

REFERENCE DRAWINGS:

- BC MINISTRY OF FORESTS DRAWINGS.
STD-EC-000-01, STD-EC-010-02, STD-EC-050-03, 04, 06 & 07.

DESIGN SPECIFICATIONS:

- DESIGN CODE: CAN/CSA-S6-06, MODIFIED IN ACCORDANCE WITH THE BC MINISTRY OF FORESTS BRIDGE DESIGN & CONSTRUCTION MANUAL.
- DEAD LOAD INCLUDES ALLOWANCE FOR 50mm THICK ASPHALT WEARING SURFACE.
- LIVE LOAD: L100

ERECTION LOADING: (NON-COMPOSITE CONSTRUCTION LOAD CAPACITY)

- SELF WEIGHT OF THE STRUCTURE, SUPPORTED AT THE BEARINGS, INCLUDING ALL THE DECK PANELS IN POSITION BUT UNGROUTED.
- A LIVE LOAD OF 445 kN (40 TON EQUIPMENT + 10 TON PANEL) DISTRIBUTED OVER A LENGTH OF 4M, POSITIONED ON THE BRIDGE TO PRODUCE THE MAXIMUM EFFECT: ECCENTRICITY = 100mm
- LOAD FACTORS IN ACCORDANCE WITH CAN/CSA-S6-06
- MIN DLA = 10% (ASSUMED DESIGN SPEED = 10KM/HR)

ASSEMBLY & INSTALLATION:

- IN ACCORDANCE WITH CAN/CSA-S6-06.
- BACKFILL BEHIND BALLAST WALLS SHALL BE FREE-DRAINING GRANULAR MATERIAL

STEEL SPECIFICATIONS:

- ALL STEEL PLATE SHALL COMPLY TO CSA-G40.21-13 GRADE 350AT CAT 3.
- ALL STEEL ANGLES SHALL COMPLY TO GRADE 350A OR A588.
- PIPE PILING SHALL CONFORM TO ASTM A252 GR2.
- ALL WELDING IN ACCORDANCE WITH C.S.A. W-59. WELD METAL SHALL MEET THE CVN TOUGHNESS REQUIREMENTS OF TABLE 10.14 OF CAN/CSA-S6-06 FOR A MINIMUM SERVICE TEMPERATURE OF < -40° C.
- UNLESS OTHERWISE SPECIFIED ALL BOLTS FOR STEEL WORK SHALL BE ASTM GRADE A325 TYPE 3.
- NELSON STUDS TO CONFORM TO A.S.T.M. A108 GRADE 1015, 1018 OR 1020. AND SHALL MEET APPENDIX H OF CSA W59 FOR TYPE B STUDS.
- BEARING STIFFENERS SHALL BE FIT TO BEAR AGAINST THE BOTTOM FLANGE. ALL OTHER DIAPHRAGM STIFFENERS SHALL HAVE A TIGHT FIT AGAINST BOTH FLANGES. INTERMEDIATE TRANSVERSE STIFFENERS SHALL HAVE A TIGHT FIT AGAINST THE TOP FLANGE.
- TERMINATE FILLET WELDS 10mm FROM STIFFENER AND GUSSET CORNERS.

ELASTOMERIC BEARING SPECIFICATIONS:

- BEARINGS SHALL CONFORM TO TABLE 11.5 OF CAN/CSA-S6-06
NATURAL RUBBER

GROUT SPECIFICATIONS:

- GROUT SHALL BE NON-SHRINK, PORTLAND CEMENT BASED INSTALLED IN ACCORANCE WITH THE MANUFACTURERS INSTRUCTIONS, MINIMUM COMPRESSIVE STRENGTH SHALL BE 35 MPa. @ 28 DAYS.

HARDWARE SPECIFICATIONS:

- FASTENERS SHALL CONFORM TO ASTM A307 GALVANIZED IN ACCORDANCE WITH ASTM A123/123M

NOTES:

- UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN mm.
- UNLESS OTHERWISE SPECIFIED ALL HOLES TO BE 24mm DIA.

PRECAST CAN/CSA CONCRETE SPECIFICATIONS:

CONCRETE: IN ACCORDANCE WITH CAN/CSA-A23.1

MIX DESIGN	108.0
COMPRESSIVE STRENGTH @ 28 DAYS	35 MPa
STRIPPING STRENGTH	20 MPa
ENTRAINED AIR	5% TO 8%
SLUMP	180±40 mm
EXPOSURE CLASS	C1
CONCRETE TEMPERATURE AT POUR	10°C TO 30°C

REBAR: CSA G30.18M GRADE 400W
FINISH: TOP SURFACE OF DECK PANELS - TRANSVERSE BROOM.
OTHER TOP SURFACES - SMOOTH FLOAT
FORMED SURFACES - SMOOTH FORM
TOLERANCE: IN ACCORDANCE WITH CSA A23.4
MANUFACTURE: IN ACCORDANCE WITH CSA A23.4

NOTICE:

