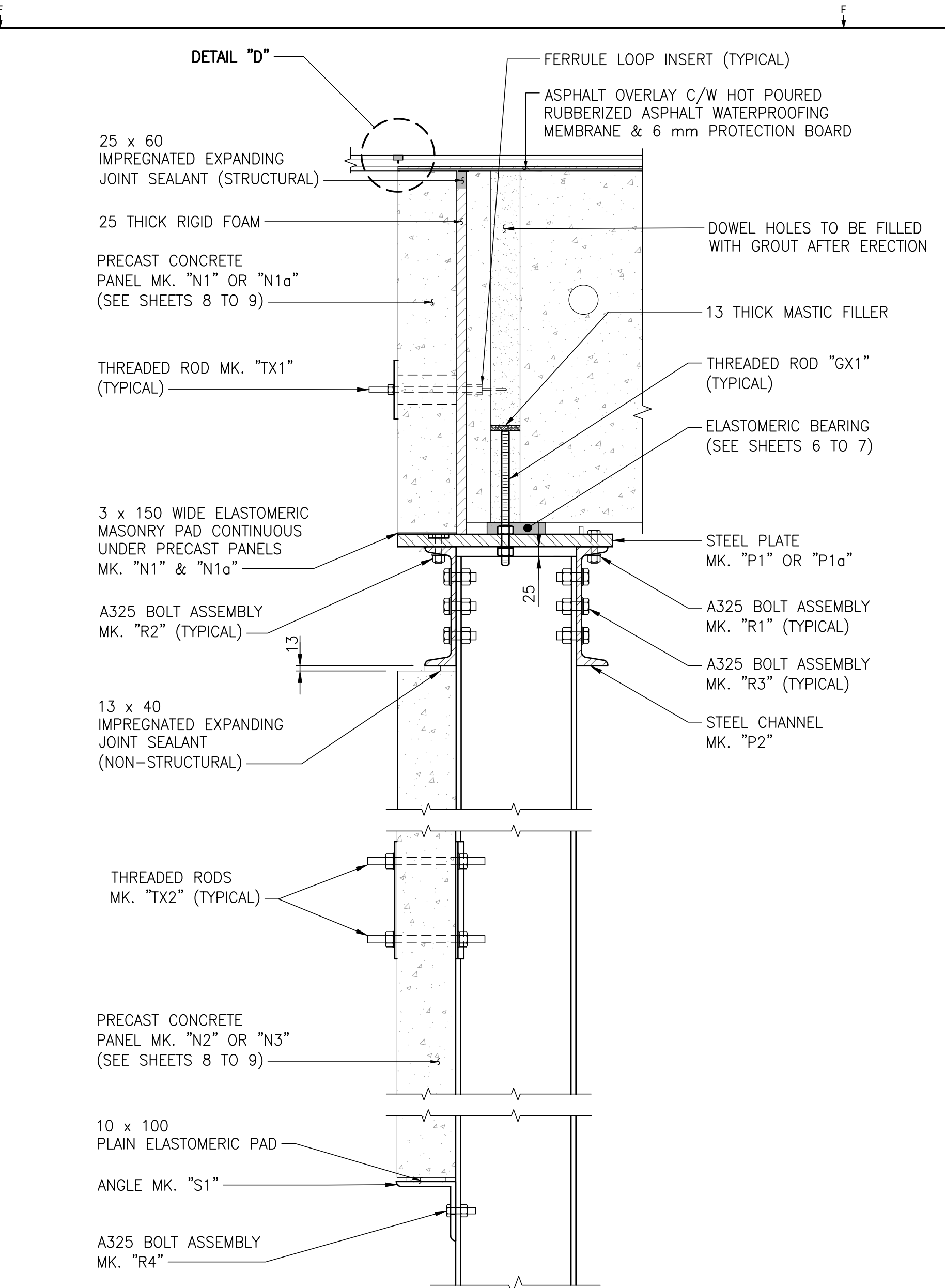
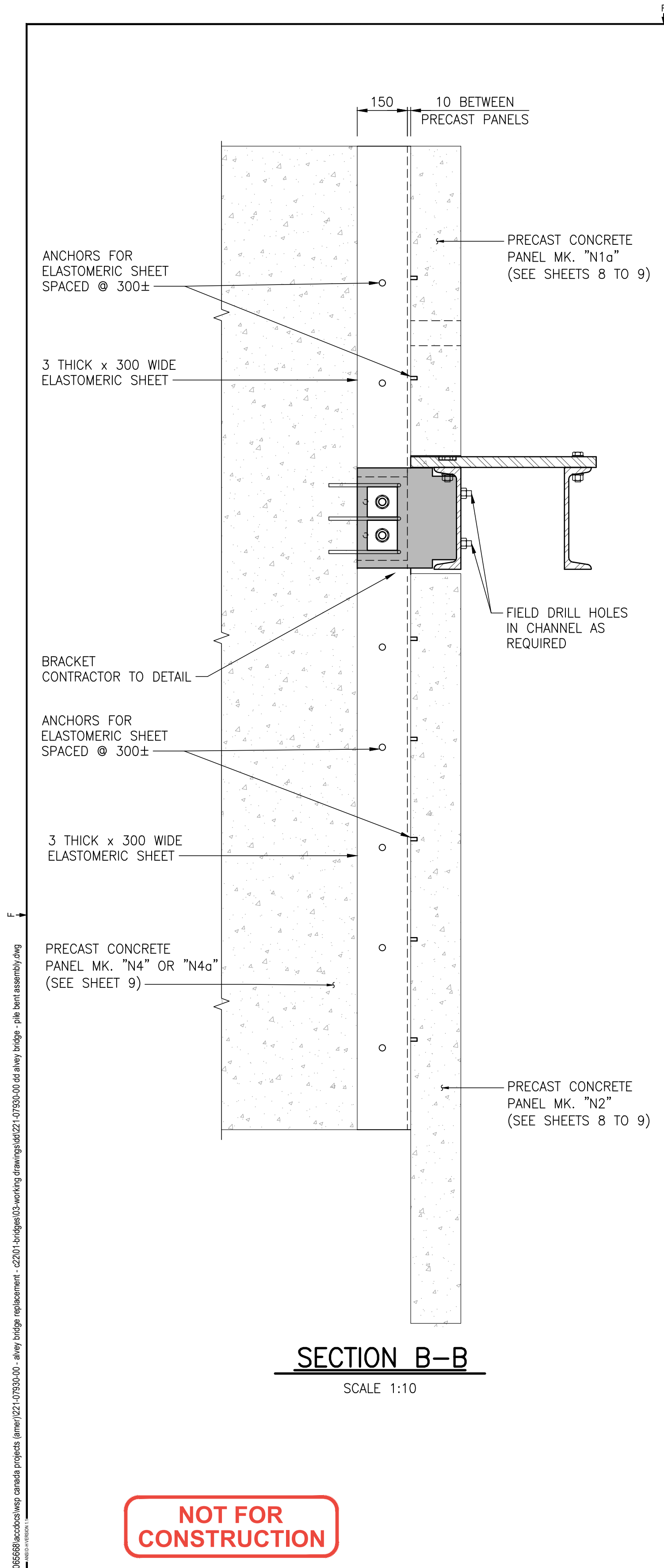
PROJECT:

**ALVEY STREET
BRIDGE REPLACEMENT
OVER DEADHORSE CREEK**

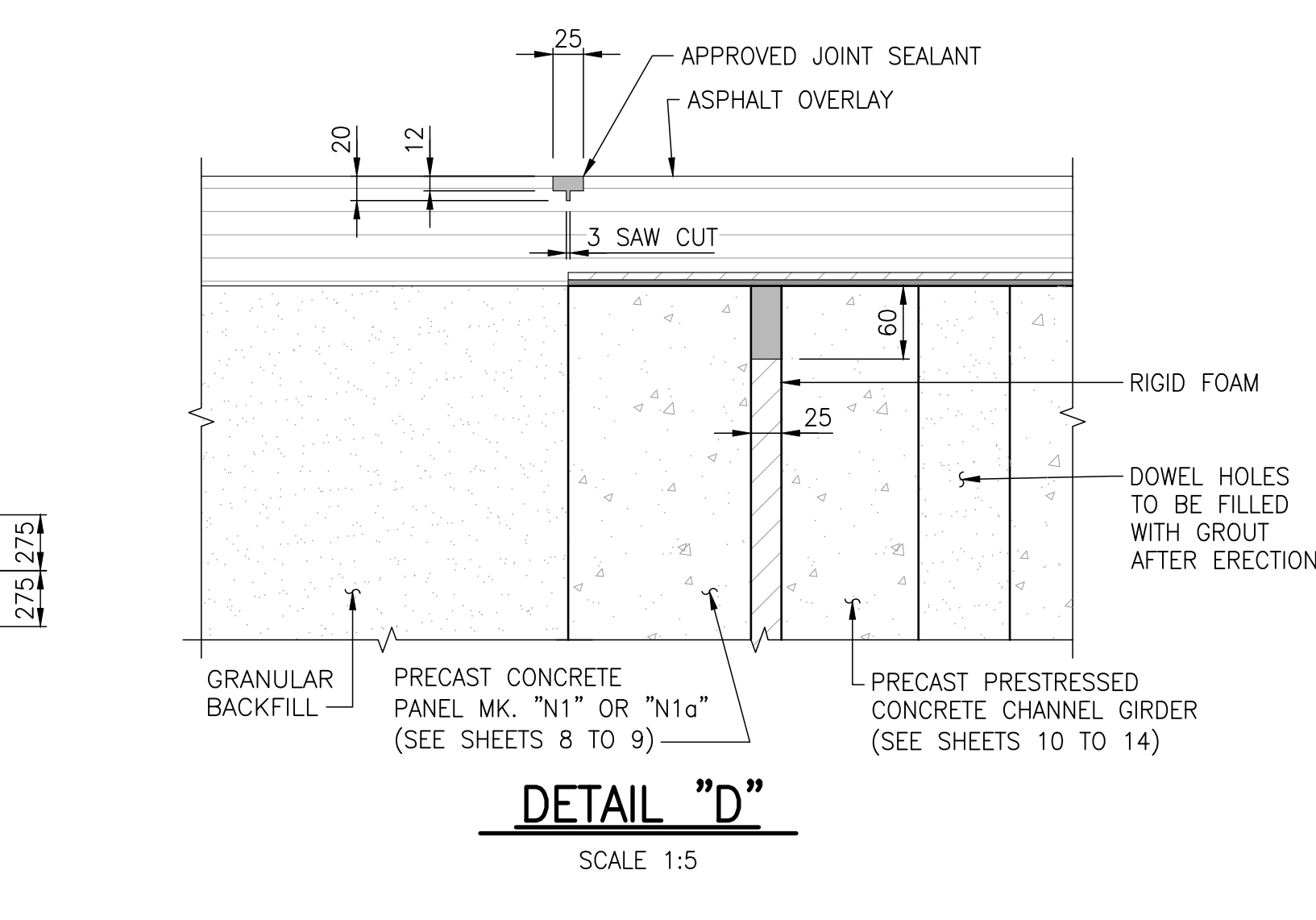
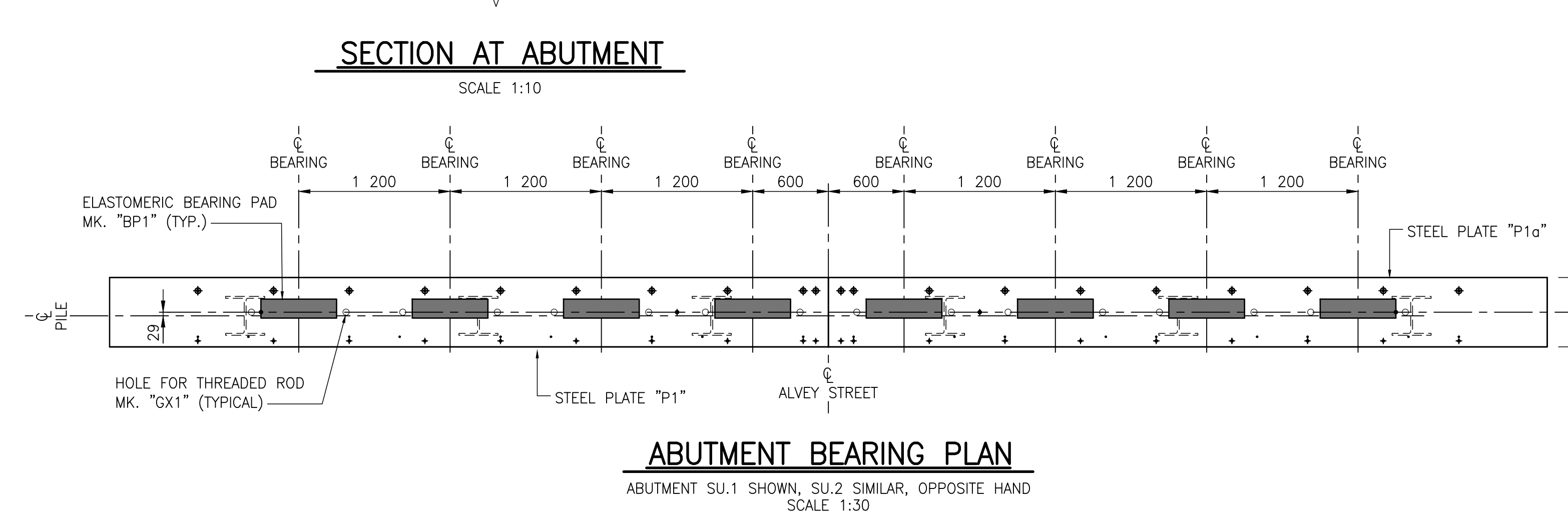
DRAWING NUMBER: 5

REV: 0

C:\p\wsp\winning\transmission\standard\series\full\series\ch... FILE: C:\p\wsp\winning\transmission\standard\series\full\series\ch... PROJECT: 221-07930-00 - Alvey bridge replacement - c221-01-bridge03-axwing drawing.dwg(221-07930-00 - Alvey bridge replacement - p1b bent assembly.dwg)



- NOTES**
1. WHEN GROUTING DOWEL HOLES IN GIRDSERS, ENSURE THAT THERE IS NO GROUT BETWEEN BOTTOM OF GIRDER AND BEARING PLATE.
 2. APPLY GALVALLOY TO ALL AREAS WHERE GALVANIZING HAS BEEN DAMAGED.
 3. IMPREGNATED EXPANDING JOINT SEALANT SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS.
 4. FOR LOCATION OF SECTION B-B, SEE SHEET 5.



REVISION:	REVISION:
0	2023-01-30
1	2023-01-30
2	2023-01-30
3	2023-01-30
4	2023-01-30
5	2023-01-30
6	2023-01-30
7	2023-01-30
8	2023-01-30
9	2023-01-30
10	2023-01-30
11	2023-01-30
12	2023-01-30
13	2023-01-30
14	2023-01-30
15	2023-01-30
16	2023-01-30
17	2023-01-30
18	2023-01-30
19	2023-01-30
20	2023-01-30
21	2023-01-30
22	2023-01-30
23	2023-01-30
24	2023-01-30
25	2023-01-30
26	2023-01-30
27	2023-01-30
28	2023-01-30
29	2023-01-30
30	2023-01-30
31	2023-01-30
32	2023-01-30
33	2023-01-30
34	2023-01-30
35	2023-01-30
36	2023-01-30
37	2023-01-30
38	2023-01-30
39	2023-01-30
40	2023-01-30
41	2023-01-30
42	2023-01-30
43	2023-01-30
44	2023-01-30
45	2023-01-30
46	2023-01-30
47	2023-01-30
48	2023-01-30
49	2023-01-30
50	2023-01-30
51	2023-01-30
52	2023-01-30
53	2023-01-30
54	2023-01-30
55	2023-01-30
56	2023-01-30
57	2023-01-30
58	2023-01-30
59	2023-01-30
60	2023-01-30
61	2023-01-30
62	2023-01-30
63	2023-01-30
64	2023-01-30
65	2023-01-30
66	2023-01-30
67	2023-01-30
68	2023-01-30
69	2023-01-30
70	2023-01-30
71	2023-01-30
72	2023-01-30
73	2023-01-30
74	2023-01-30
75	2023-01-30
76	2023-01-30
77	2023-01-30
78	2023-01-30
79	2023-01-30
80	2023-01-30
81	2023-01-30
82	2023-01-30
83	2023-01-30
84	2023-01-30
85	2023-01-30
86	2023-01-30
87	2023-01-30
88	2023-01-30
89	2023-01-30
90	2023-01-30
91	2023-01-30
92	2023-01-30
93	2023-01-30
94	2023-01-30
95	2023-01-30
96	2023-01-30
97	2023-01-30
98	2023-01-30
99	2023-01-30
100	2023-01-30

SEAL:

**ENGINEERS
GEOSCIENTISTS
MANITOBA**
Certificate of Authorization
WSP Canada Inc.
No. 5750

ORIGINAL SCALE: AS NOTED
APPROVED BY: MB
CHECKED BY: EH
DRAWN BY (OPTIONAL): KD
DATE: 2023-01-30
IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.
25mm

DISCIPLINE: BRIDGE

DISCLAIMER: THIS DRAWING AND DESIGN IS COPYRIGHT PROTECTED WHICH SHALL NOT BE USED, REPRODUCED OR REVISED WITHOUT WRITTEN PERMISSION BY WSP. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND UTILITY LOCATIONS AND REPORT ALL ERRORS AND OMISSIONS PRIOR TO COMMENCING WORK.

wsp

WSP Canada Inc.
1600 Buffalo Place, Winnipeg, Manitoba R3T 6B8
T 204-477-6660 | www.wsp.com

PROJECT NUMBER: 221-07930-00

CLIENT:

The City of Morden

City of Morden
195 Stephen Street, Morden, Manitoba R6M 1V3
T 204-822-4434 | www.mymorden.ca

CLIENT REF. #:

TITLE:

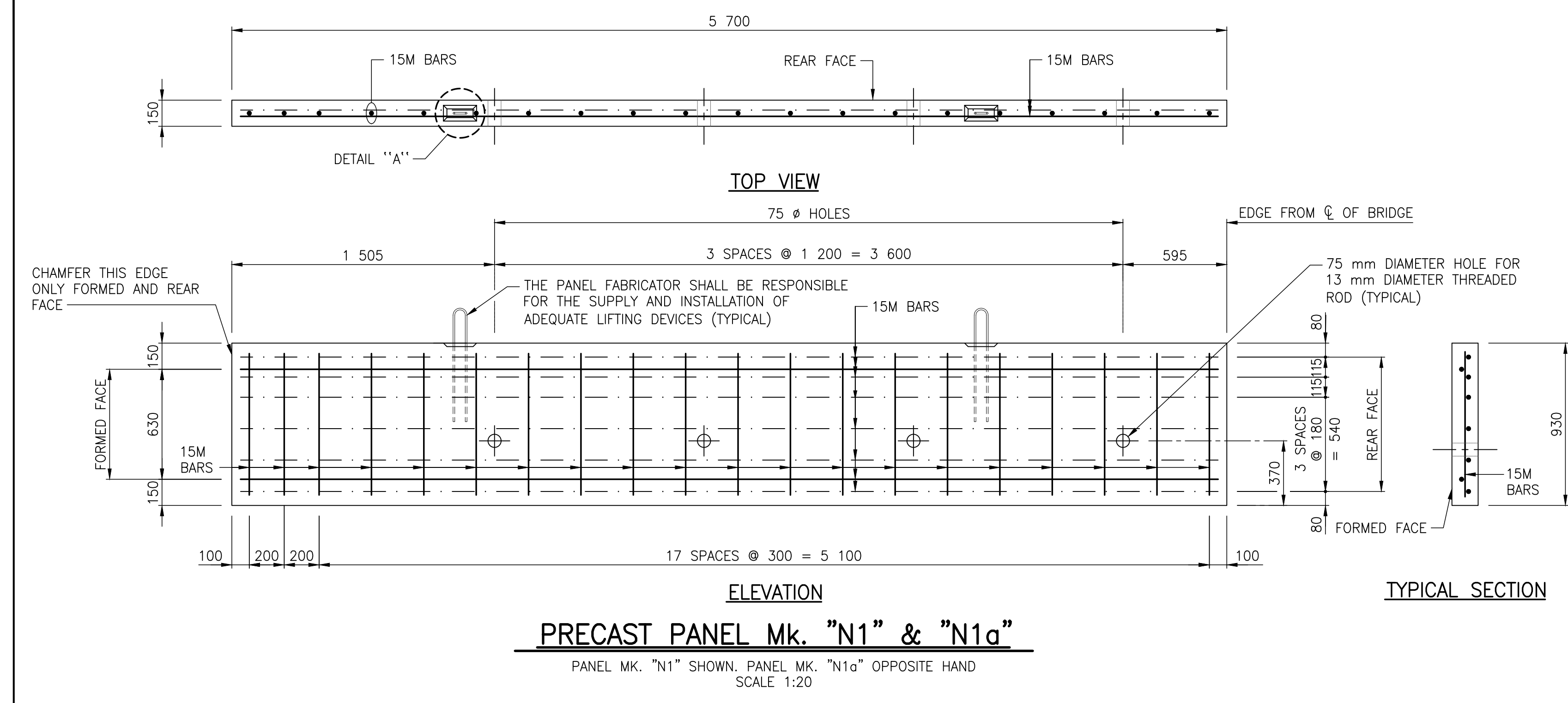
**PILE BENT ASSEMBLY DETAILS
AND BEARING LAYOUT**

PROJECT:

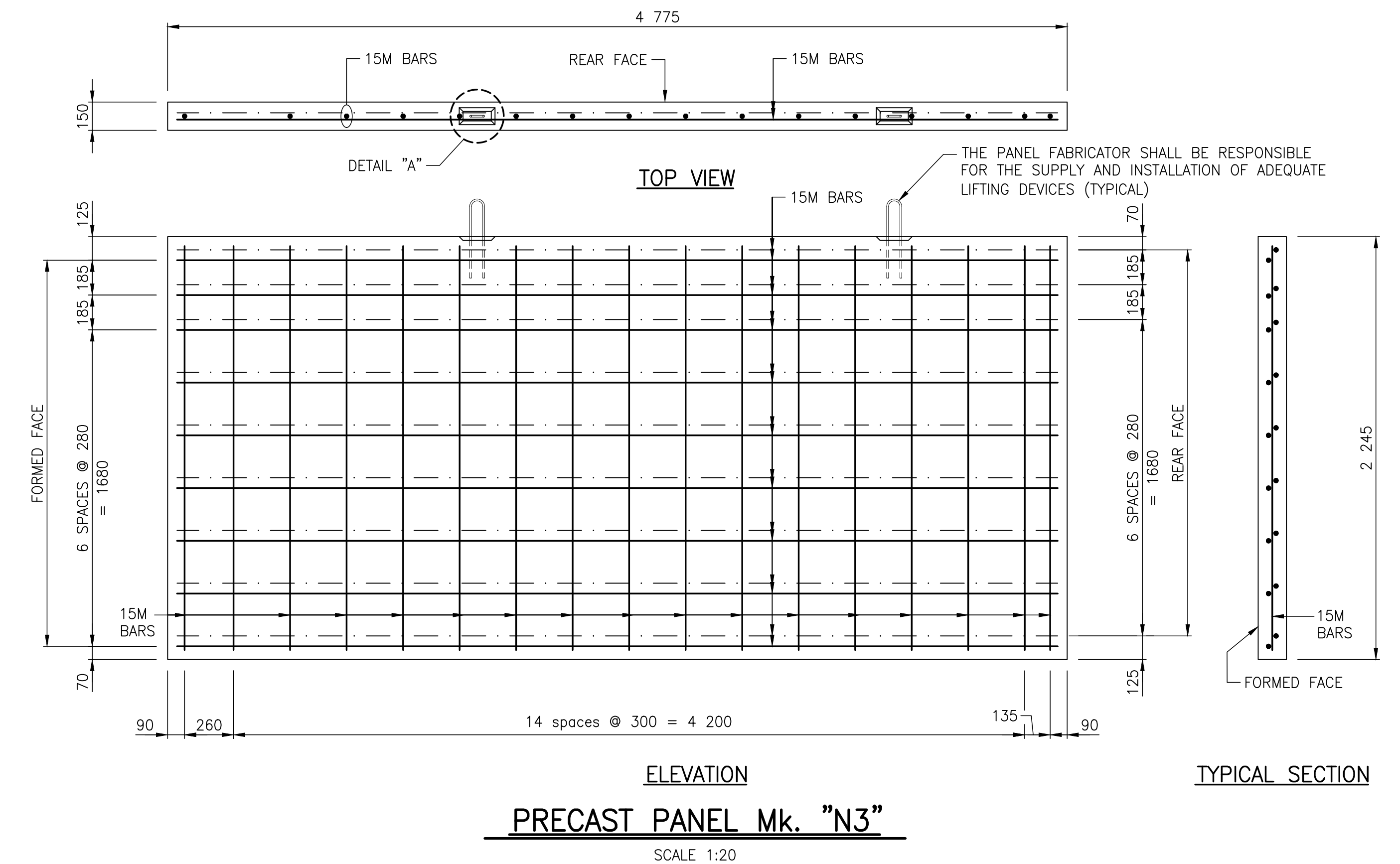
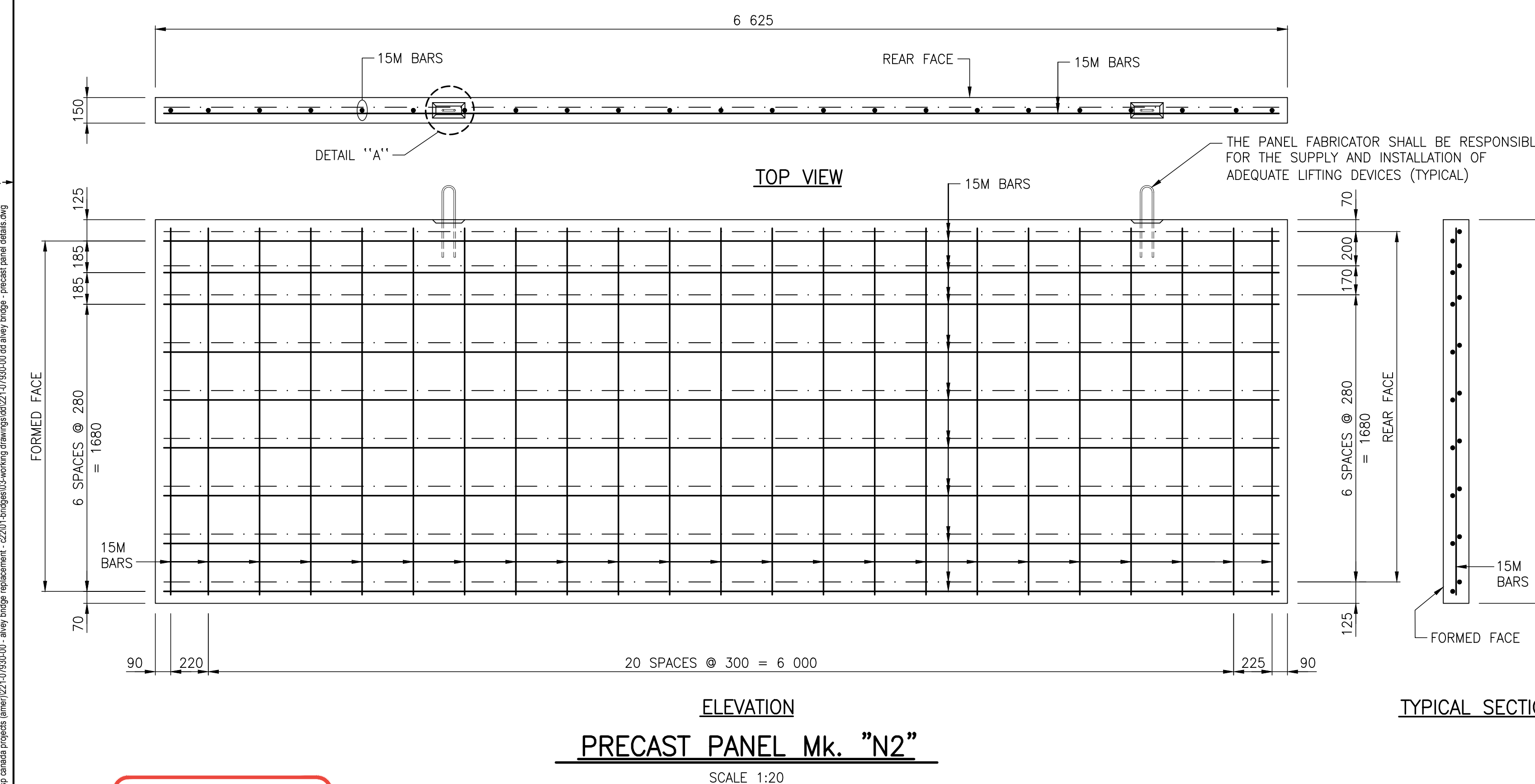
**ALVEY STREET
BRIDGE REPLACEMENT
OVER DEADHORSE CREEK**

DRAWING NUMBER: 6
REV: 0

C:\Users\wsp\OneDrive\Documents\221-07930-00 - Alvey bridge replacement - 221-07930-00.dwg
 FILE: C:\Users\wsp\OneDrive\Documents\221-07930-00 - Alvey bridge replacement - 221-07930-00.dwg
 PLOT: 2023-01-30 10:11:31 AM
 PLOTTER: HP DesignJet T1130
 PLOTTING: 2023-01-30 10:11:31 AM
 PLOTTING DEVICE: HP DesignJet T1130
 PLOTTING MODE: PLOT
 PLOTTING SCALE: 1:1
 PLOTTING SHEETS: 1
 PLOTTING STATUS: SUCCESS
 PLOTTING TIME: 00:00:00
 PLOTTING USER: wsp



- NOTES**
1. ALL PANEL EXPOSED EDGES TO BE CHAMFERED 20 mm EXCEPT NO CHAMFER ON PANELS MK. "N1" AND "N1a, OR IF SHOWN.
 2. MARK REINFORCING STEEL LOCATION ON EDGES OF THE BACK FACE OF PANELS AFTER CASTING.
 3. CONCRETE COVER SHALL BE 50 mm UNLESS NOTED OTHERWISE.
 4. FORMED FACE TO BE PLACED AS EXPOSED FACE DURING CONSTRUCTION.
 5. AFTER PRECAST PANEL INSTALLATION, ALL LIFTING DEVICES TO BE CUT-OFF FLUSH AND GROUTED AS DIRECTED BY ENGINEER. BACK FACES OF THE UPPER AND LOWER BALLAST WALLS SHALL BE ALIGNED IN THE SAME VERTICAL PLANE.
 6. FOR DETAIL "A", SEE SHEET 9.



NOT FOR CONSTRUCTION

REVISION:	REVISION:
0	2023-01-30
ISSUED FOR TENDER	MB
DATE	DESCRIPTION

ENGINEERS GEOSCIENTISTS MANITOBA
Certificate of Authorization
WSP Canada Inc.
No. 5750

WSP
WSP Canada Inc.
1600 Buffalo Place, Winnipeg, Manitoba R3T 6B8
T 204-477-6650 | www.wsp.com

The City of Morden
City of Morden
195 Stephen Street, Morden, Manitoba R6M 1V3
T 204-822-4434 | www.mymorden.ca

PROJECT NUMBER: 221-07930-00

DATE: 2023-01-30

APPROVED BY: MB

CHECKED BY: EH

DRAWN BY (OPTIONAL): KD

IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.

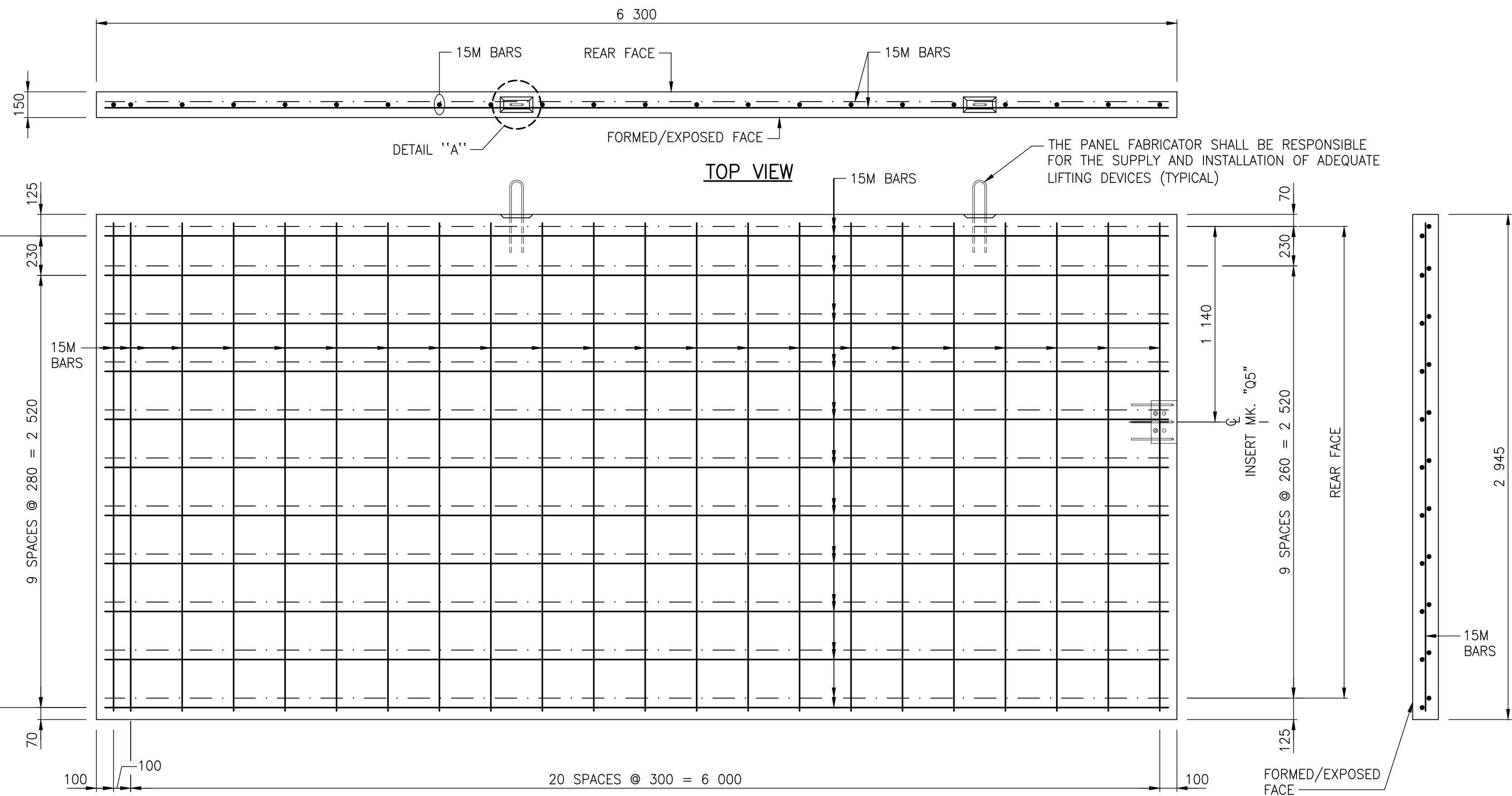
25mm

DISCIPLINE: BRIDGE

DISCLAIMER: THIS DRAWING AND DESIGN IS COPYRIGHT PROTECTED WHICH SHALL NOT BE USED, REPRODUCED OR REVISED WITHOUT WRITTEN PERMISSION BY WSP. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND UTILITY LOCATIONS AND REPORT ALL ERRORS AND OMISSIONS PRIOR TO COMMENCING WORK.

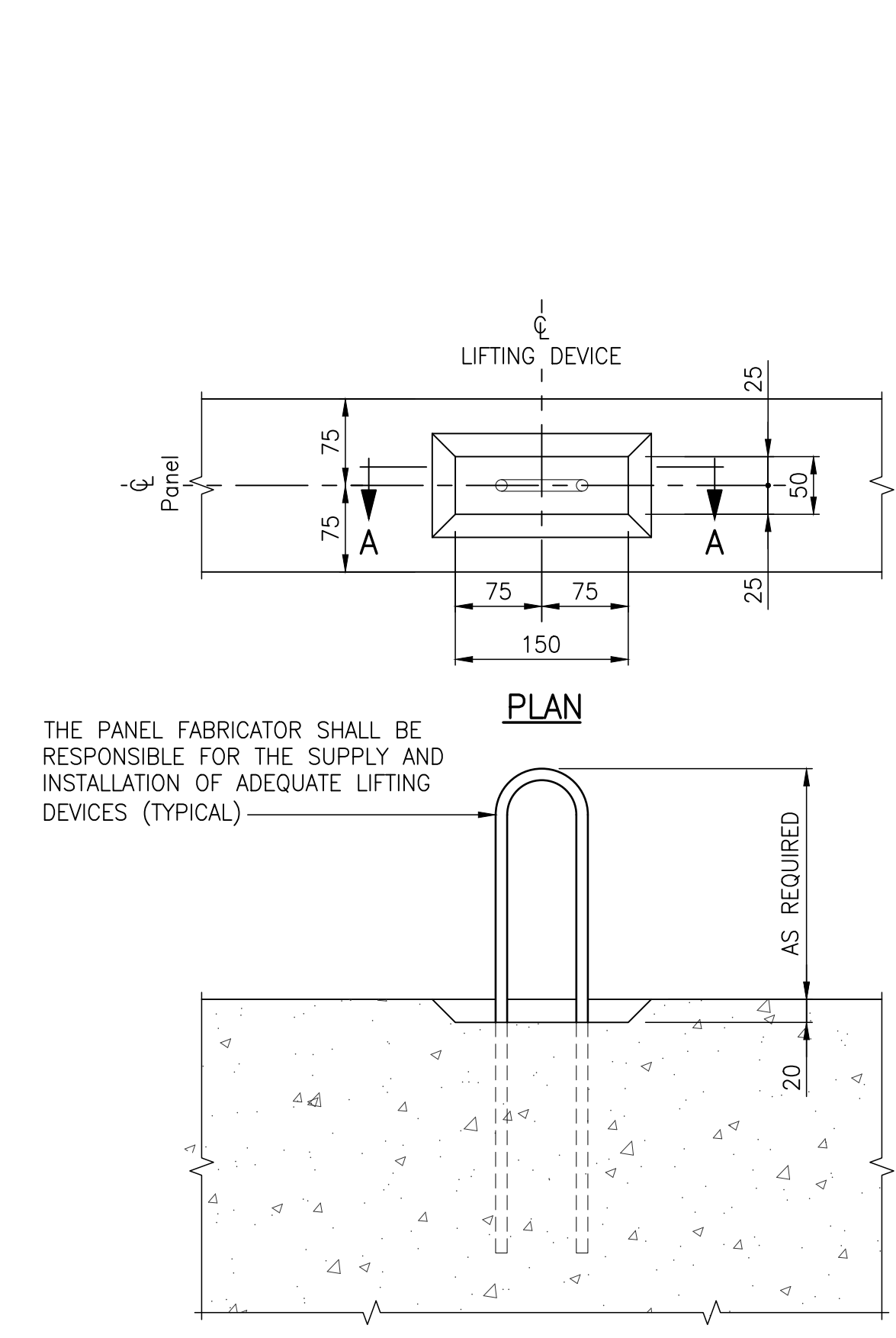
PRECAST PANEL DETAILS
SHEET 1 OF 2

PROJECT:	ALVEY STREET BRIDGE REPLACEMENT OVER DEADHORSE CREEK
DRAWING NUMBER:	8
REV:	0



ELEVATION
PRECAST PANEL Mk. "N4" & "N4a"

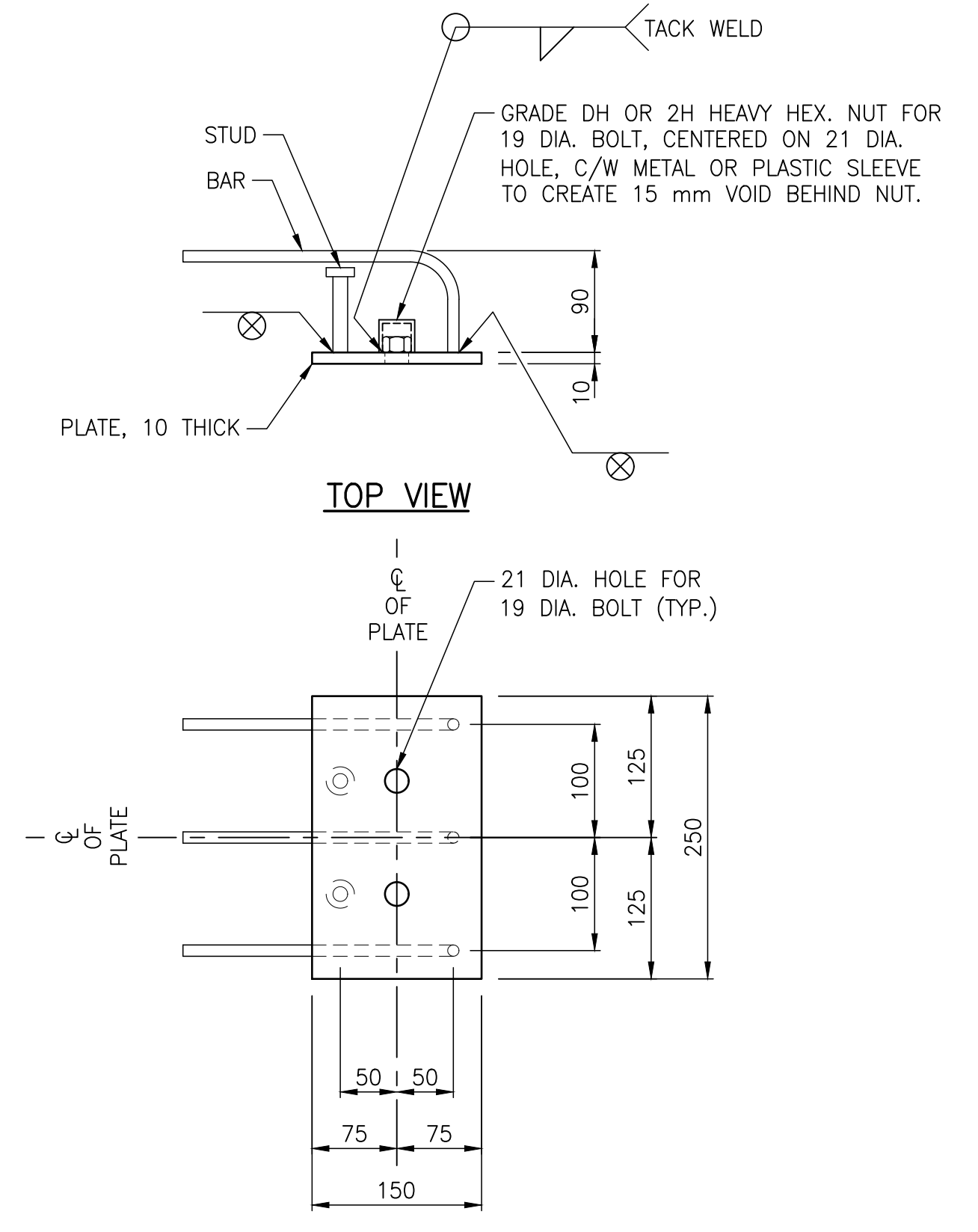
PANEL MK. "N4" SHOWN, "N4a" SIMILAR EXCEPT LOCATION OF OF INSERT MK. "Q5" AT OPPOSITE END.
 SCALE 1:20



PLAN
SECTION A-A
DETAIL "A"

THE PANEL FABRICATOR SHALL BE RESPONSIBLE FOR THE SUPPLY AND INSTALLATION OF ADEQUATE LIFTING DEVICES (TYPICAL).

SCALE 1:5



TOP VIEW
FRONT VIEW
INSERT MK. "Q5"

SCALE 1:5

NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	REV	DATE	DESCRIPTION	BY
0	2023-01-30	ISSUED FOR TENDER	MB				

SEAL:

ENGINEERS
 GEOSCIENTISTS
 MANITOBA
 Certificate of Authorization
 WSP Canada Inc.
 No. 5750

DISCLAIMER: THIS DRAWING AND DESIGN IS COPYRIGHT PROTECTED WHICH SHALL NOT BE USED, REPRODUCED OR REVISED WITHOUT WRITTEN PERMISSION BY WSP. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND UTILITY LOCATIONS AND REPORT ALL ERRORS AND OMISSIONS PRIOR TO COMMENCING WORK.

ORIGINAL SCALE: AS NOTED
 APPROVED BY: MB
 CHECKED BY: EH
 DRAWN BY (OPTIONAL): KD

DATE: 2023-01-30

IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.

25mm

DISCIPLINE: BRIDGE

wsp

WSP Canada Inc.
 1600 Buffalo Place, Winnipeg, Manitoba R3T 6B8
 T 204-477-6650 | www.wsp.com

The City of Morden

City of Morden
 195 Stephen Street, Morden, Manitoba R6M 1V3
 T 204-822-4434 | www.mymorden.ca

PROJECT NUMBER: 221-07930-00

CLIENT REF. #:

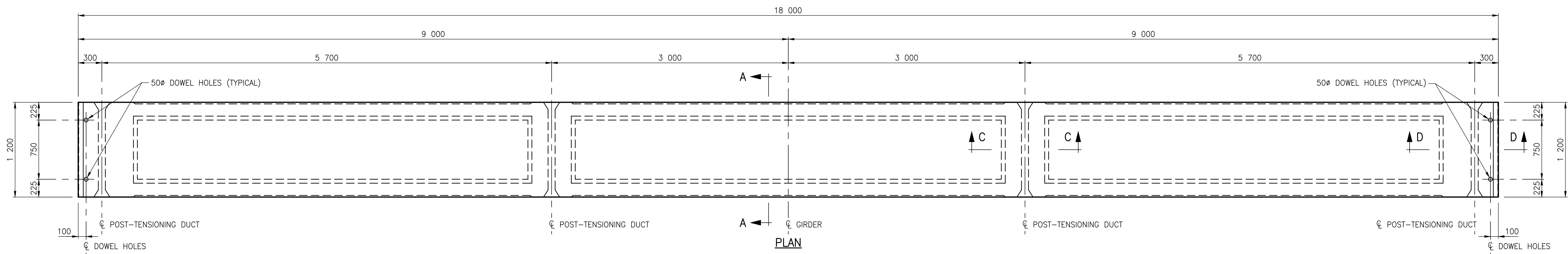
TITLE: PRECAST PANEL DETAILS
 SHEET 2 OF 2

PROJECT: ALVEY STREET BRIDGE REPLACEMENT OVER DEADHORSE CREEK

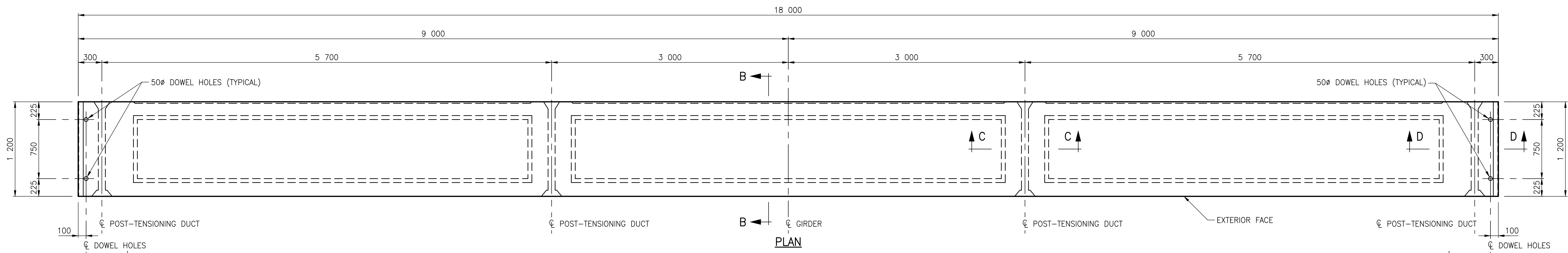
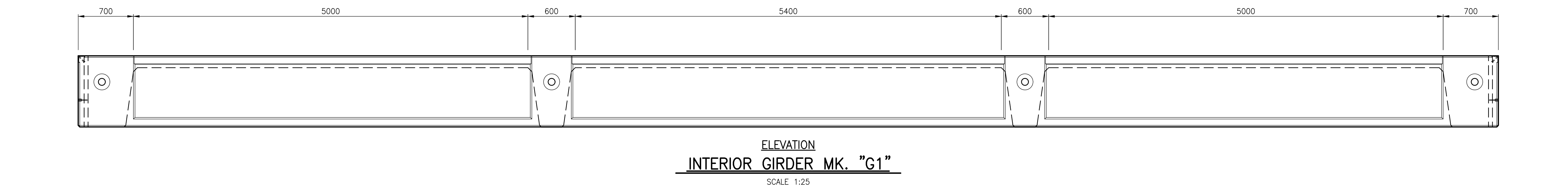
DRAWING NUMBER: 9

REV: 0

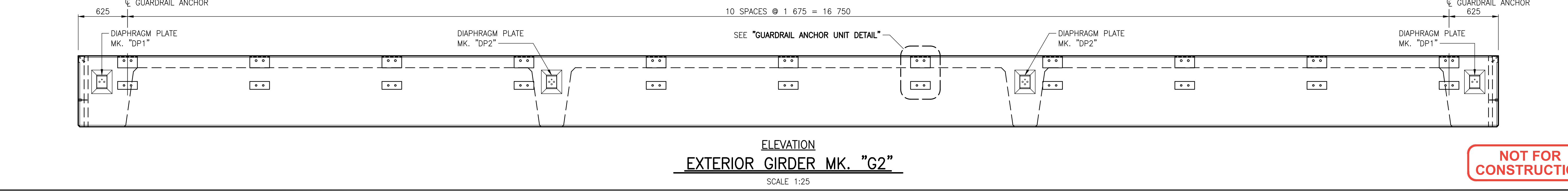
C:\Users\jacob\OneDrive\Documents\2023-01-30-1129 AM\221-07930-00 - Alvey Bridge Replacement - 2201-5-bridge\03-working\drawings\221-07930-00-alvey-bridge-precast-panel-details.dwg
 PLOTTED: 2023-01-30 11:29 AM
 FILE: c:\users\jacob\onedrive\documents\2023-01-30-1129 AM\221-07930-00 - Alvey Bridge Replacement - 2201-5-bridge\03-working\drawings\221-07930-00-alvey-bridge-precast-panel-details.dwg



ELEVATION
INTERIOR GIRDER MK. "G1"
 SCALE 1:25



ELEVATION
EXTERIOR GIRDER MK. "G2"
 SCALE 1:25



NOT FOR CONSTRUCTION

C:\Users\mward\OneDrive\Documents\Projects\221-07930-00\Drawings\221-07930-00-01-01-01-01.dwg
 FILE: 2023-01-30 11:36 AM
 C:\Users\mward\OneDrive\Documents\Projects\221-07930-00\Drawings\221-07930-00-01-01-01-01.dwg
 FILE: 2023-01-30 11:36 AM

REV	DATE	DESCRIPTION	BY	REV	DATE	DESCRIPTION	BY
0	2023-01-30	ISSUED FOR TENDER	MB				

SEAL:

**ENGINEERS
 GEOSCIENTISTS
 MANITOBA**
 Certificate of Authorization
WSP Canada Inc.
 No. 5750

DISCLAIMER: THIS DRAWING AND DESIGN IS COPYRIGHT PROTECTED WHICH SHALL NOT BE USED, REPRODUCED OR REVISED WITHOUT WRITTEN PERMISSION BY WSP. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND UTILITY LOCATIONS AND REPORT ALL ERRORS AND OMISSIONS PRIOR TO COMMENCING WORK.