- THESE DRAWINGS ARE FOR THE BRIDGE COMPONENTS DETAILED HEREIN ONLY. RAPID-SPAN IS NOT RESPONSIBLE FOR THE OVERALL BRIDGE DESIGN. THE ENGINEER OF RECORD SHALL VERIFY THE INFORMATION PRESENTED IN THESE DRAWINGS IS COMPATIBLE WITH THE OVERALL DESIGN CONCEPT AND THAT HYDROLOGICAL, ROADWAY ALIGNMENT, TRAFFIC CONTAINMENT, GEOTECHNICAL AND ALL OTHER DESIGN CONSIDERATIONS ARE SATISFIED AND ARE CONSISTENT WITH REQUIREMENTS OF THE REGULATORY AUTHORITY.
- RAPID-SPAN'S SCOPE OF WORK DOES NOT INCLUDE FIELD INSPECTION SERVICES. THE ENGINEER OF RECORD SHALL VERIFY THE SUPPLIED COMPONENTS ARE INSTALLED IN ACCORDANCE WITH THESE DRAWINGS.

0	MAR 31, 2017	ISSUED FOR CONSTRUCTION	RR	
B	MAR 27, 2017	ISSUED FOR APPROVAL	RR	DA
A	MAR 23, 2017	PRELIMINARY	RR	PK
REV	DATE	DESCRIPTION	DRAWN	CHK



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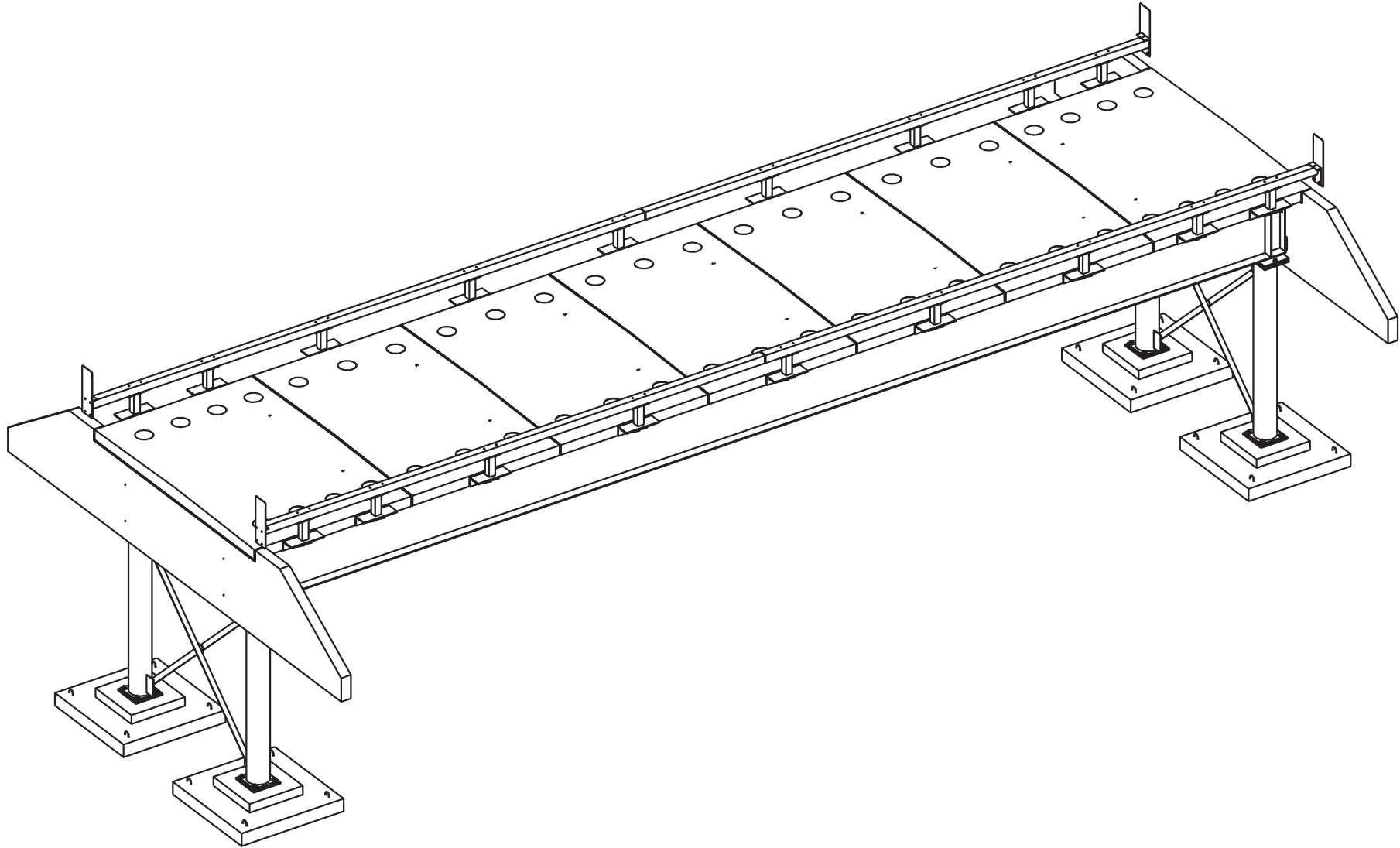