COPYRIGHT © 2023 WSP Canada Inc.

DATE: 2023-01-30

APPROVED BY: MB

CHECKED BY: EH

DRAWN BY (OPTIONAL): CP

DISCIPLINE: BRIDGE

IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.

25mm

wsp

WSP Canada Inc.
 1600 Buffalo Place, Winnipeg, Manitoba R3T 6B8
 T 204-477-6650 | www.wsp.com

PROJECT NUMBER: 221-07930-00

CLIENT:

The City of Morden

City of Morden
 195 Stephen Street, Morden, Manitoba R6M 1V3
 T 204-822-4434 | www.mymorden.ca

CLIENT REF. #: --

TITLE:

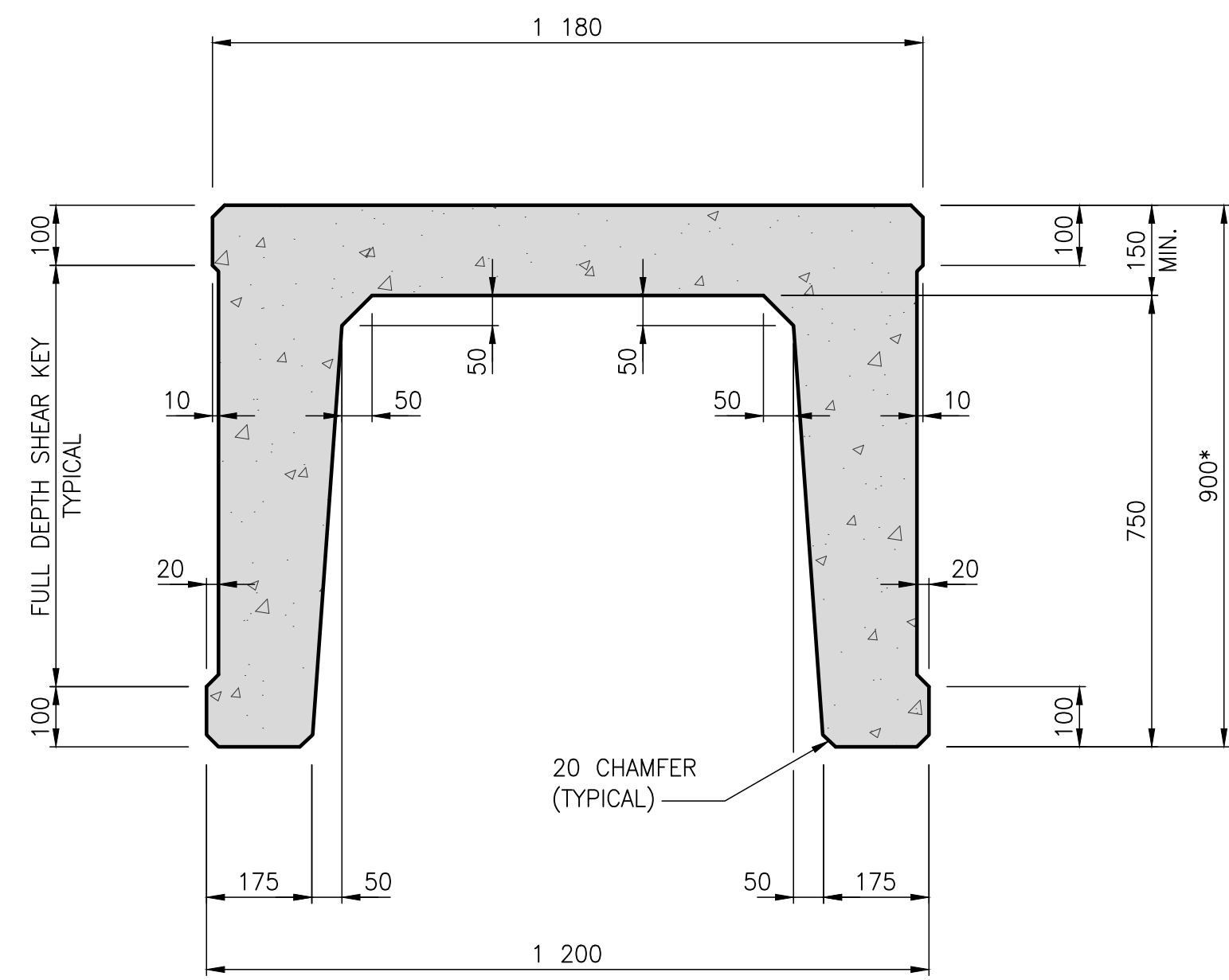
**PRECAST PRESTRESSED
 CHANNEL GIRDERS
 CONCRETE DETAILS
 (SHEET 1 OF 2)**

PROJECT:

**ALVEY STREET
 BRIDGE REPLACEMENT
 OVER DEADHORSE CREEK**

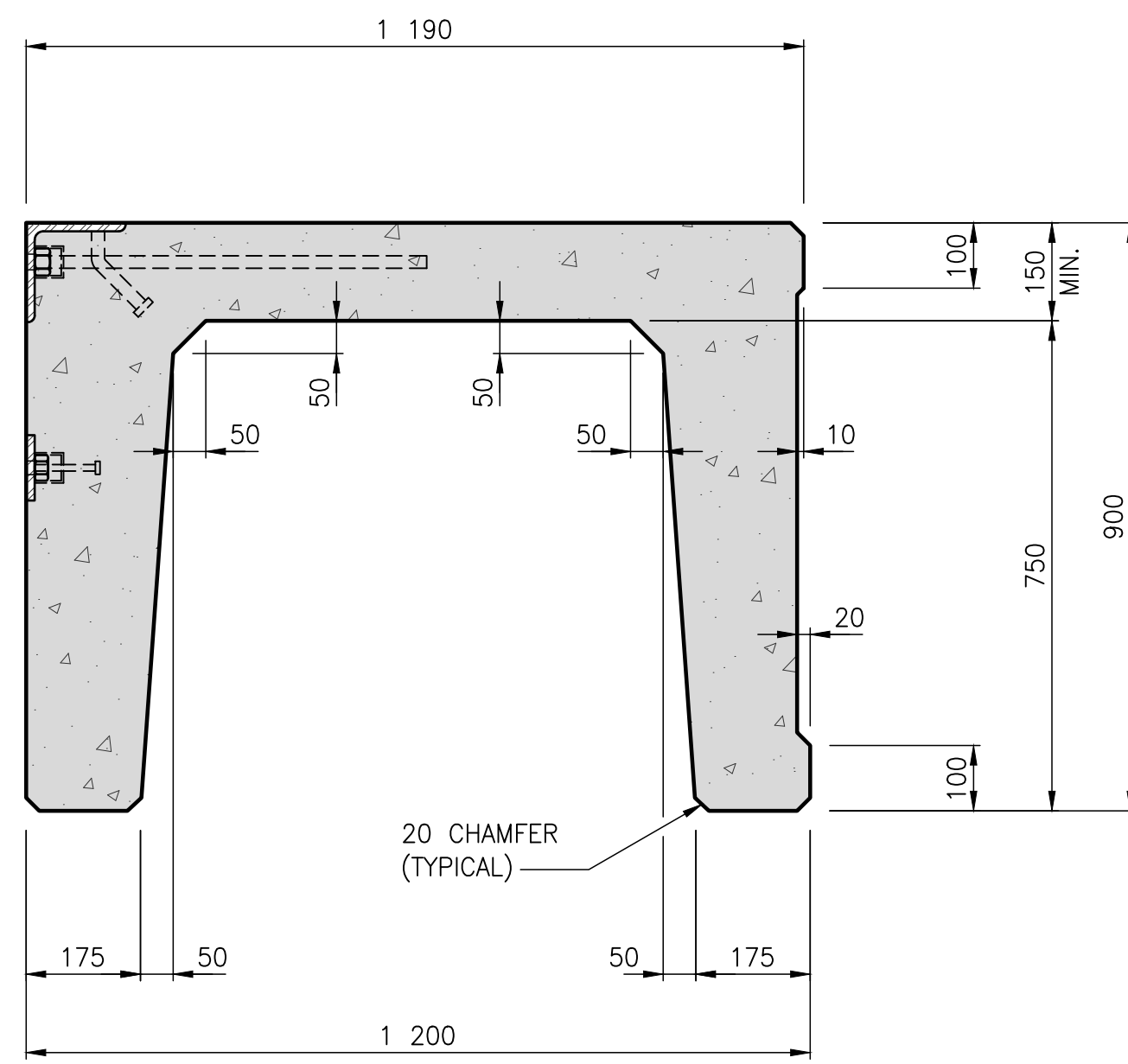
DRAWING NUMBER: 10

REV: 0



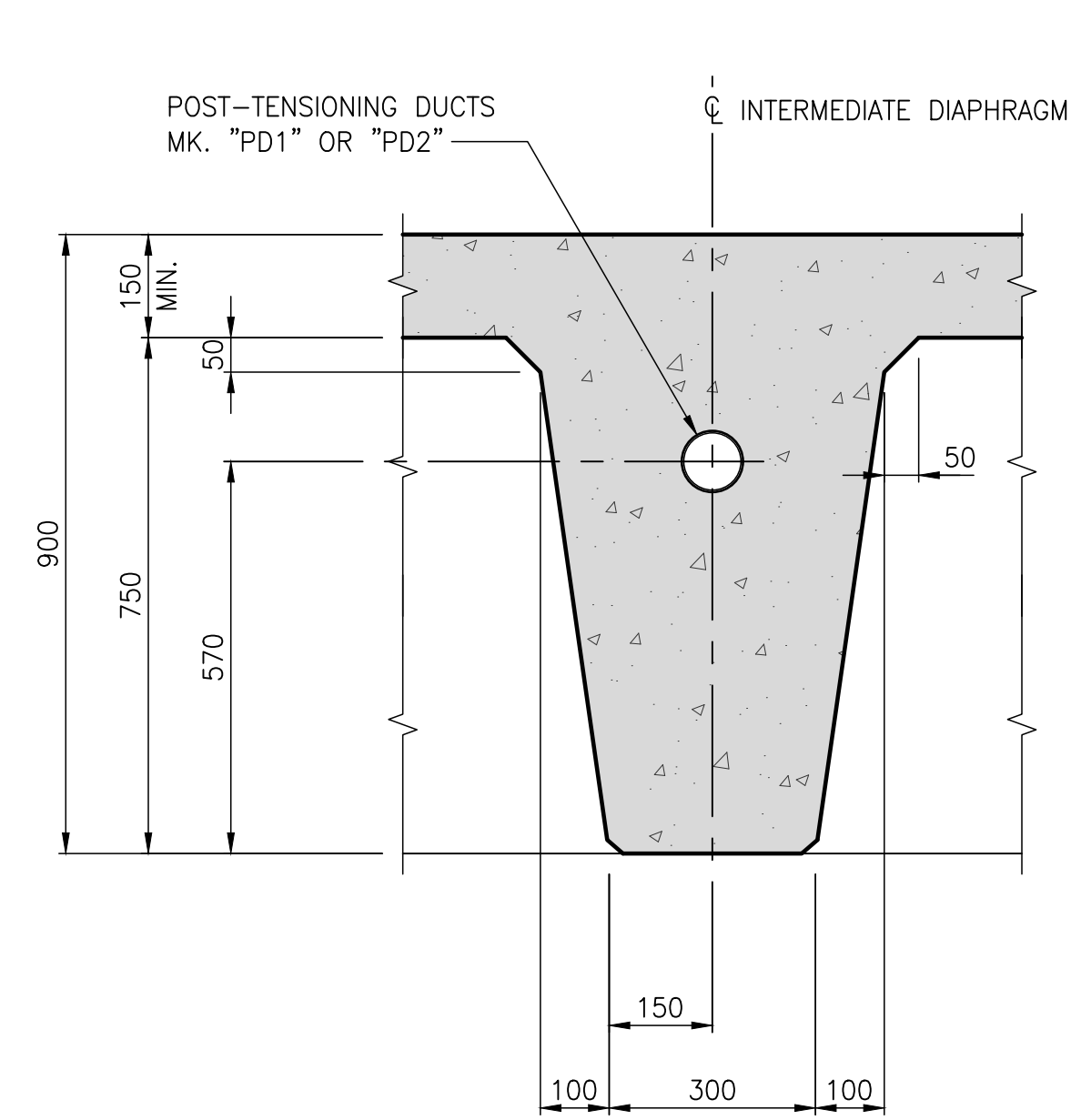
SECTION A-A

SCALE 1:10



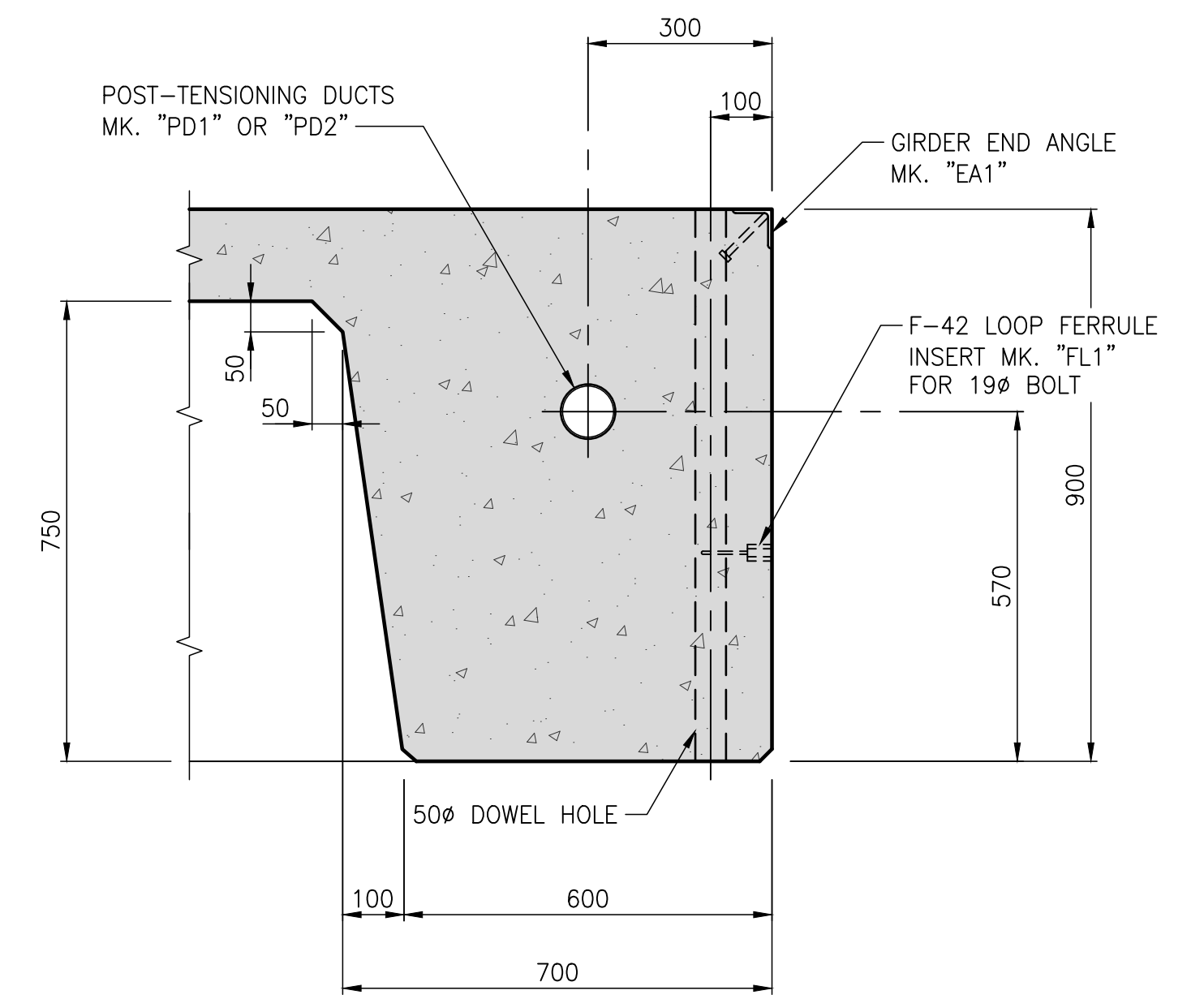
SECTION B-B

SCALE 1:10



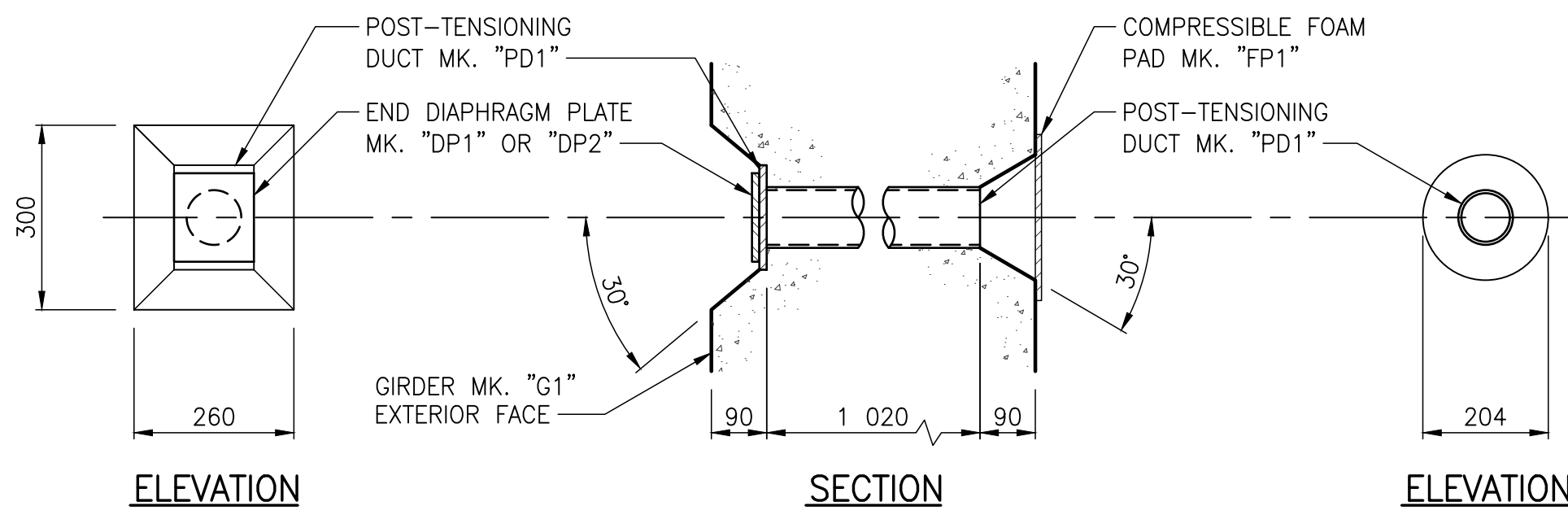
SECTION C-C

SCALE 1:10



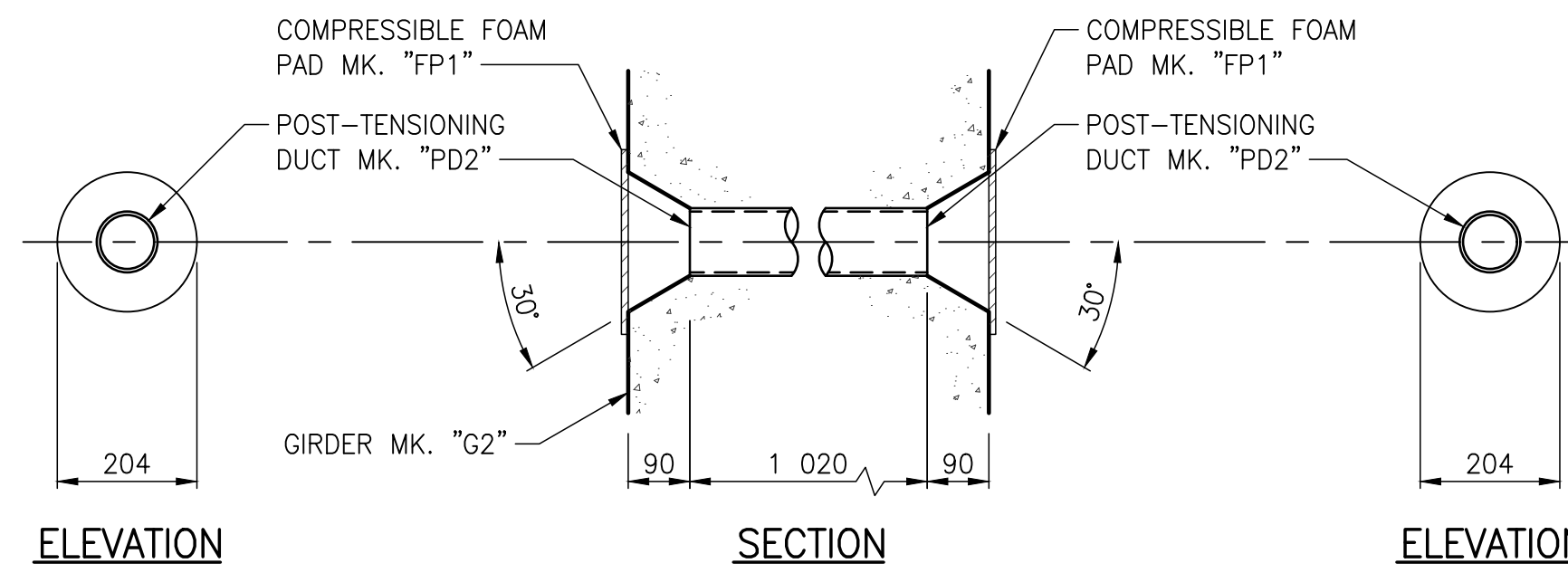
SECTION D-D

SCALE 1:10



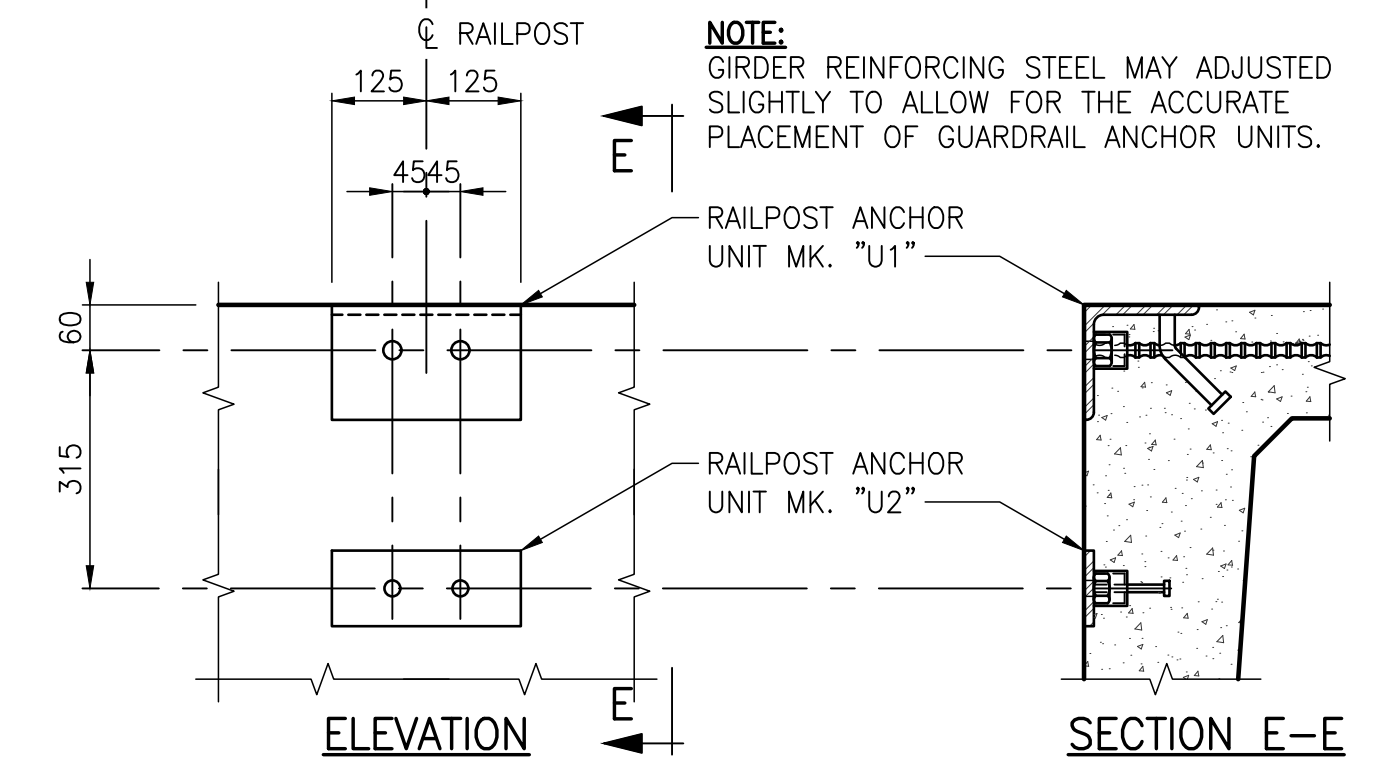
POST-TENSIONING DUCT DETAIL MK. "PD1"

SCALE 1:10



POST-TENSIONING DUCT DETAIL MK. "PD2"

SCALE 1:10



GUARDRAIL ANCHOR UNIT DETAIL

SCALE 1:10

NOTE:
POST-TENSION RECESS POCKET SHALL PROVIDE MINIMUM 25 COVER FROM ENDS OF POST-TENSION STRANDS. FABRICATOR TO ADJUST AS REQUIRED.

NOTES:

- 1. TOP SURFACE OF GIRDER SHALL BE SCREEDED PERPENDICULAR TO SIDE FORMS.

GIRDER INSTALLATION NOTES:

- 1. INSTALL ALL GIRDERS.
- 2. GROUT CENTER GIRDER KEY. WAIT FOR GROUT TO ACHIEVE 45 MPa.
- 3. TENSION EACH TRANSVERSE POST-TENSION STRAND TO 25 kN.
- 4. GROUT REMAINING KEYS. WAIT FOR GROUT TO ACHIEVE 45 MPa.
- 5. TENSION EACH TRANSVERSE POST-TENSION STRAND TO 1 035 kN.
- 6. NO TRAFFIC OR HEAVY EQUIPMENT SHALL BE PERMITTED ON GIRDERS UNTIL STRANDS ARE FULLY TENSIONED AND DUCTS ARE GROUTED.
- 7. GROUT POST-TENSION EXTERIOR POCKET BLOCK-OUTS ONCE EXCESS STRANDS ARE CUT FLUSH AND ZINC RICH PAINT IS APPLIED.

NOT FOR CONSTRUCTION

C:\Users\m\OneDrive\Documents\TRANSPORTATION STANDARDS\PERMS FULL SIZE.CTB
 C:\Users\m\OneDrive\Documents\TRANSPORTATION STANDARDS\PERMS FULL SIZE.CTB
 FILE C:\Users\m\OneDrive\Documents\TRANSPORTATION STANDARDS\PERMS FULL SIZE.CTB
 2023-01-30 11:36 AM
 FILE C:\Users\m\OneDrive\Documents\TRANSPORTATION STANDARDS\PERMS FULL SIZE.CTB
 2023-01-30 11:36 AM
 FILE C:\Users\m\OneDrive\Documents\TRANSPORTATION STANDARDS\PERMS FULL SIZE.CTB
 2023-01-30 11:36 AM
 FILE C:\Users\m\OneDrive\Documents\TRANSPORTATION STANDARDS\PERMS FULL SIZE.CTB
 2023-01-30 11:36 AM

REV	DATE	DESCRIPTION	BY	REV	DATE	DESCRIPTION	BY
0	2023-01-30	ISSUED FOR TENDER	MB				

SEAL:

**ENGINEERS
GEOLOGISTS
MANITOBA**

Certificate of Authorization
WSP Canada Inc.
No. 5750

DISCLAIMER: THIS DRAWING AND DESIGN IS COPYRIGHT PROTECTED WHICH SHALL NOT BE USED, REPRODUCED OR REVISED WITHOUT WRITTEN PERMISSION BY WSP. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND UTILITY LOCATIONS AND REPORT ALL ERRORS AND OMISSIONS PRIOR TO COMMENCING WORK.

COPYRIGHT:

ORIGINAL SCALE: AS NOTED
APPROVED BY: MB
CHECKED BY: EH
DRAWN BY (OPTIONAL): CP

DATE: 2023-01-30

IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.

25mm

DISCIPLINE: BRIDGE

wsp

WSP Canada Inc.
1600 Buffalo Place, Winnipeg, Manitoba R3T 6B8
T 204-477-6650 | www.wsp.com

PROJECT NUMBER: 221-07930-00

CLIENT: *The City of Morden*

City of Morden
195 Stephen Street, Morden, Manitoba R6M 1V3
T 204-822-4434 | www.mymorden.ca

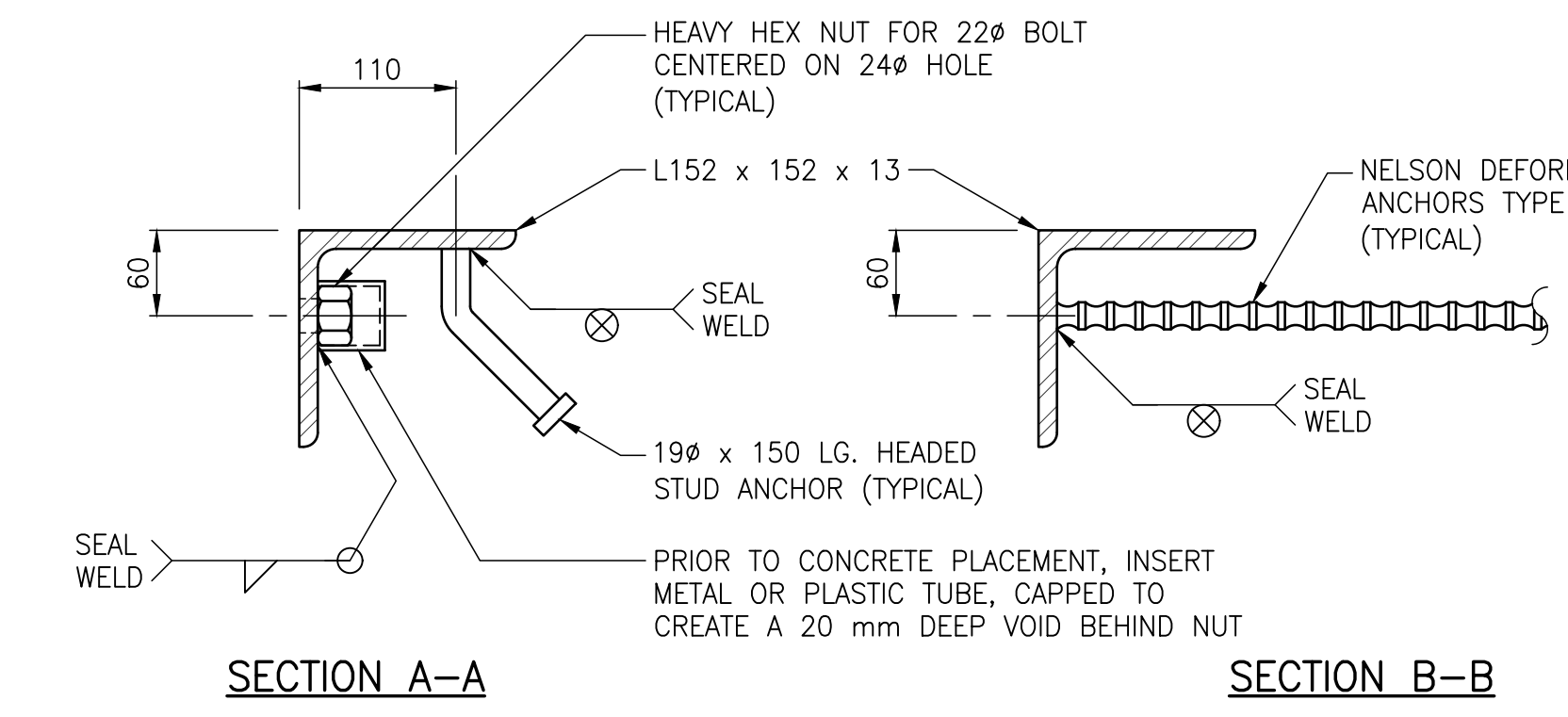
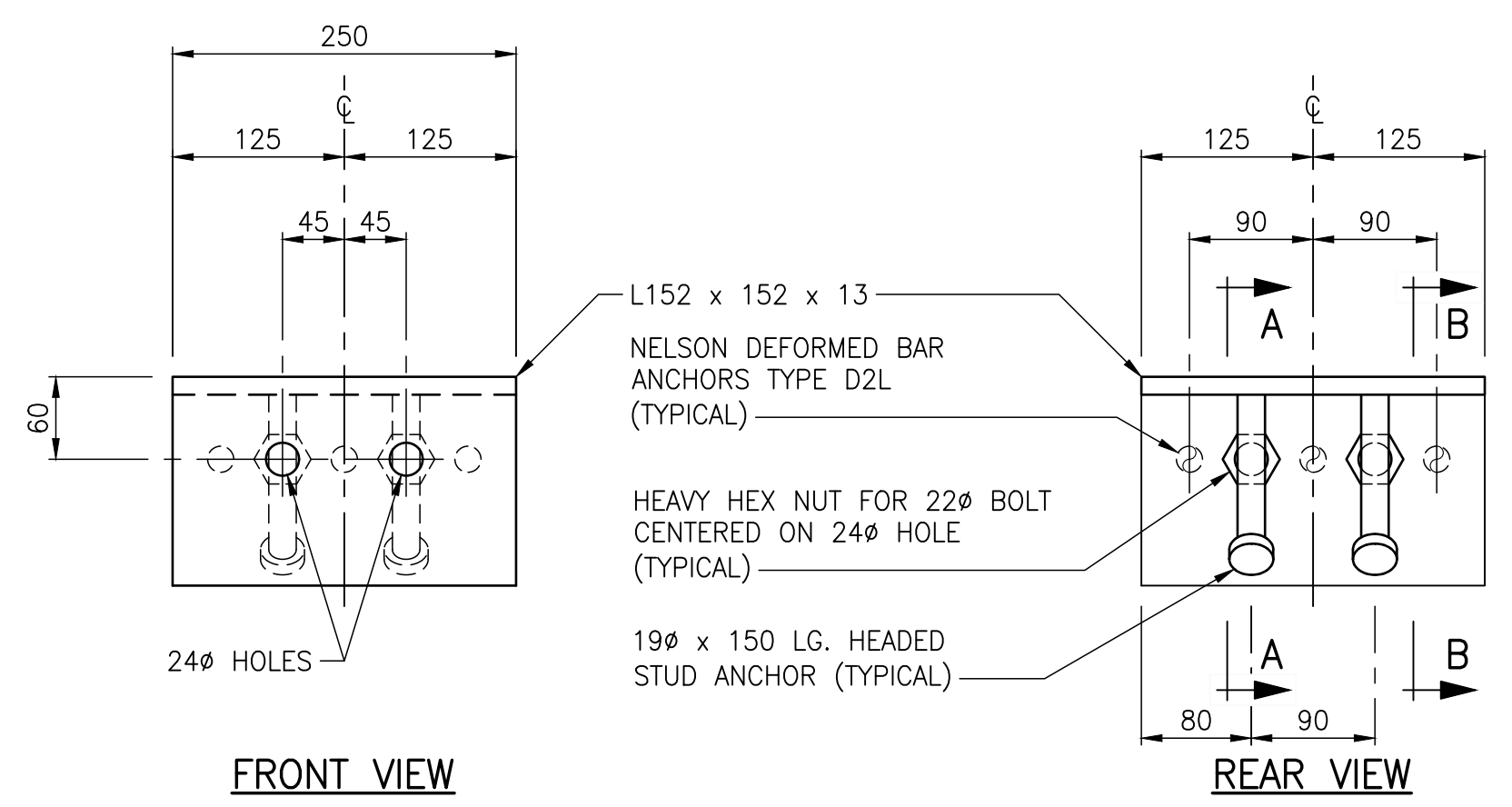
CLIENT REF. #: --

TITLE: **PRECAST PRESTRESSED CHANNEL GIRDERS CONCRETE DETAILS (SHEET 2 OF 2)**

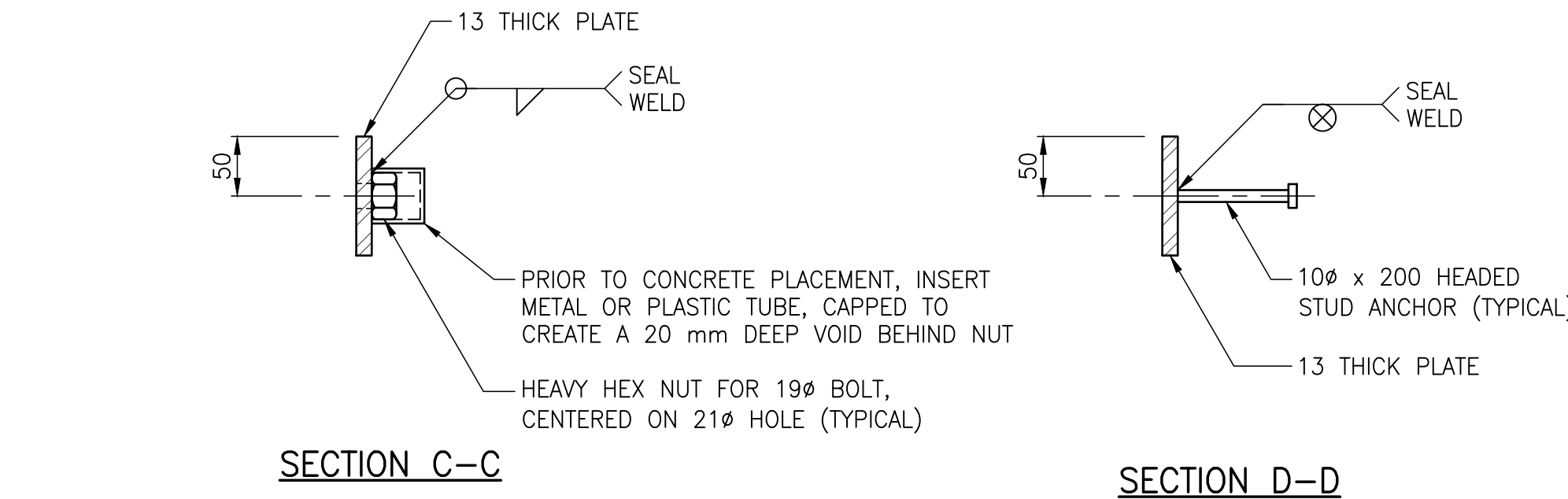
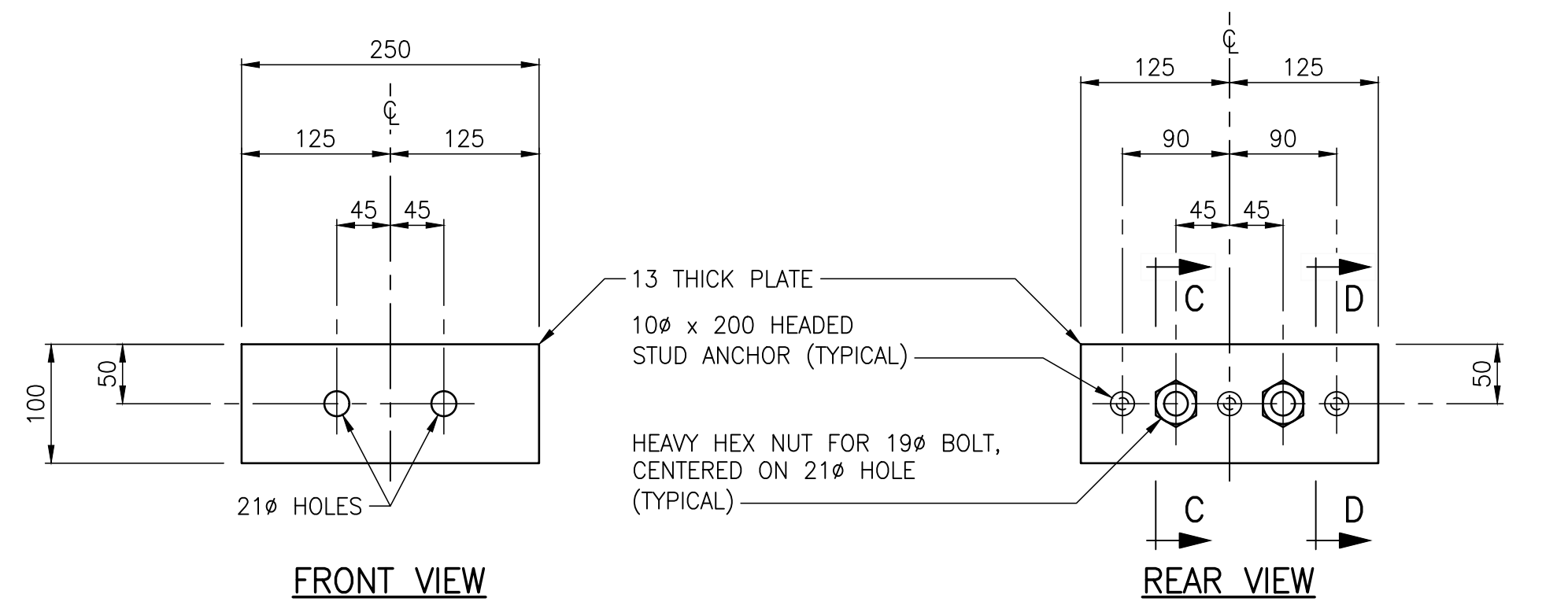
PROJECT: **ALVEY STREET BRIDGE REPLACEMENT OVER DEADHORSE CREEK**

DRAWING NUMBER: 11

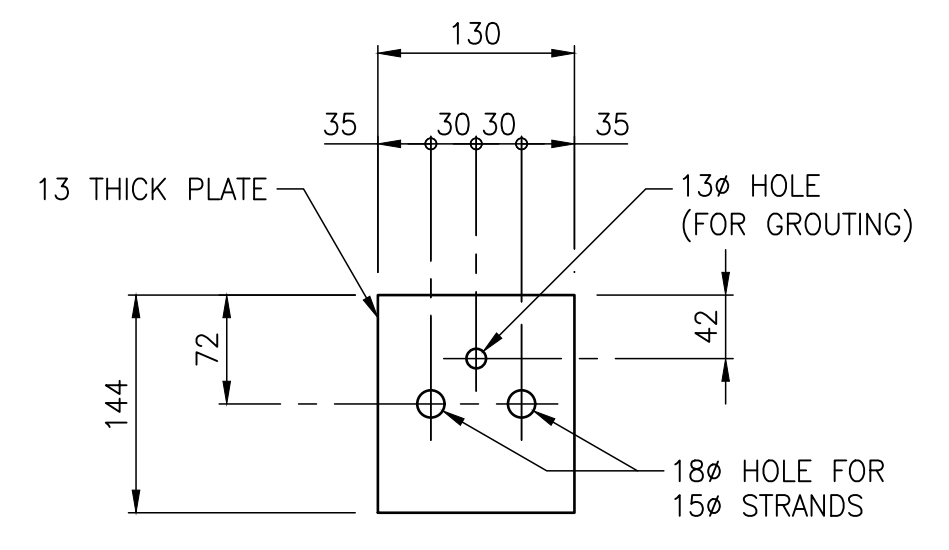
REV: 0



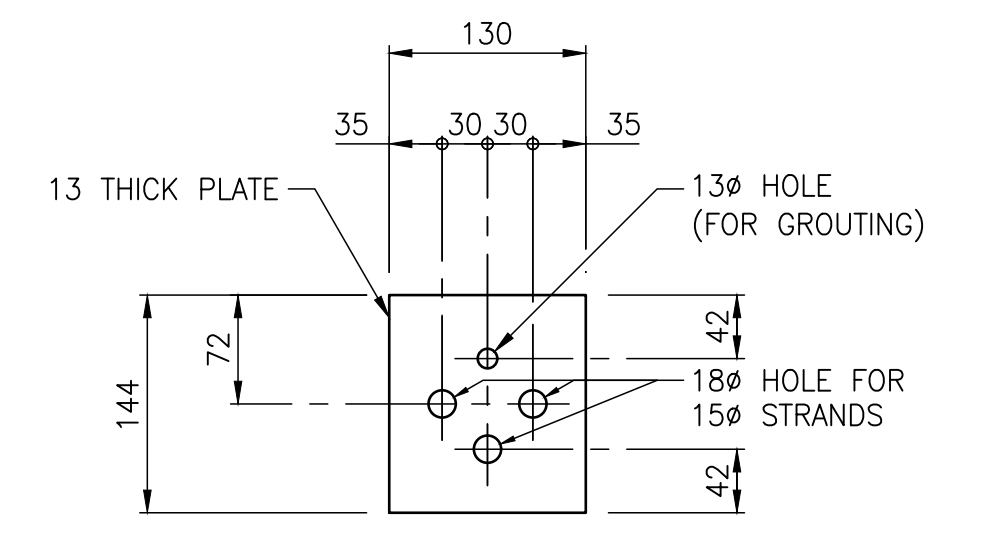
RAILPOST ANCHOR UNIT MK. "U1"
SCALE 1:5



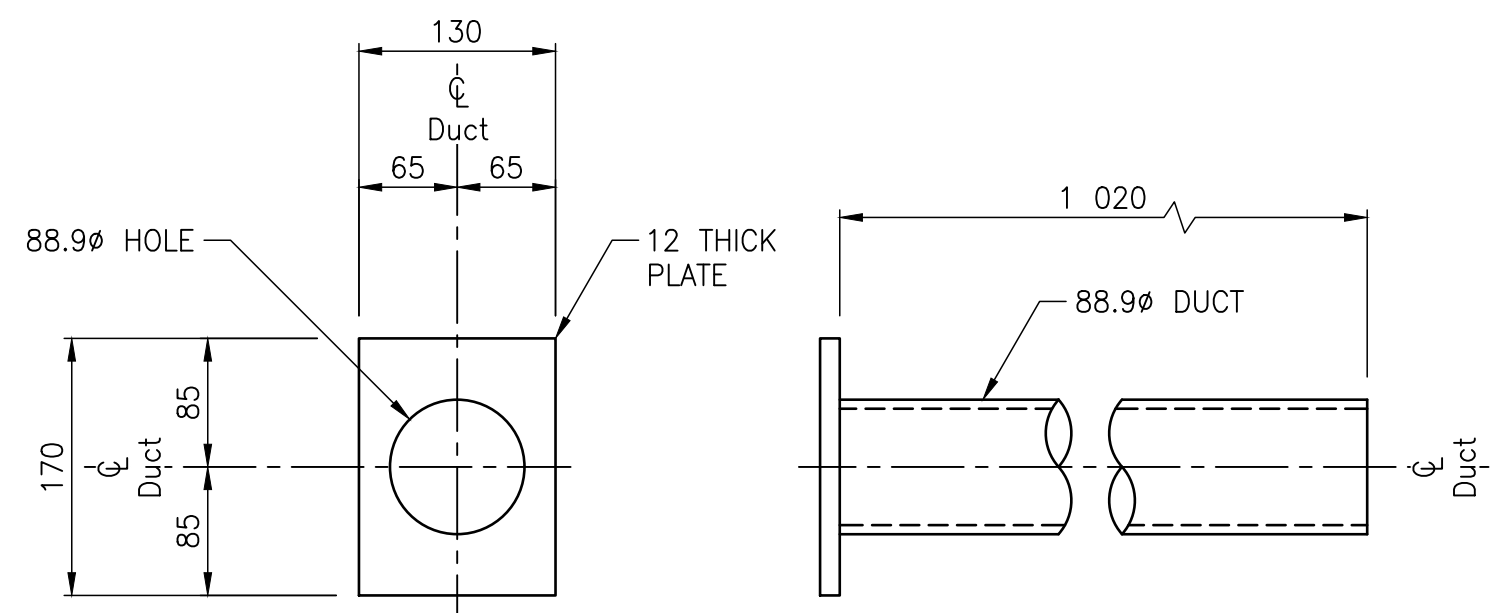
RAILPOST ANCHOR UNIT MK. "U2"
SCALE 1:5



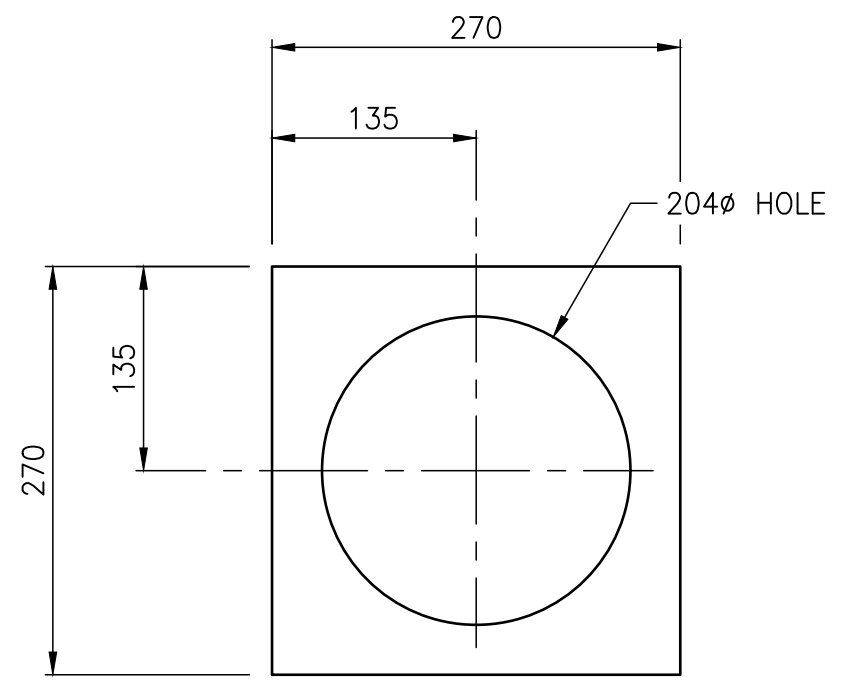
EXTERIOR GIRDER END POST-TENSIONING DUCT MK. "DP1"
SCALE 1:5



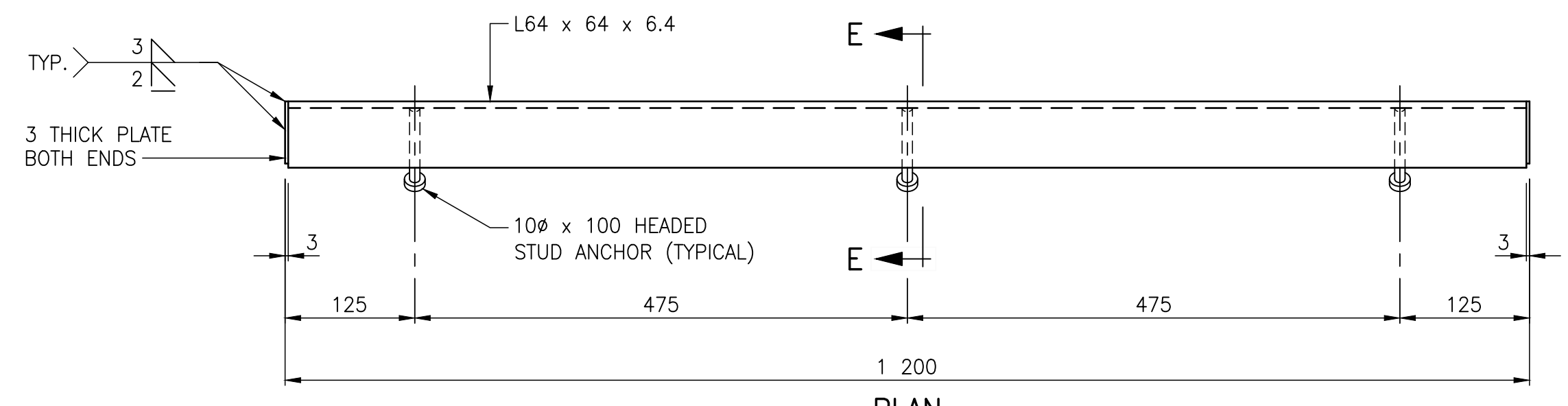
EXTERIOR GIRDER INTERMEDIATE POST-TENSIONING DUCT MK. "DP2"
SCALE 1:5



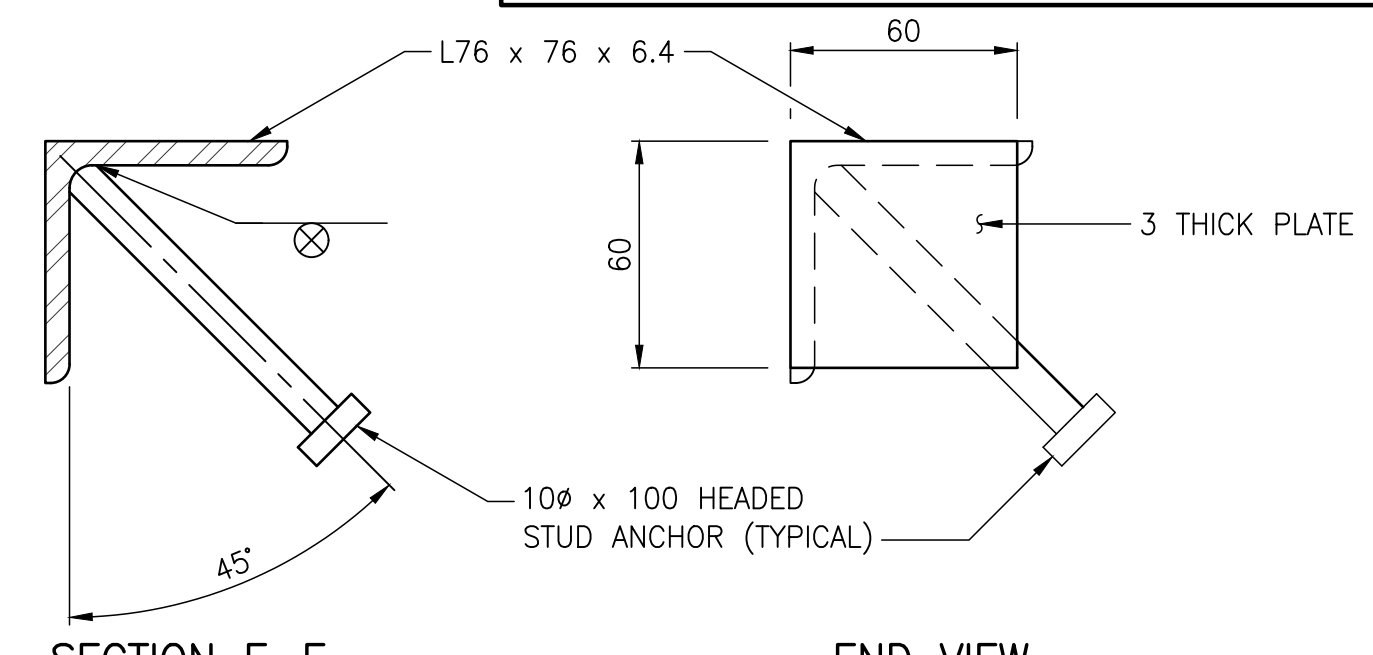
POST-TENSIONING DUCT MK. "PD1"
FOR EXTERIOR GIRDERS ONLY
SCALE 1:5



COMPRESSIBLE FOAM PAD MK. "FP1"
SCALE 1:5



GIRDER END ANGLE MK. "EA1"
SCALE 1:5



SECTION E-E Scale 1:2
END VIEW Scale 1:2

BILL OF MISCELLANEOUS METAL FOR EIGHT 18.0 m LONG PRECAST PRESTRESSED CONCRETE CHANNEL GIRDERS					
MK.	NO.	DESCRIPTION	SIZE	MASS PER UNIT	TOTAL MASS
U1	22	RAILPOST ANCHOR UNIT – GALVANIZED			266.93
		EACH UNIT IS FABRICATED FROM:			
		RETAINING ANGLE	1 – L152 X 152 X 13, 250 LONG – AS DETAILED	7.261	
		HEAVY HEX NUT	2 – FOR 22φ BOLT, GRADE DH OR 2H	0.218	
		HEADED STUD ANCHOR	2 – 19φ X 150 LONG, ASTM A108	0.742	
		NELSON DEFORMED BAR ANCHOR	3 – FOR 19φ BOLT X 600 LONG, TYPE D2L	3.912	
		CAPPED TUBES	2 – METAL OR PLASTIC – AS DETAILED		
		TOTAL		12.133	
U2	22	RAILPOST ANCHOR UNIT – GALVANIZED			64.13
		EACH UNIT IS FABRICATED FROM:			
		PLATE	1 – PL250 X 100, 13 THICK – AS DETAILED	2.551	
		HEAVY HEX NUT	2 – FOR 19φ BOLT, GRADE DH OR 2H	0.154	
		HEADED STUD ANCHOR	2 – 10φ X 100 LONG, ASTM A108	0.210	
		CAPPED TUBES	2 – METAL OR PLASTIC – AS DETAILED		
		TOTAL		2.915	
FL1	16	FERRULE LOOP INSERT – STAINLESS STEEL	FOR 13φ BOLT, RICHMOND ANCHOR, TYPE F-42	0.680	10.88
PD1	8	POST-TENSIONING DUCT – GALVANIZED	88.9φ X 1 020 LONG DUCT	13.023	78.14
			C/W 12 THICK PLATE – AS DETAILED		
PD2	24	POST-TENSIONING DUCT – GALVANIZED	88.9φ X 1 020 LONG DUCT	11.526	207.47
DP1	4	EXTERIOR GIRDER END DIAPHRAGM PLATE – GALVANIZED	PL130 X 144, 12 THICK – AS DETAILED	1.763	7.05
DP2	4	EXTERIOR GIRDER INTERMEDIATE DIAPHRAGM PLATE – GALVANIZED	PL130 X 144, 12 THICK – AS DETAILED	1.763	7.05
FP1	40	COMPRESSIBLE FOAM PAD	270 X 270, 10 THICK – AS DETAILED		
EA1	16	GIRDER END ANGLE – GALVANIZED			120.96
		EACH UNIT IS FABRICATED FROM:			
		ANGLE	1 – L64 X 64 X 6.4, 1 194 LONG – AS DETAILED	7.180	
		END PLATE	2 – PL60 X 60, 3 THICK – AS DETAILED	0.170	
		HEADED STUD ANCHOR	2 – 10φ X 100 LONG, ASTM A108	0.210	
		TOTAL		7.560	
TOTAL MASS:					762.61 kg

- NOTES:**
- ALL MATERIAL IN THE ABOVE BILL SHALL BE SUPPLIED BY THE GIRDER CONTRACTOR.
 - ALL STRUCTURAL STEEL SHALL CONFORM TO CAN/CSA G40.21-13, GRADE 300W.
 - ALL MATERIAL NOTED IN THE ABOVE BILL SHALL BE HOT DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH CSA G154-M92 (R2003) FOR A MINIMUM NET RETENTION OF 610 G/M² UNLESS OTHERWISE STATED IN THE SPECIFIED MATERIAL ASTM STANDARDS. THE FABRICATOR AND GALVANIZER SHALL SAFEGUARD AGAINST EMBRITTLMENT USING RECOMMENDED PRACTICES FROM APPLICABLE STANDARDS.
 - SEAL ALL WELDS PRIOR TO GALVANIZING.
 - GRADE DH OR 2H GALVANIZED NUTS FOR A325 BOLTS SHALL BE OVERTAPPED TO A MINIMUM AMOUNT REQUIRED FOR THE FASTENER ASSEMBLY IN ACCORDANCE WITH ASTM F3125 CLASS 55. THE NUTS SHALL BE LUBRICATED WITH A LUBRICANT CONTAINING A VISIBLE DYE. THE LUBRICANT SHALL BE CLEAN AND DRY TO THE TOUCH.
 - ALL BOLTS AND INSERTS IN THE ABOVE BILL SHALL BE IMPERIAL THREAD.

NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	REV	DATE	DESCRIPTION	BY
0	2023-01-30	ISSUED FOR TENDER	MB				

SEAL:

DISCLAIMER: THIS DRAWING AND DESIGN IS COPYRIGHT PROTECTED WHICH SHALL NOT BE USED, REPRODUCED OR REVISED WITHOUT WRITTEN PERMISSION BY WSP. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND UTILITY LOCATIONS AND REPORT ALL ERRORS AND OMISSIONS PRIOR TO COMMENCING WORK.

ORIGINAL SCALE: AS NOTED

APPROVED BY: MB

CHECKED BY: EH

DRAWN BY (OPTIONAL): CP

DATE: 2023-01-30

IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.

DISCIPLINE: BRIDGE

WSP Canada Inc.
1600 Buffalo Place, Winnipeg, Manitoba R3T 6B8
T 204-477-6650 | www.wsp.com

PROJECT NUMBER: 221-07930-00

CLIENT: The City of Morden

City of Morden
195 Stephen Street, Morden, Manitoba R6M 1V3
T 204-622-4434 | www.mymorden.ca

CLIENT REF. #: --

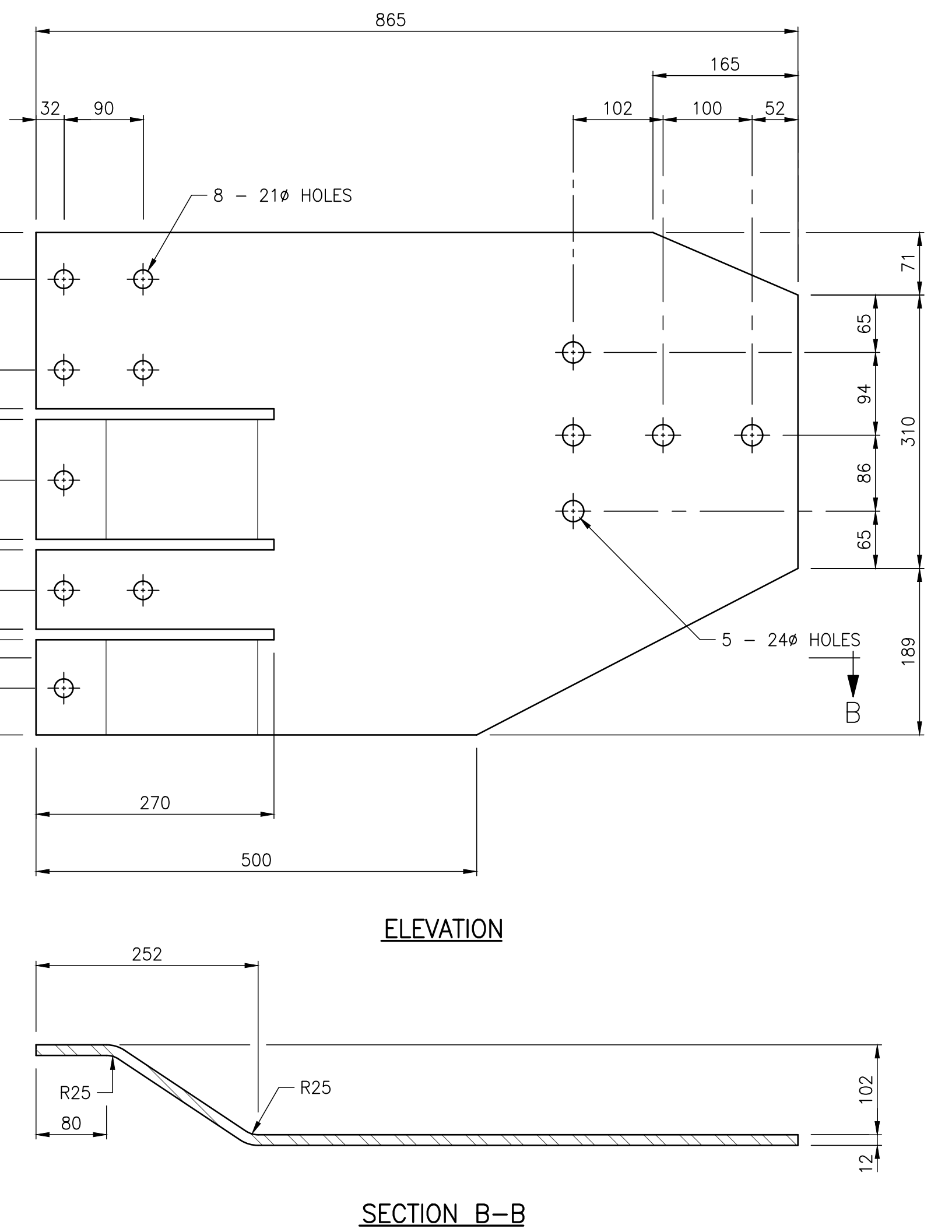
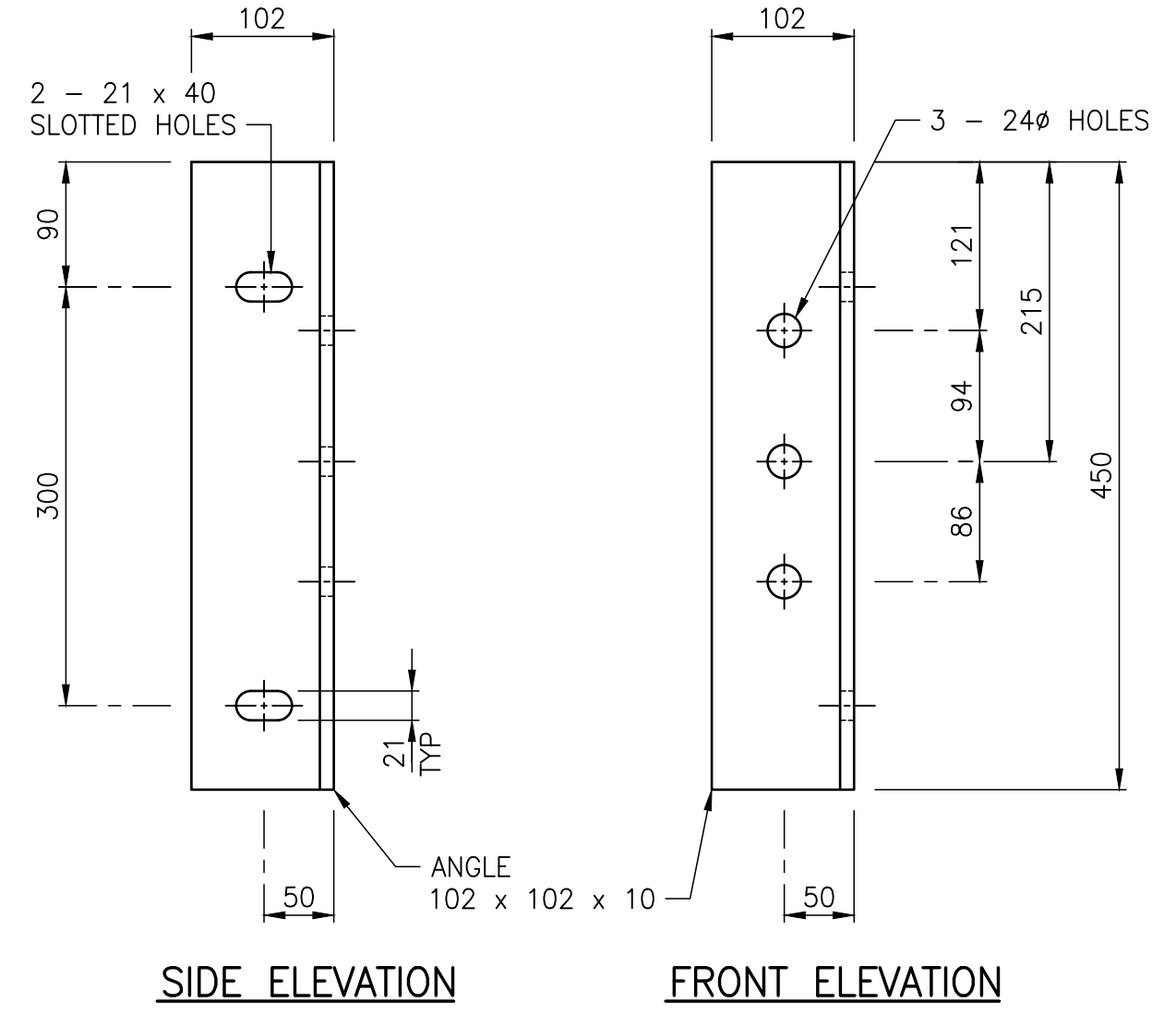
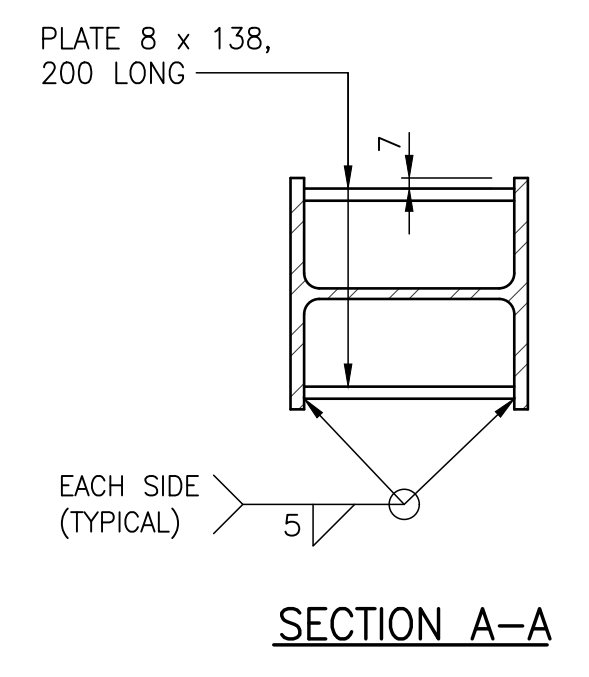
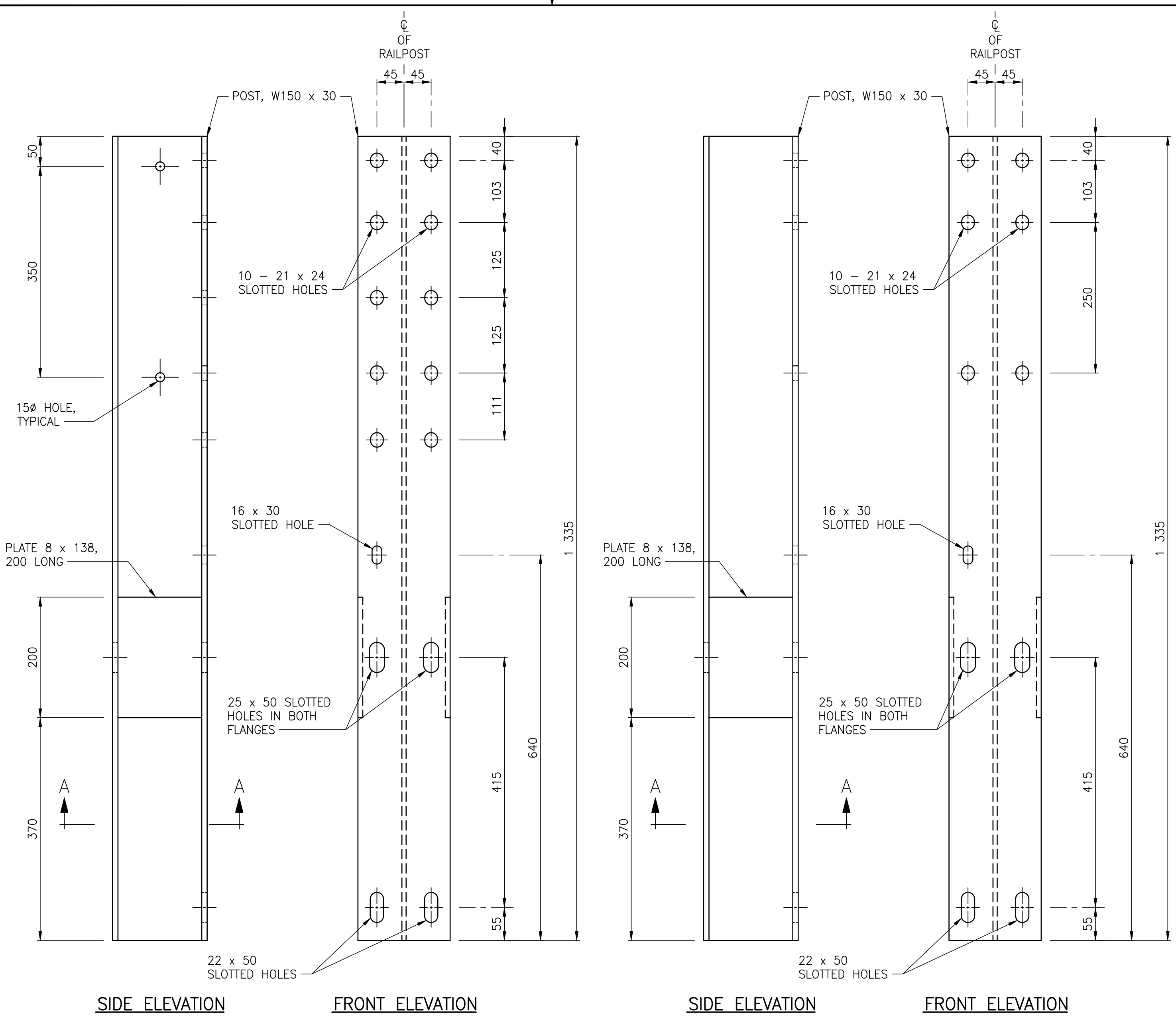
TITLE: PRECAST PRESTRESSED CHANNEL GIRDERS MISCELLANEOUS METAL DETAILS

PROJECT: ALVEY STREET BRIDGE REPLACEMENT OVER DEADHORSE CREEK

DRAWING NUMBER: 14

REV: 0

CTB: WSP WINNIPEG TRANSPORTATION STANDARD PENS FULL SIZE CTB
 FILE: c:\users\jpalmer\appdata\local\temp\221-07930-00 - alvey bridge replacement - 221-07930-00 - alvey bridge replacement - 221-07930-00 - alvey bridge - girder details.dwg



CONNECTION PLATE MK. "CP1" & "CP2"

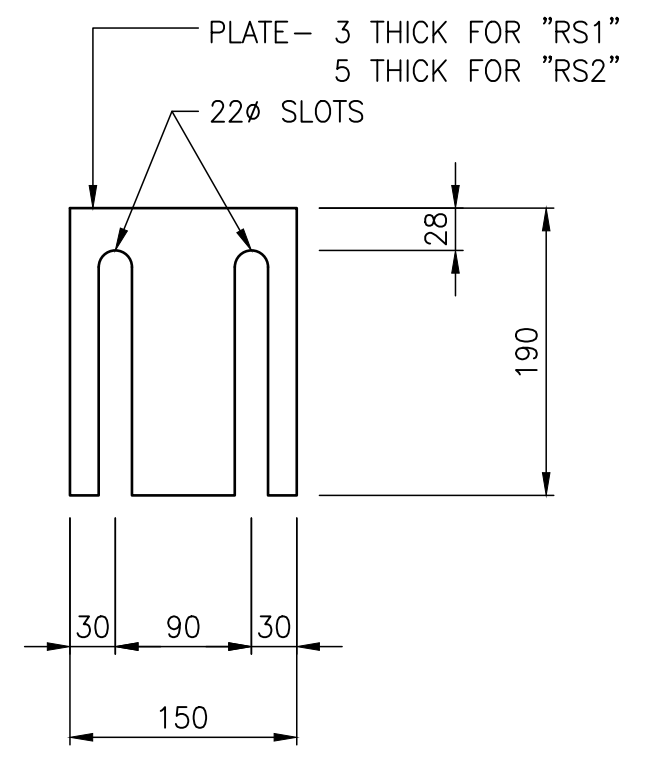
MK. "CP1" SHOWN, MK. "CP2" OPPOSITE HAND
SCALE 1:5

CONNECTION ANGLE MK. "CA1" & "CA2"

MK. "CA1" SHOWN, MK. "CA2" OPPOSITE HAND
SCALE 1:5

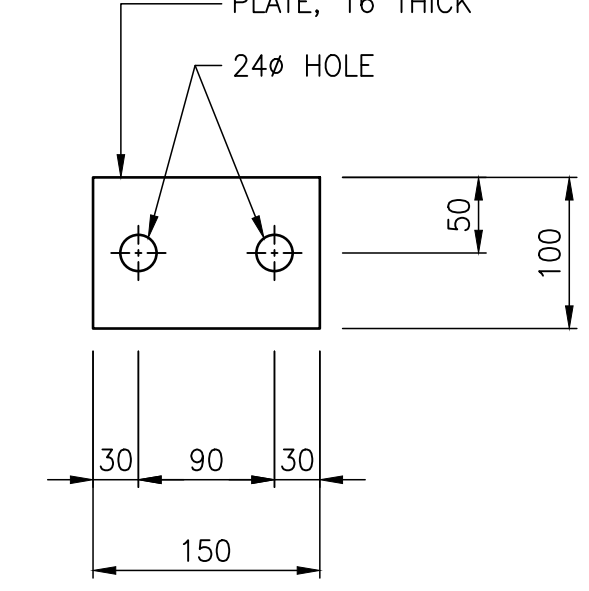
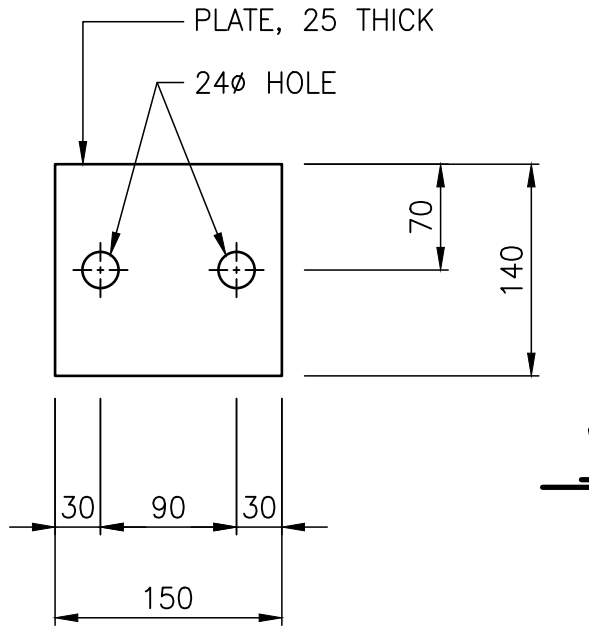
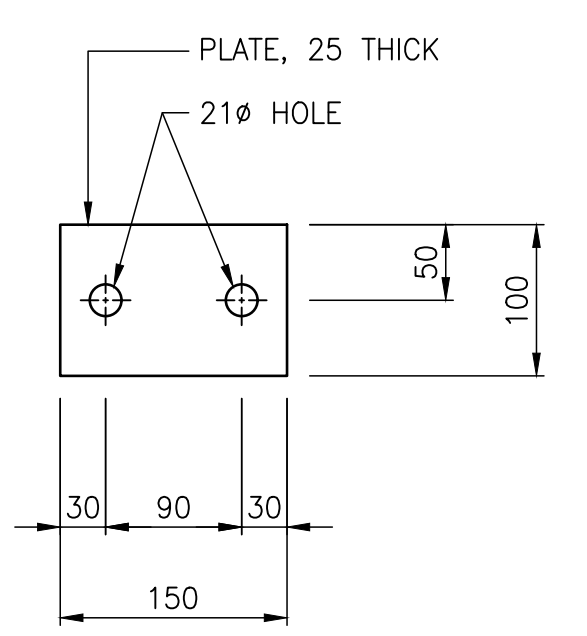
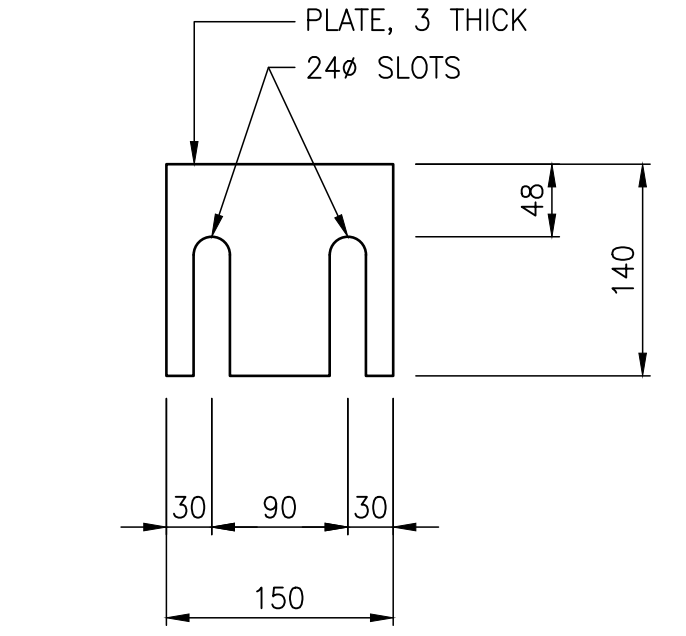
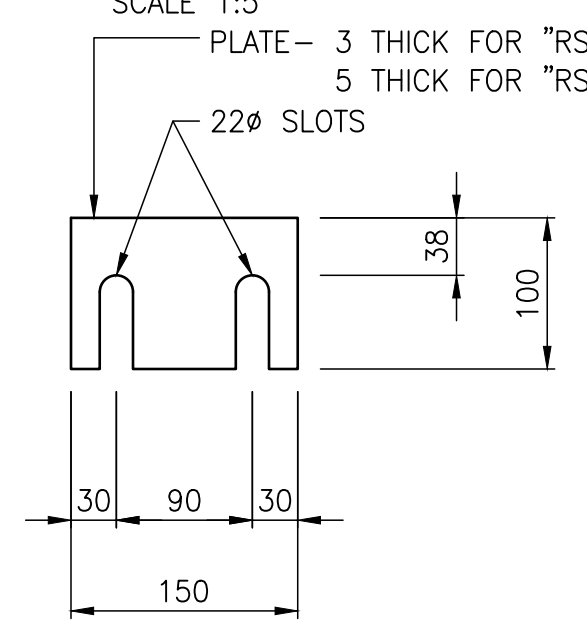
RAILPOST MK. "RP1"

SCALE 1:5



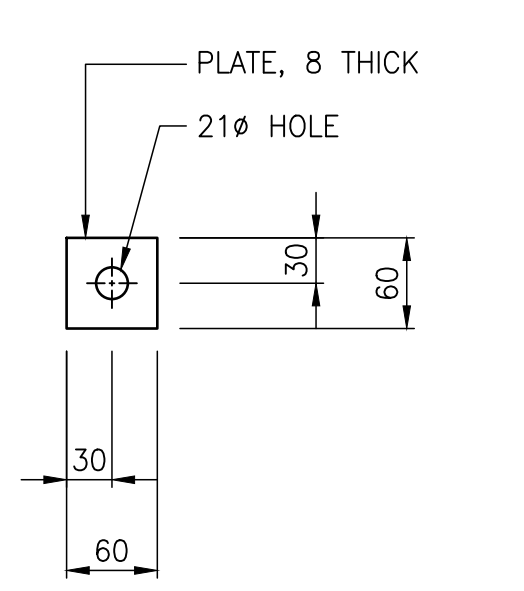
RAILPOST MK. "RP2"

SCALE 1:5



WASHER MK. "BB1"

SCALE 1:5



WASHER MK. "BB2"

SCALE 1:5

NOTES:

- ALL BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F3125 GRADE A325 EXCEPT WHERE NOTED OTHERWISE.

NOT FOR CONSTRUCTION

REVISION:	REVISION:
0	2023-01-30
ISSUED FOR TENDER	MB
DATE	DESCRIPTION

SEAL:

DATE: 2023-01-30

APPROVED BY: MB

CHECKED BY: EH

DRAWN BY (OPTIONAL): FD

DISCIPLINE: BRIDGE

IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.

25mm

DISCLAIMER: THIS DRAWING AND DESIGN IS COPYRIGHT PROTECTED WHICH SHALL NOT BE USED, REPRODUCED OR REVISED WITHOUT WRITTEN PERMISSION BY WSP. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND UTILITY LOCATIONS AND REPORT ALL ERRORS AND OMISSIONS PRIOR TO COMMENCING WORK.

WSP Canada Inc.
1600 Buffalo Place, Winnipeg, Manitoba R3T 6B8
T 204-477-6650 | www.wsp.com

PROJECT NUMBER: 221-07930-00

CLIENT:

The City of Morden
195 Stephen Street, Morden, Manitoba R6M 1V3
T 204-822-4434 | www.mymorden.ca

CLIENT REF. #: --

TITLE:

BRIDGE POST DETAILS

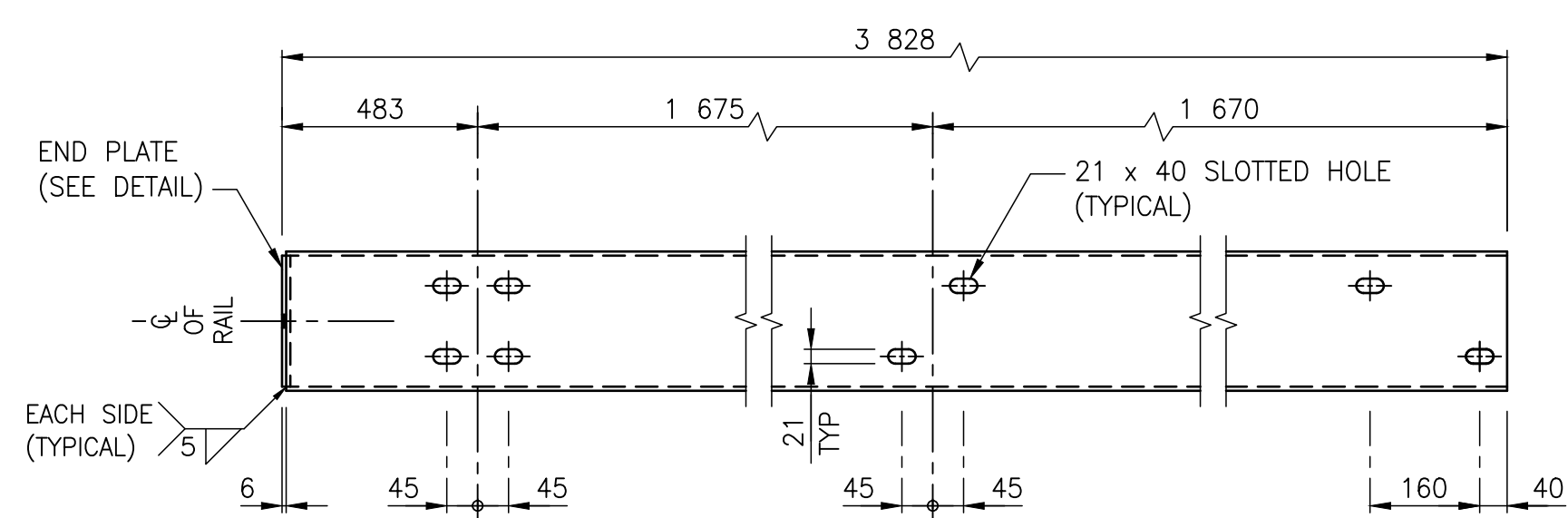
PROJECT:

ALVEY STREET
BRIDGE REPLACEMENT
OVER DEADHORSE CREEK

DRAWING NUMBER: 16

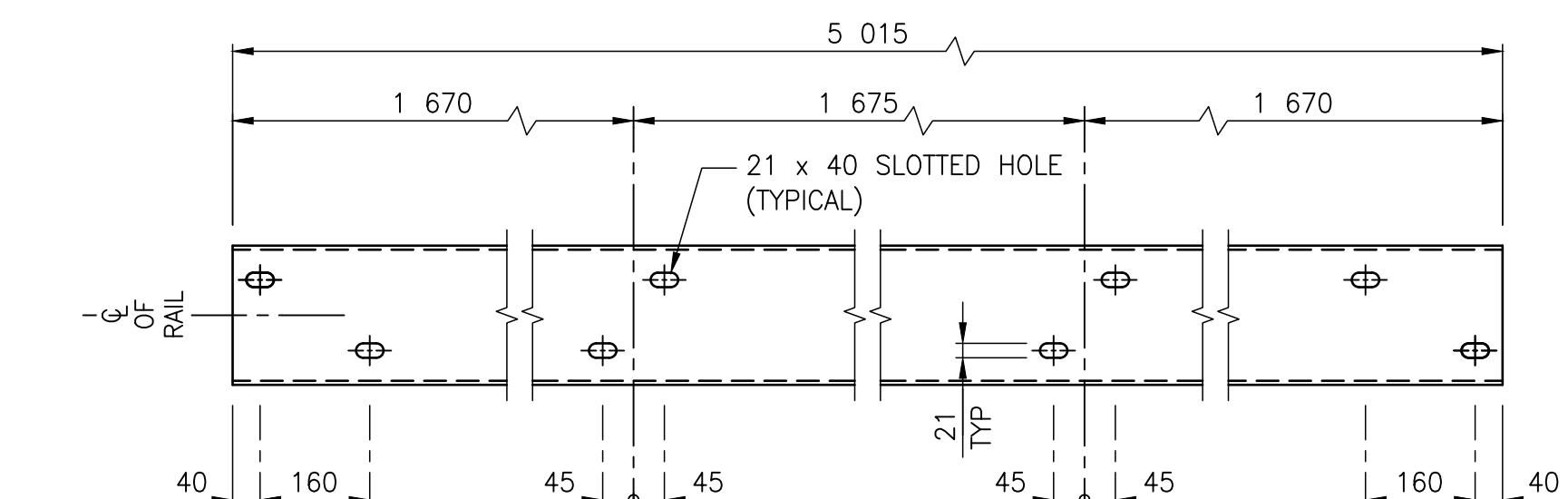
REV: 0

C:\p\wsp\winipeg\transportation\standard\panels\full_size.ctb
 FILE C:\Users\mbarth\OneDrive\Documents\221-07930-00 - Alvey bridge replacement - c22\project files\01-bridge\03-working drawings\221-07930-00 - Alvey bridge replacement - bridge general details.dwg
 2023-01-30 10:51:00 AM



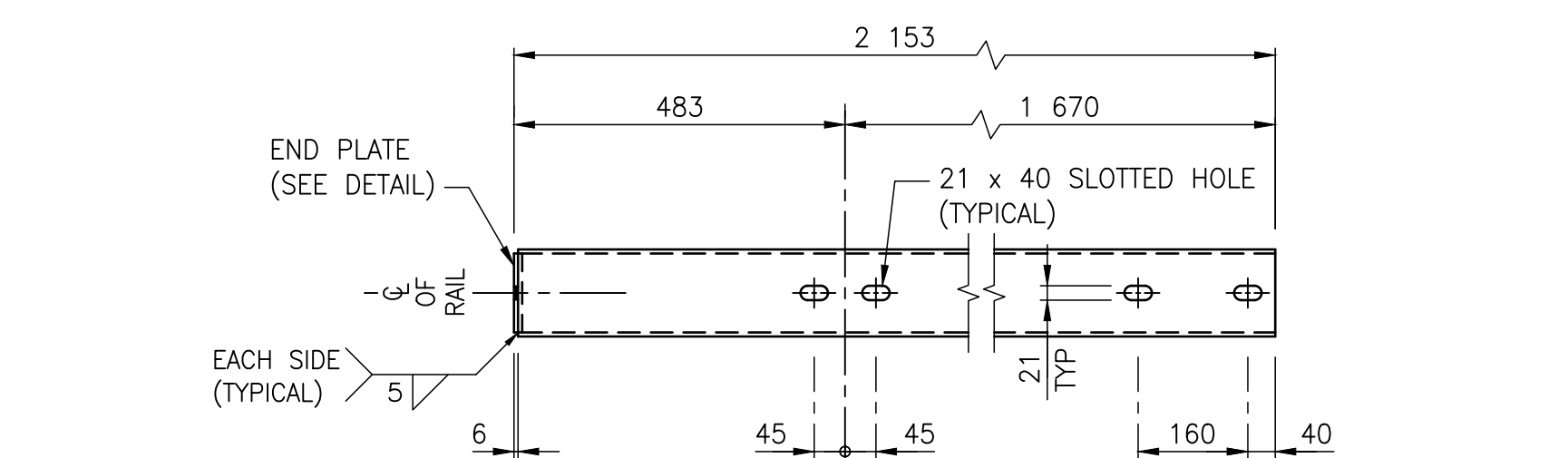
BRIDGE RAIL MK. "TR1"

SCALE 1:10



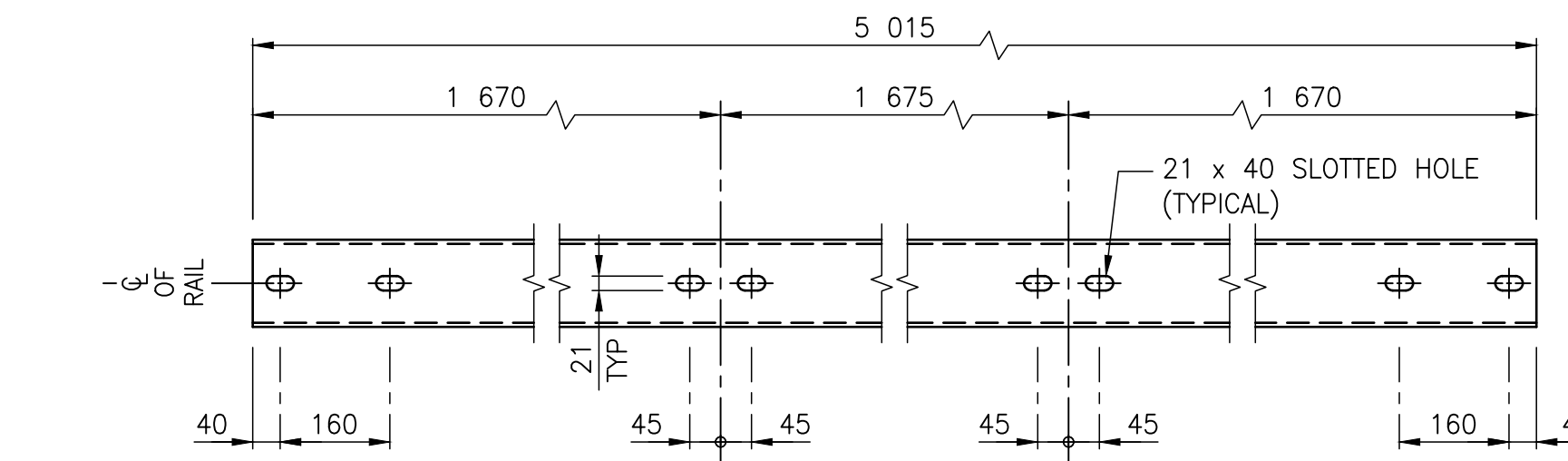
BRIDGE RAIL MK. "TR2"

SCALE 1:10



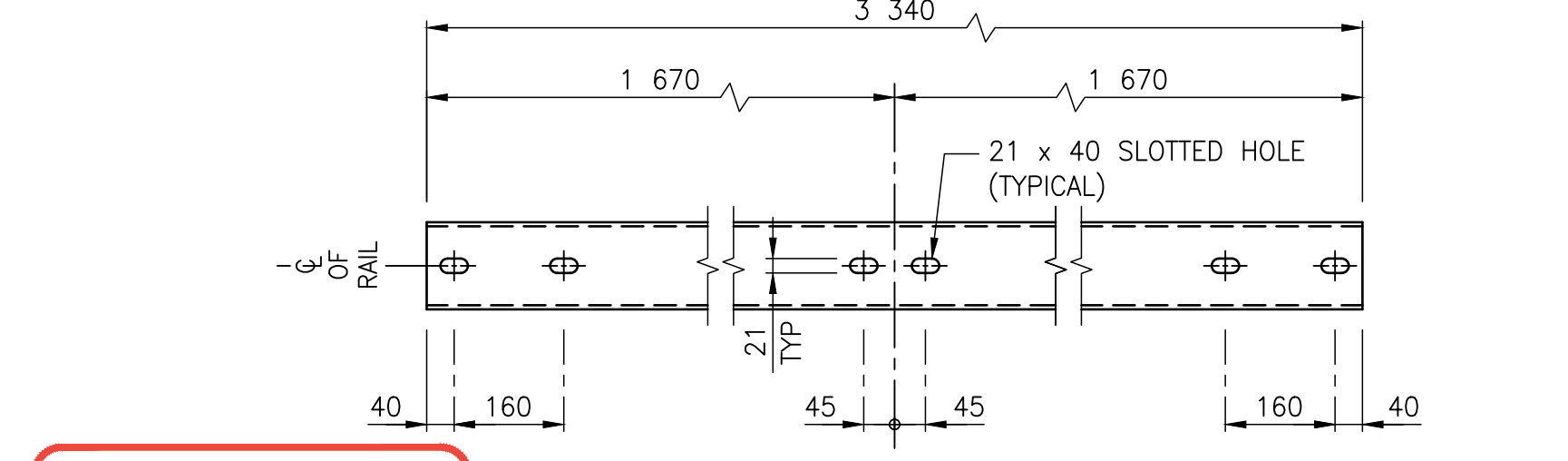
BRIDGE RAIL MK. "BR1"

SCALE 1:10



BRIDGE RAIL MK. "BR2"

SCALE 1:10



BRIDGE RAIL MK. "BR3"

SCALE 1:10

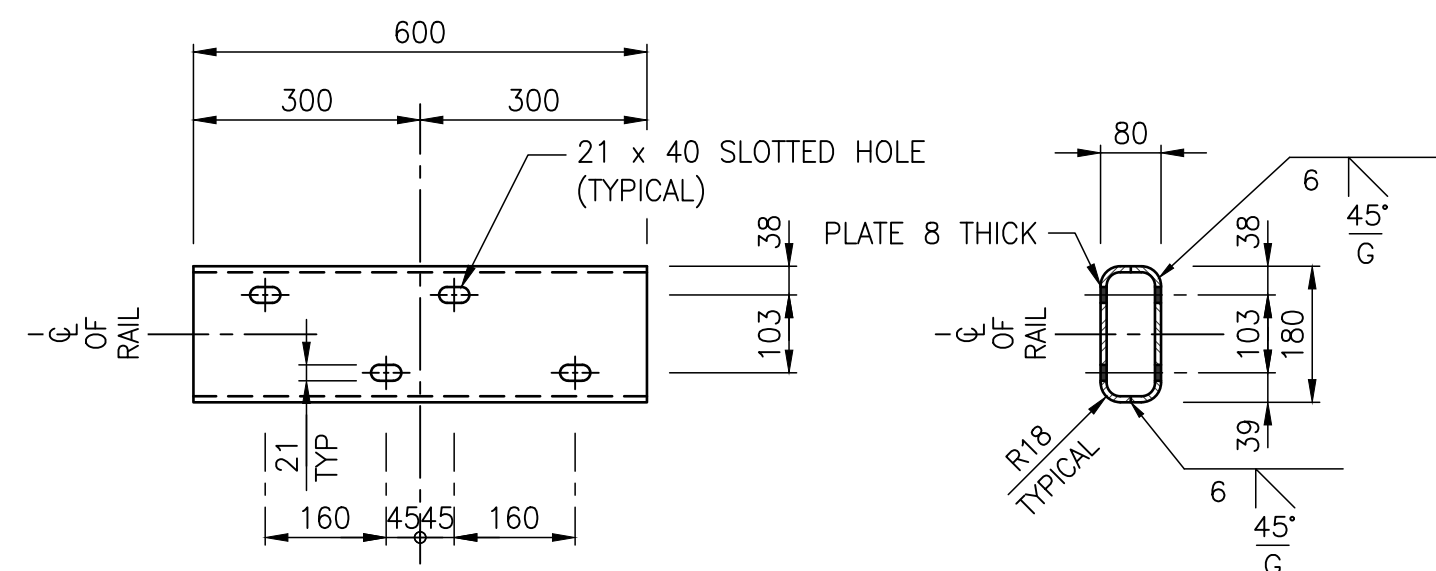
NOT FOR CONSTRUCTION

BILL OF MISCELLANEOUS METAL FOR BRIDGE GUARDRAILS					
Mk.	No.	DESCRIPTION	SIZE	MASS PER UNIT	TOTAL MASS
RP1	4	RAILPOSTS - GALVANIZED			170.33
		EACH RAILPOST TO FABRICATED FROM:			
		POST	W150 x 30, 1 335 LONG - AS DETAILED	39.115	
		PLATES	2 - PL8 x 138, 200 LONG - AS DETAILED	3.466	
			TOTAL	42.581	
RP2	18	RAILPOSTS - GALVANIZED			768.62
		EACH RAILPOST TO FABRICATED FROM:			
		POST	W150 x 30, 1 335 LONG - AS DETAILED	39.235	
		PLATES	2 - PL8 x 138, 200 LONG - AS DETAILED	3.466	
			TOTAL	42.701	
TR1	4	BRIDGE RAIL - GALVANIZED	HSS 203 x 102 x 6.4, 3 828 LONG - AS DETAILED	109.312	437.25
TR2	4	BRIDGE RAIL - GALVANIZED	HSS 203 x 102 x 6.4, 5 015 LONG - AS DETAILED	141.330	565.32
BR1	4	BRIDGE RAIL - GALVANIZED	HSS 102 x 102 x 6.4, 2 153 LONG - AS DETAILED	39.567	158.27
BR2	4	BRIDGE RAIL - GALVANIZED	HSS 102 x 102 x 6.4, 5 015 LONG - AS DETAILED	90.679	362.72
BR3	2	BRIDGE RAIL - GALVANIZED	HSS 102 x 102 x 6.4, 3 340 LONG - AS DETAILED	60.342	120.68
TRS1	6	SLEEVE - GALVANIZED	AS DETAILED	16.965	101.79
BRS1	8	SLEEVE - GALVANIZED	AS DETAILED	9.730	77.84
CP1	2	CONNECTION PLATE - GALVANIZED	AS DETAILED	43.640	87.28
CP2	2	CONNECTION PLATE - GALVANIZED	AS DETAILED	43.640	87.28
CA1	2	CONNECTION ANGLE - GALVANIZED	AS DETAILED	6.312	12.62
CA2	2	CONNECTION ANGLE - GALVANIZED	AS DETAILED	6.312	12.62
RE1	4	EDGE SCREED ANGLE - GALVANIZED	L 38 x 38 x 4.8, 5 590 LONG	14.925	59.70
RE2	2	EDGE SCREED ANGLE - GALVANIZED	L 38 x 38 x 4.8, 6 680 LONG	17.836	35.67

CONTINUED →

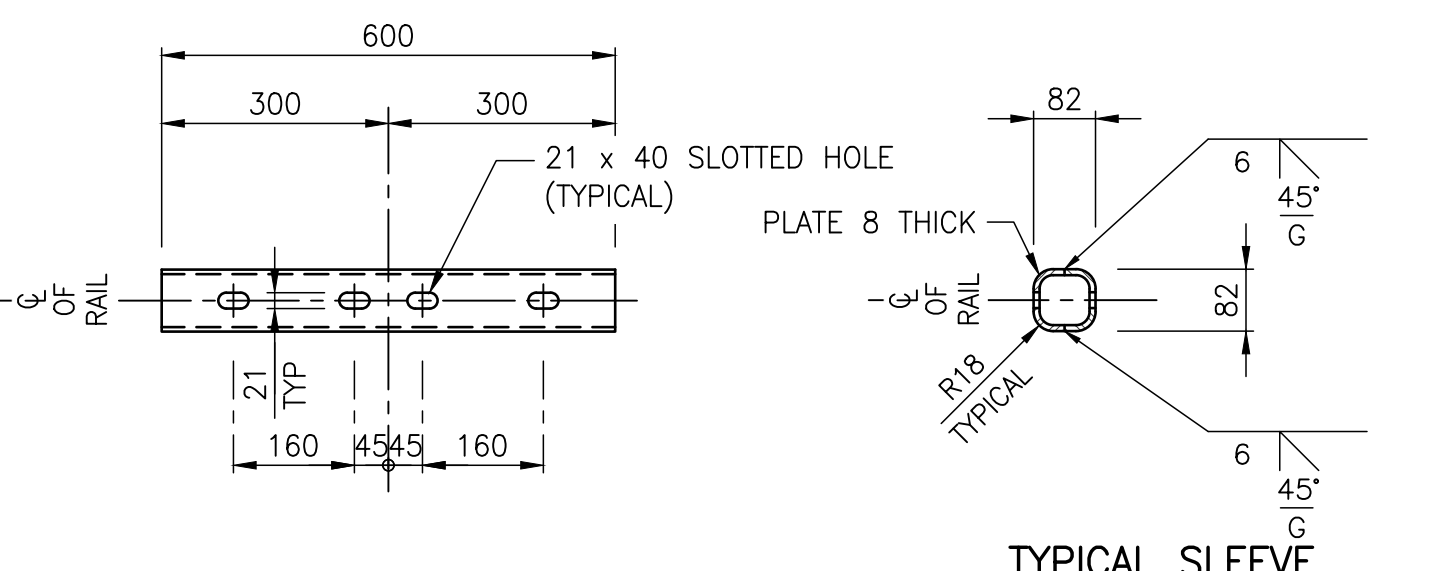
BILL OF MISCELLANEOUS METAL FOR BRIDGE GUARDRAILS					
Mk.	No.	DESCRIPTION	SIZE	MASS PER UNIT	TOTAL MASS
RC1	96	BOLTS - GALVANIZED	19# x 150 ROUND HEAD SQUARE NECK ASTM A307, GRADE A BOLT C/W SELF-LOCKING HEX NUT	0.424	40.70
RC2	24	BOLTS - GALVANIZED	19# x 165 ASTM A325 HEX BOLT C/W SELF-LOCKING HEX NUT	0.466	11.18
RC3	8	BOLTS - GALVANIZED	19# x 65 ASTM A325 HEX BOLT C/W SELF-LOCKING HEX NUT	0.249	1.99
RC4	8	BOLTS - GALVANIZED	22# x 50 ASTM A325 HEX BOLT C/W SELF-LOCKING HEX NUT	0.327	2.62
RC5	8	BOLTS - GALVANIZED	19# x 38 ASTM A325 HEX BOLT	0.145	1.16
RC6	22	BOLTS - GALVANIZED	13# x 38 ASTM A325 HEX BOLT C/W SELF-LOCKING HEX NUT	0.070	1.54
RC7	12	BOLTS - GALVANIZED	22# x 65 ASTM A325 HEX BOLT C/W SELF-LOCKING HEX NUT	0.346	4.15
BB1	22	WASHER - GALVANIZED	PL 16 x 100 x 150 - AS DETAILED	1.770	38.95
BB2	44	WASHER - GALVANIZED	PL 8 x 60 x 60 - AS DETAILED	0.204	8.99
	136	FLAT WASHERS - GALVANIZED	FOR 19# BOLTS, 1 PER BOLT MKS. "RC1", "RC2", "RC3" & "RC5"	0.050	6.80
	20	FLAT WASHERS - GALVANIZED	FOR 22# BOLTS, 1 PER BOLT MKS. "RC4" & "RC7"	0.068	1.36
	22	FLAT WASHERS - GALVANIZED	FOR 13# BOLTS, 1 PER BOLT MK. "RC6"	0.018	0.40
	136	LOCK WASHERS - GALVANIZED	FOR 19# BOLTS, 1 PER BOLT MKS. "RC1", "RC2", "RC3" & "RC5"	0.020	2.72
	20	LOCK WASHERS - GALVANIZED	FOR 22# BOLTS, 1 PER BOLT MKS. "RC4" & "RC7"	0.027	0.54
	22	LOCK WASHERS - GALVANIZED	FOR 13# BOLTS, 1 PER BOLT MK. "RC6"	0.006	0.13
RS1	22	SHIMS - GALVANIZED	PL 3 THICK - AS DETAILED	0.506	11.13
RS2	22	SHIMS - GALVANIZED	PL 5 THICK - AS DETAILED	0.843	18.55
RS3	110	SHIMS - GALVANIZED	PL 3 THICK - AS DETAILED	0.291	32.01
RS4	22	SHIMS - GALVANIZED	PL 5 THICK - AS DETAILED	0.486	10.69
RS5	88	SHIMS - GALVANIZED	PL 3 THICK - AS DETAILED	0.394	34.67
TOTAL MASS:				3 288.28 kg	

- NOTES:**
- ALL GALVANIZED MATERIAL NOTED IN THE ABOVE BILL SHALL BE HOT DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123, A153 AND A143 FOR A MINIMUM NET RETENTION OF 610 G/M² UNLESS OTHERWISE STATED IN THE SPECIFIED MATERIAL ASTM STANDARDS. THE FABRICATOR AND GALVANIZER SHALL SAFEGUARD AGAINST EMBRITTLMENT USING RECOMMENDED PRACTICES FROM APPLICABLE STANDARDS.
 - ALL POST AND RAIL SECTIONS SHALL BE GALVANIZED AFTER FABRICATION.
 - SEAL ALL WELDS PRIOR TO GALVANIZING.
 - APPLY GALVALLOY TO ALL FIELD WELDS AND AREAS WHERE GALVANIZING HAS BEEN DAMAGED.



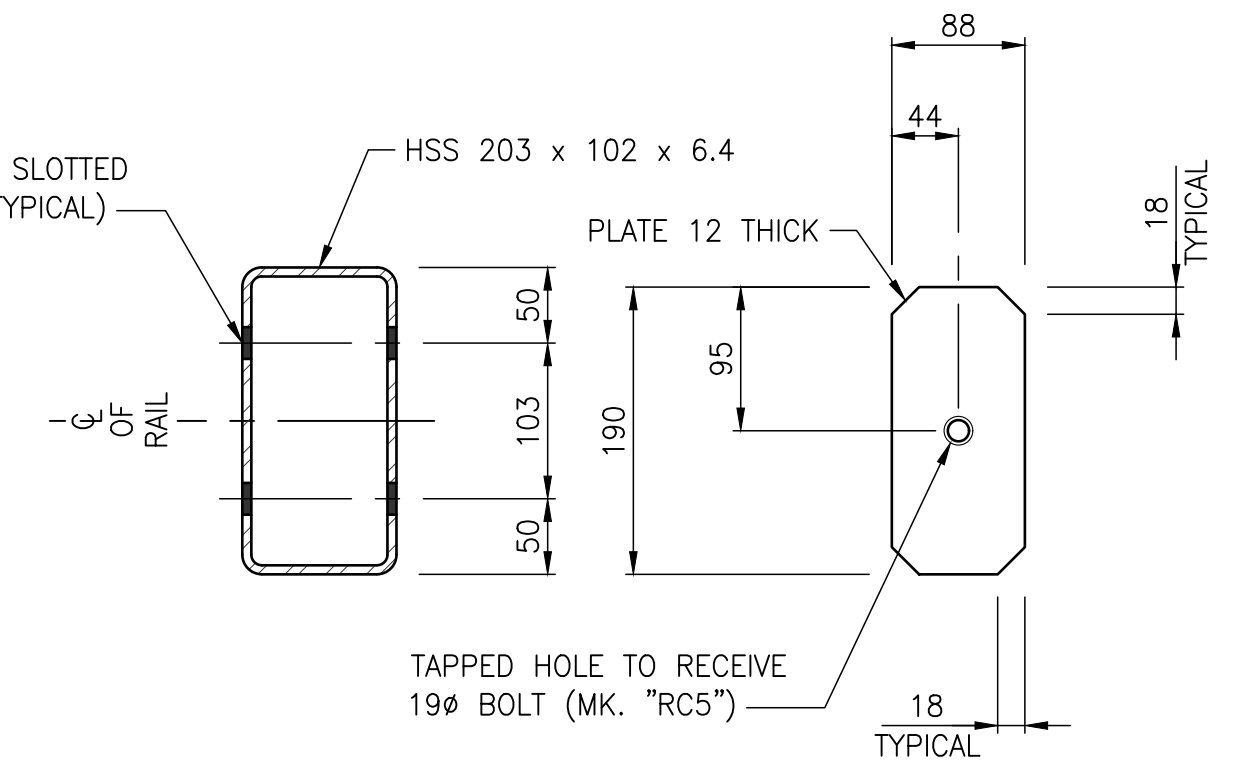
DETAILS OF TOP SLEEVES

SCALE 1:10



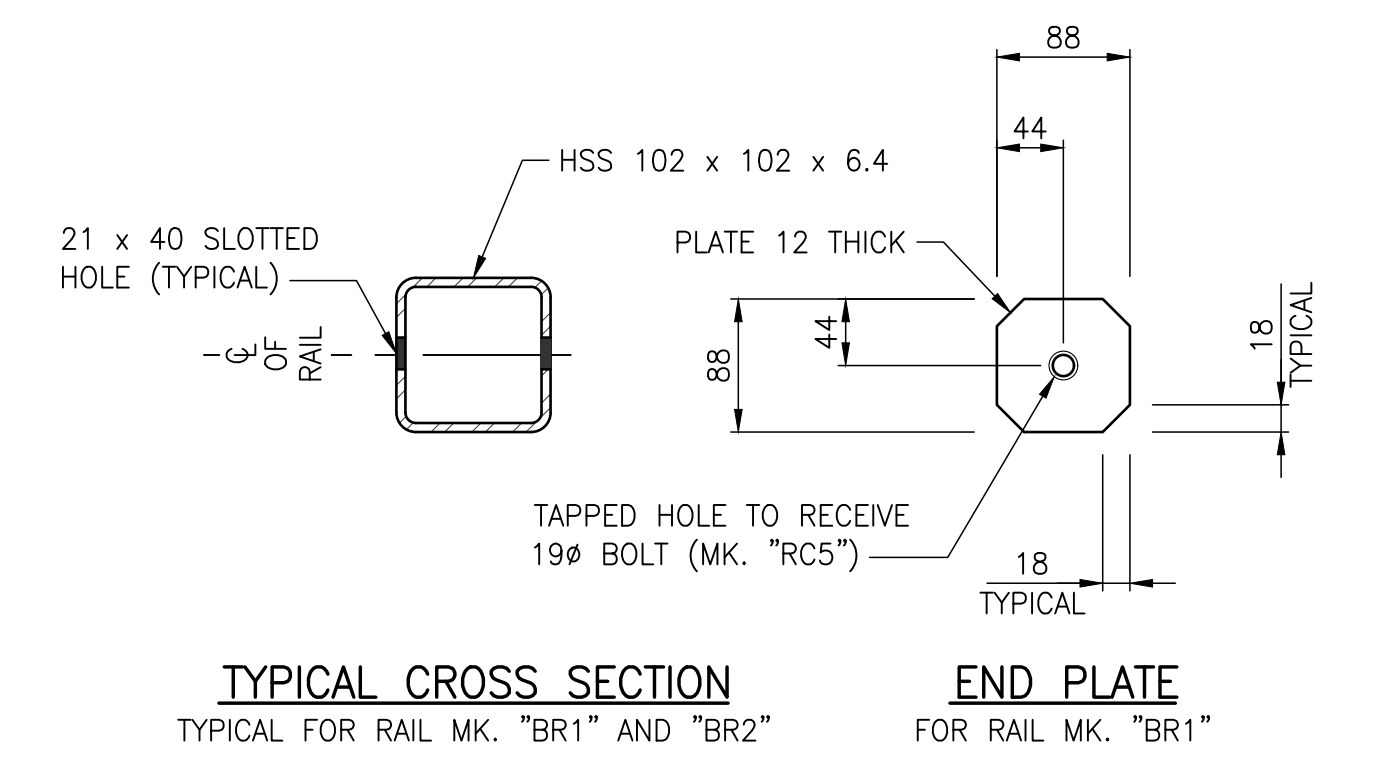
DETAILS OF BOTTOM SLEEVES

SCALE 1:10



DETAILS OF TOP RAILS

SCALE 1:5



DETAILS OF BOTTOM RAILS

SCALE 1:5

- NOTES:**
- ALL BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F3125 GRADE A325 EXCEPT WHERE NOTED OTHERWISE.

REVISION:	REVISION:
0	2023-01-30
ISSUED FOR TENDER	MB

SEAL:

DATE: 2023-01-30

APPROVED BY: MB

CHECKED BY: EH

DRAWN BY (OPTIONAL): FD

DISCIPLINE: BRIDGE

IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.

25mm

DISCLAIMER: THIS DRAWING AND DESIGN IS COPYRIGHT PROTECTED WHICH SHALL NOT BE USED, REPRODUCED OR REVISED WITHOUT WRITTEN PERMISSION BY WSP. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND UTILITY LOCATIONS AND REPORT ALL ERRORS AND OMISSIONS PRIOR TO COMMENCING WORK.

wsp

WSP Canada Inc.
1600 Buffalo Place, Winnipeg, Manitoba R3T 6B8
T 204-477-6650 | www.wsp.com

CLIENT: *The City of Morden*

City of Morden
195 Stephen Street, Morden, Manitoba R6M 1V3
T 204-822-4434 | www.mymorden.ca

CLIENT REF. #: --

TITLE: BRIDGE POST DETAILS

PROJECT: ALVEY STREET BRIDGE REPLACEMENT OVER DEADHORSE CREEK

DRAWING NUMBER: 17

REV: 0

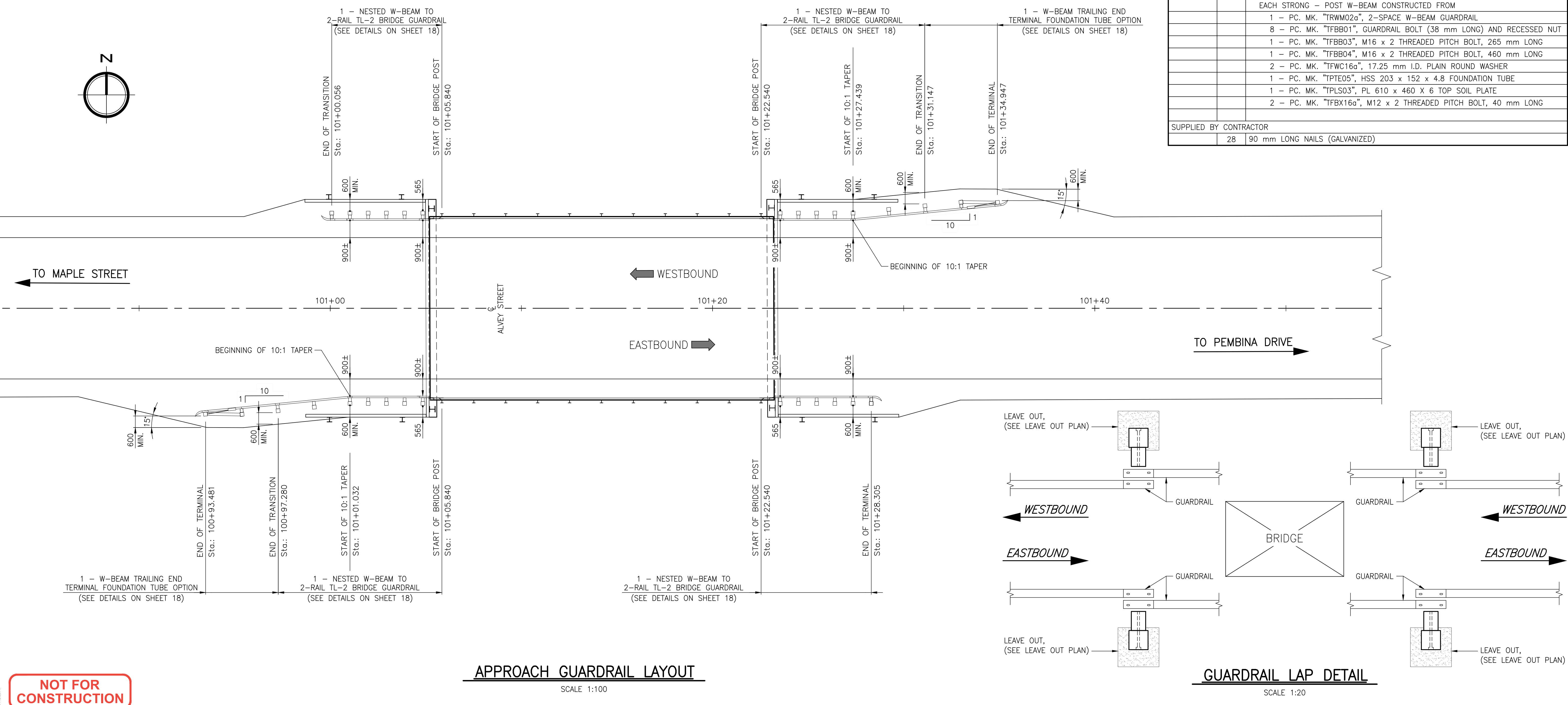
C:\B:\wsp\winning\transportation\standard\plans\full_size\cb... FILE: C:\Users\mbe\OneDrive\Documents\221-07930-00-00-alvey-bridge-guardrail-replacement.dwg
 C:\B:\wsp\winning\transportation\standard\plans\full_size\cb... FILE: C:\Users\mbe\OneDrive\Documents\221-07930-00-00-alvey-bridge-guardrail-replacement.dwg
 C:\B:\wsp\winning\transportation\standard\plans\full_size\cb... FILE: C:\Users\mbe\OneDrive\Documents\221-07930-00-00-alvey-bridge-guardrail-replacement.dwg

BILL OF TIMBER
FOR TWO APPROACH GUARDRAILS (TWO SIDES)

MARK	No.	DESCRIPTION	SIZE	LENGTH	REMARKS	VOLUME
TPDB01	28	W-BEAM TIMBER BLOCKOUT	200 x 150	360	AS DETAILED ON MI STANDARD DRAWINGS	0.302
TPDE05	14	TIMBER GUARDRAIL POST	200 x 200	1 830	"	1.025
TPDF01	4	TIMBER GUARDRAIL POST	190 x 140	1 180	"	0.126
Total Volume:						1.45 m³

BILL OF MISCELLANEOUS METAL
FOR TWO APPROACH GUARDRAILS (TWO SIDES)

MARK	No.	DESCRIPTION
TSTB10	4	NESTED W-BEAM TO 2 RAIL TL-4 BRIDGE GUARDRAIL EACH NESTED THRIE BEAM CONSTRUCTED FROM: 1 - PC. MK. "TRWM02g", 2-SPACE W-BEAM GUARDRAIL 32 - PC. MK. "TFBB01", GUARDRAIL BOLT (38 mm LONG) AND RECESSED NUT 26 - PC. MK. "TFBB04", M16 x 2 THREADED PITCH BOLT, 460 mm LONG 26 - PC. MK. "TFWC16a", 17.25 mm I.D. PLAIN ROUND WASHER
TSEW02a	2	STRONG - POST W-BEAM GUARDRAIL EACH STRONG - POST W-BEAM CONSTRUCTED FROM: 1 - PC. MK. "TRWM02g", 2-SPACE W-BEAM GUARDRAIL 8 - PC. MK. "TFBB01", GUARDRAIL BOLT (38 mm LONG) AND RECESSED NUT 1 - PC. MK. "TFBB03", M16 x 2 THREADED PITCH BOLT, 265 mm LONG 1 - PC. MK. "TFBB04", M16 x 2 THREADED PITCH BOLT, 460 mm LONG 2 - PC. MK. "TFWC16a", 17.25 mm I.D. PLAIN ROUND WASHER 1 - PC. MK. "TPTE05", HSS 203 x 152 x 4.8 FOUNDATION TUBE 1 - PC. MK. "TPLS03", PL 610 x 460 X 6 TOP SOIL PLATE 2 - PC. MK. "TFBX16a", M12 x 2 THREADED PITCH BOLT, 40 mm LONG
SUPPLIED BY CONTRACTOR		
28	90 mm LONG NAILS (GALVANIZED)	



NOT FOR CONSTRUCTION

REVISION	DATE	DESCRIPTION	BY	REVISION	DATE	DESCRIPTION	BY
0	2023-01-30	ISSUED FOR TENDER	MB				

SEAL:

ENGINEERS GEOSCIENTISTS MANITOBA
Certificate of Authorization
WSP Canada Inc.
No. 5750

ORIGINAL SCALE: AS NOTED
APPROVED BY: MB
CHECKED BY: EH
DRAWN BY (OPTIONAL): FD
DISCIPLINE: BRIDGE

DATE: 2023-01-30
IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.
25mm

DISCLAIMER: THIS DRAWING AND DESIGN IS COPYRIGHT PROTECTED WHICH SHALL NOT BE USED, REPRODUCED OR REVISED WITHOUT WRITTEN PERMISSION BY WSP. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND UTILITY LOCATIONS AND REPORT ALL ERRORS AND OMISSIONS PRIOR TO COMMENCING WORK.

wsp

WSP Canada Inc.
1600 Buffalo Place, Winnipeg, Manitoba R3T 6B8
T 204-477-6650 | www.wsp.com

PROJECT NUMBER: 221-07930-00

CLIENT:

The City of Morden

City of Morden
195 Stephen Street, Morden, Manitoba R6M 1V3
T 204-822-4434 | www.mymorden.ca

CLIENT REF. #: --

TITLE:

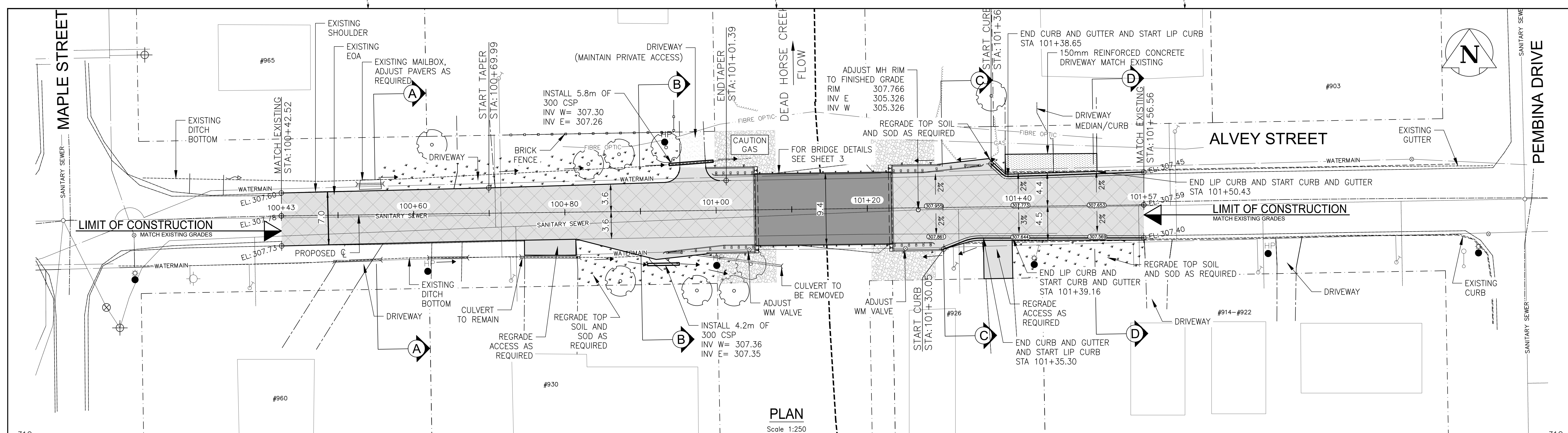
APPROACH GUARDRAIL LAYOUT

PROJECT:

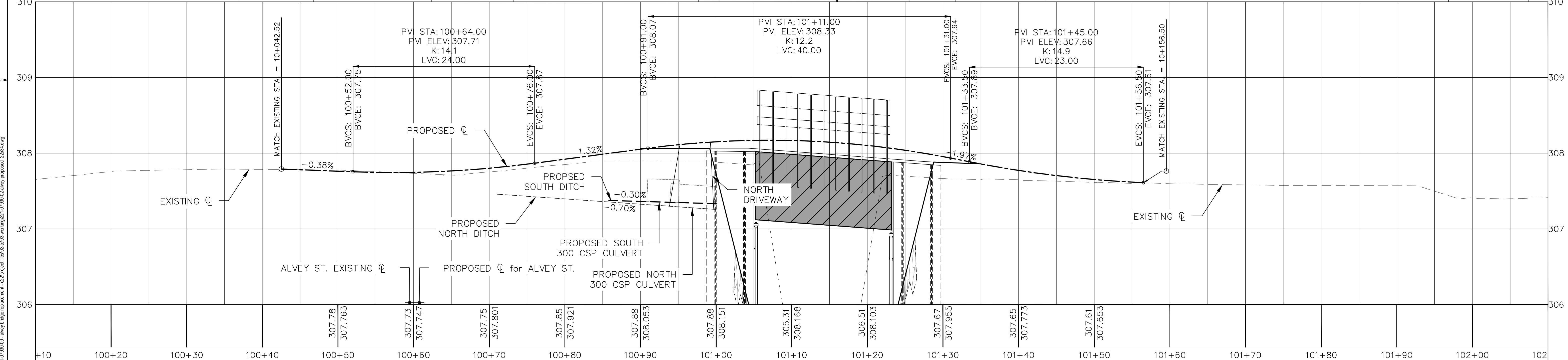
ALVEY STREET BRIDGE REPLACEMENT OVER DEADHORSE CREEK

DRAWING NUMBER: 18
REV. 0

C:\B:\wsp\winning\transportation\standard\plans\full\size.ctb
 FILE C:\Users\mbe\OneDrive\Documents\wsp\projects\221-07930-00- Alvey bridge replacement - 221-07930-00- Alvey bridge replacement - 221-07930-00- Alvey bridge - approach guardrail.dwg
 2023-01-30 11:17



PLAN
Scale 1:250



PROFILE
Scale 1:250
Scale 1:25

- NOTES:
1. ALL WORK AND MATERIALS TO BE IN ACCORDANCE WITH THE LATEST REVISION OF THE CITY OF MORDEN AND MANITOBA INFRASTRUCTURE STANDARD CONSTRUCTION SPECIFICATIONS.
 2. CONTRACTOR TO CONFIRM THE LOCATION OF ALL UTILITIES/SERVICES IN THE FIELD PRIOR TO CONSTRUCTION.
 3. LEGAL SURVEY NOT COMPLETED, PROPERTY LINE INFORMATION SHOWN ACQUIRED FROM DATA MB <https://geoportal.gov.mb.ca/>
 4. ALL ROADWAY DIMENSIONS SHOWN ARE TO BACK OF CURB.
 5. EXISTING ASPHALT TO BE PLANNED AS SHOWN OR AS DIRECTED BY CONTRACT ADMINISTRATOR.
 6. ALL PRIVATE WALKWAYS AND ACCESSES TO BE ADJUSTED TO NEW SIDEWALK OR TOP OF CURB ELEVATION, AS DIRECTED BY THE CONTRACT ADMINISTRATOR.
 7. MODIFIED LIP CURB AND GUTTER TO BE CONSTRUCTED AT ALL ACCESS.
 8. CONTRACTORS TO TAKE PRECAUTIONARY STEPS TO PROTECT EXISTING TREES WITHIN THE LIMITS OF CONSTRUCTION FROM DAMAGE FROM CONSTRUCTION ACTIVITIES AS OUTLINED IN THE SPECIFICATIONS.
 9. LAMP STANDARDS, HYDRO POLES, AND ANCHORS THAT REQUIRE TEMPORARY SUPPORT, REMOVAL OR REPLACEMENT, TO BE DONE SO AT THE EXPENSE OF THE CONTRACTOR AS NECESSARY.
 10. ALL BOULEVARDS TO BE SODDED UNLESS OTHERWISE NOTED.
 11. ADJUST ALL WATER VALVES, HYDRANTS, MANHOLES, AND CATCH BASINS IN WORK AREA TO GRADE.

NOT FOR CONSTRUCTION

REVISION	DATE	DESCRIPTION	BY
0	2023-01-30	ISSUED FOR TENDER	MB

EXISTING	LEGEND-PLAN	PROPOSED	LEGEND-PLAN	PROPOSED
---	WATER MAIN	---	DRAINAGE	---
---	LAND DRAINAGE SEWER	---	TOP SOIL AND SOD	---
---	WASTE WATER SEWER	---	ASPHALT	---
---	HYDRO	---	MILL AND FILL	---
---	PROPERTY LINE	---	HP	HYDRO POLE
---	CURB	---	HP	HYDRO POLE W/ LIGHT
---	LIP CURB	---	---	HYDRO POLE ANCHOR WIRE
---	GUTTER	---	---	LIGHT STANDARD
---	LIP GUTTER	---	---	CATCH BASIN
---	SIDEWALK	---	---	WATER CURB STOP
---	FENCE	---	---	WM CONTROL VALVE
---	EDGE OF ASPHALT	---	---	WW CONTROL VALVE
---	EDGE OF CONCRETE	---	---	SEWER MANHOLE

SEAL:

ENGINEERS
GEOSCIENTISTS
MANITOBA
Certificate of Authorization
WSP Canada Inc.
No. 5750

DISCLAIMER:
THIS DRAWING AND DESIGN IS COPYRIGHT PROTECTED WHICH SHALL NOT BE USED, REPRODUCED OR REVISED WITHOUT WRITTEN PERMISSION BY WSP. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND UTILITY LOCATIONS AND REPORT ALL ERRORS AND OMISSIONS PRIOR TO COMMENCING WORK.

COPYRIGHT:

APPROVED BY: DL
CHECKED BY: TP
DRAWN BY (OPTIONAL): TW

DATE: 2023-01-30

IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.

25mm

DISCIPLINE: ROADS

PROJECT NUMBER: 221-07930-00

WSP Canada Inc.
1600 Buffalo Place, Winnipeg, Manitoba R3T 6B8
T 204-477-6650 | www.wsp.com

CLIENT:

The City of Morden
195 Stephen Street, Morden, Manitoba R6M 1V3
T 204-822-4434 | www.mymorden.ca

CLIENT REF. #: --

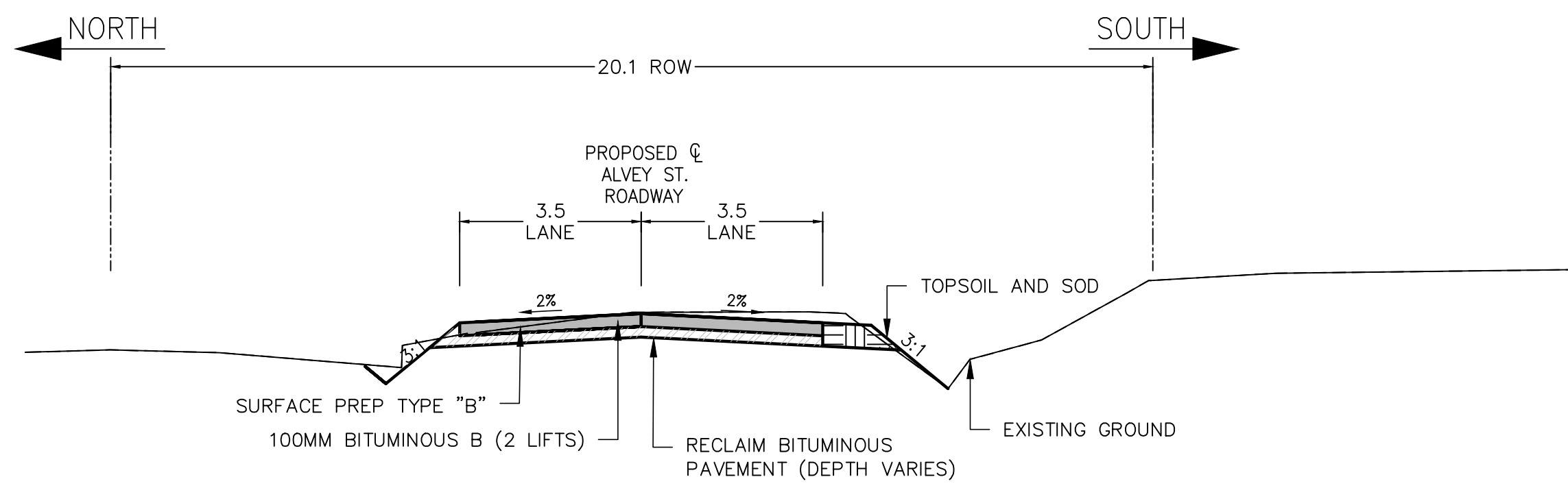
TITLE: PLAN & PROFILE

PROJECT: ALVEY STREET BRIDGE REPLACEMENT OVER DEADHORSE CREEK

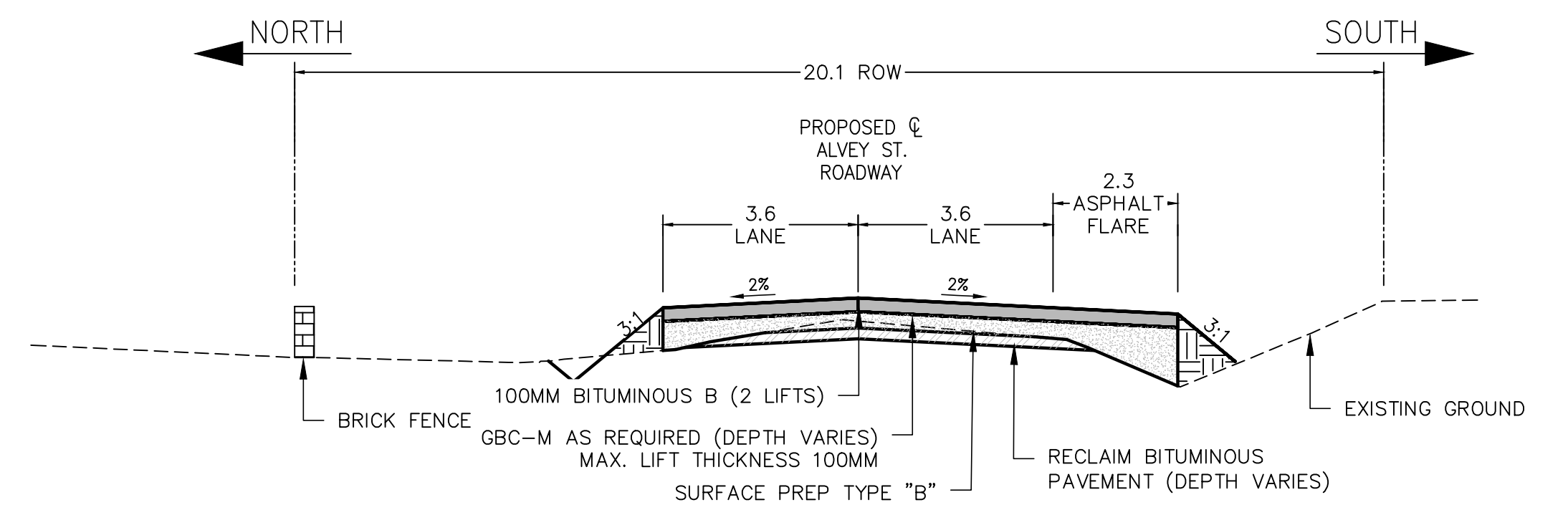
DRAWING NUMBER: 20

REV: 0

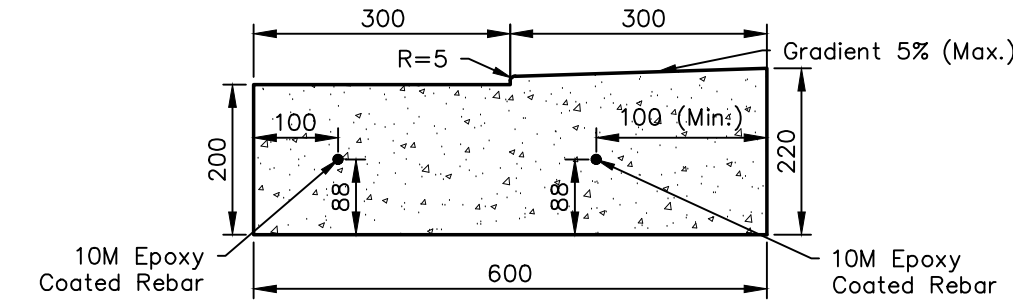
C:\B:\wsp\morden\transformation\standard\plans\full_size\ch... FILE C:\Users\morden\workspace\morden\morden\221-07930-00_alvey_bridge_replacement_c221\project_files\02_4000_working\221-07930-00_alvey_proposed_22024.dwg
 2023-01-30 10:14:47 AM



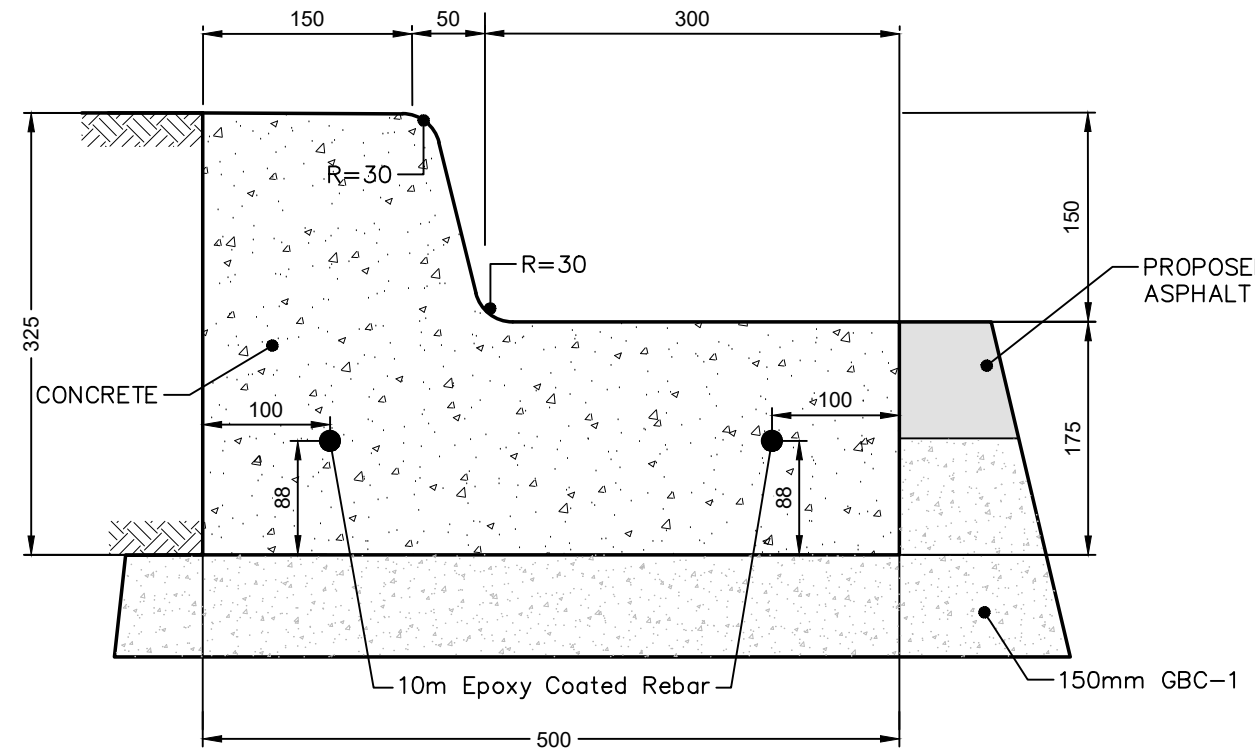
SECTION A-A STA. 100+55
NTS



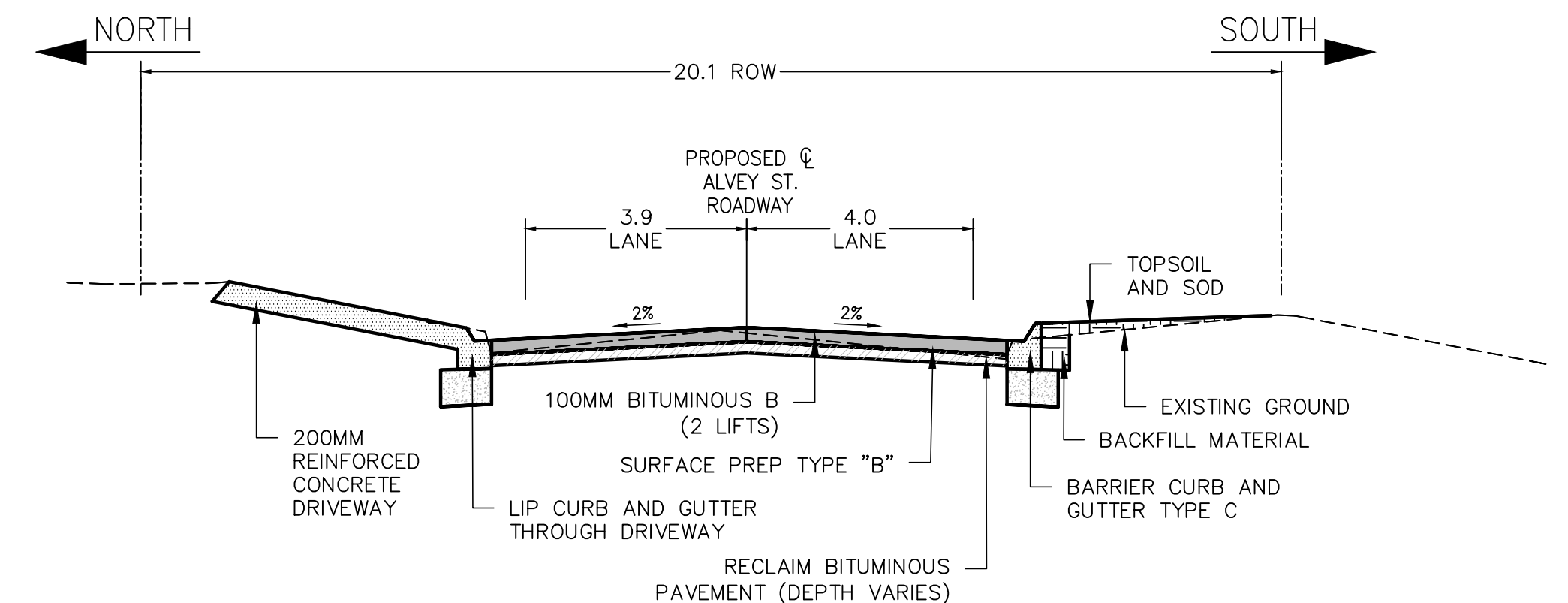
SECTION B-B STA. 100+90
NTS



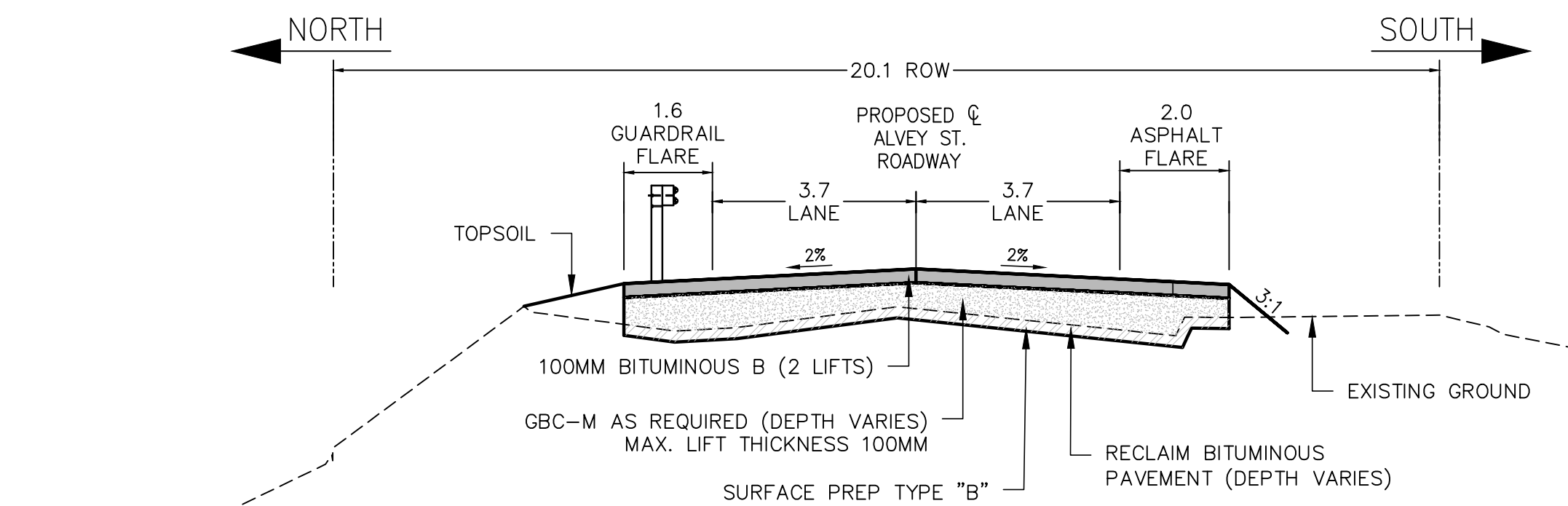
LIP CURB AND GUTTER
NTS



BARRIER CURB & GUTTER TYPE "C"
NTS



SECTION D-D STA. 101+50
NTS



SECTION C-C STA. 101+30
NTS

NOT FOR CONSTRUCTION

REVISION:	REVISION:
0	2023-01-30
ISSUED FOR TENDER	MB
DATE	DESCRIPTION
BY	DATE
DESCRIPTION	BY

SEAL:

DISCLAIMER: THIS DRAWING AND DESIGN IS COPYRIGHT PROTECTED WHICH SHALL NOT BE USED, REPRODUCED OR REVISED WITHOUT WRITTEN PERMISSION BY WSP. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND UTILITY LOCATIONS AND REPORT ALL ERRORS AND OMISSIONS PRIOR TO COMMENCING WORK.

ORIGINAL SCALE: 1:250
DATE: 2023-01-30
APPROVED BY: DL
CHECKED BY: TP
DRAWN BY (OPTIONAL): TW
DISCIPLINE: ROADS

IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.

WSP Canada Inc.
1600 Buffalo Place, Winnipeg, Manitoba R3T 6B8
T 204-477-6650 | www.wsp.com

PROJECT NUMBER: 221-07930-00

CLIENT: The City of Morden

City of Morden
195 Stephen Street, Morden, Manitoba R6M 1V3
T 204-822-4434 | www.mymorden.ca

CLIENT REF. #: --

TITLE: CROSS SECTIONS AND DETAILS

PROJECT: ALVEY STREET BRIDGE REPLACEMENT OVER DEADHORSE CREEK

DRAWING NUMBER: 21

REV: 0

C:\Users\mym\OneDrive\Desktop\221-07930-00 - Alvey Bridge Replacement - 221-07930-00 - Alvey Proposed - 22-04.dwg
 2023-01-30 11:32 AM
 C:\Users\mym\OneDrive\Desktop\221-07930-00 - Alvey Bridge Replacement - 221-07930-00 - Alvey Proposed - 22-04.dwg