May. 01, 2017

PROJECT: MINISTRY OF FORESTS
BLACKFOOT CREEK CROSSING
STRUCTURE NUMBER N2-135A
21.336 METER L100 COMPOSITE BRIDGE

TITLE: GENERAL NOTES

ENGINEERED BY:	DRAWN BY:	JOB No:	DRAWING No:	REV
P.J. KING	RON RIEMENS	7471	010-E-01	



GENERAL ARRANGEMENT - 3D
1:100

BILL OF MATERIALS - JOB # 7471

ITEM	QTY	DESCRIPTION OR NAME	SIZE	WEIGHT
GA1	1	GIRDER	377 x 1405 x 21364	10082.0
GB1	1	GIRDER	377 x 1405 x 21364	10082.0
953P1	18	RAIL POST WELDMENT	269 x 583 x 680	2485.2
953R2	2	RAIL WELDMENT	152 x 152 x 11640	1975.4
EBA1	2	EXPANSION BEARING SANDWICH	76 x 500 x 700	658.5
FBA1	2	FIXED BEARING SANDWICH	76 x 500 x 700	658.5
SBCW1	4	STEEL BENT COLUMN WELDMENT	500 x 500 x 3525	2581.4
A	2	END DECK PANEL	4876 x 250 x 3230	37794.9
B	5	INTERMEDIATE DECK PANEL	4876 x 250 x 3028	88485.6
BW	2	BALLAST WALL	1719 x 10173 x 200	30491.5
F	4	FOOTING	2100 x 2100 x 425	28500.2
P0000393	68	TARGET COARSE TRAFFIC PATCH	55 LB BAG	3740
P0000394	24	TARGET FINE TRAFFIC PATCH	55 LB BAG	1320
953M1	4	DELINEATOR MOUNT	9.5 x 250 x 431	72.4
953R1	2	RAIL	HSS152x152x9.5x10365	1754.3
EV1	2	EVAZOTE	25.0 x 200 x 4926	1.6
EV2	4	EVAZOTE	25.0 x 200 x 175	0.1
L1	6	LATERAL BRACE DIAGONAL	L102x102x9.5x4818	925.5
L2	4	END DIAPHRAGM DIAGONAL	L102x102x9.5x3619	463.5
L3	11	STRUT	L102x102x9.5x3560	1253.8
L4	4	INTERMEDIATE DIAPHRAGM DIAGONAL	L102x102x9.5x3608	462.1
L5	2	STEEL BENT STRUT	L102x102x9.5x3164	202.6
L6	4	STEEL BENT DIAGONAL	L102x102x9.5x4235	542.4
P0000029	2	LEFT HAND DELINEATOR	300 x 900	7.0
P0000030	2	RIGHT HAND DELINEATOR	300 x 900	7.0
P0000033	2	NARROW BRIDGE SIGN	762 x 762	14.0
P0000042	1	XYMAX MONOGUARD 5 GAL	5 GALLON PAIL	50.0
PL7	2	INTERMEDIATE DIAPHRAGM SPACER	9.5 x 150 x 150	7.4
PL10	2	END DIAPHRAGM SPACER	15.9 x 150 x 150	12.4
PL15	4	STEEL BENT GUSSET	9.5 x 200 x 350	46.0
PL16	4	STEEL BENT GUSSET	9.5 x 200 x 425	55.9
PL17	2	STEEL BENT SPACER	9.5 x 200 x 200	13.2
TSPF1	2	CCA TREATED SIGN POST	4" x 4" x 10'-0"	58.8
78F212	34	ASTM A325-3 BOLT ASSEMBLY	7/8" DIA. x 2 1/2" LONG	32.2
78F214	68	ASTM A325-3 BOLT ASSEMBLY	7/8" DIA. x 2 1/4" LONG	61.5
78F234	2	ASTM A325-3 BOLT ASSEMBLY	7/8" DIA. x 2 3/4" LONG	2.0
34F9	40	ASTM A307A-BUTTONHEAD HDG BOLT	3/4" DIA. x 9" LONG	52.0
	40	ASTM A563A-HDG HEX NUT	3/4" DIA.	2.4
	40	ASTM F844-HDG STANDARD FW	3/4" DIA.	2.4
38F3	4	ASTM A307A-HDG LAG BOLT	3/8" DIA. x 3" LONG	0.2
	4	ASTM F844-HDG STANDARD FW	3/8" DIA.	0.0
1F214	54	ASTM A307A-HEX HEAD HDG BOLT	1" DIA. x 2 1/4" LONG	41.7
	54	ASTM F844-HDG STANDARD FW	1" DIA.	7.1
58F112	16	ASTM A307A-HEX HEAD HDG BOLT	5/8" DIA. x 1 1/2" LONG	4.2
	16	ASTM A563A-HDG HEX NUT	5/8" DIA.	0.3
	16	ASTM F844-HDG STANDARD FW	5/8" DIA.	0.4

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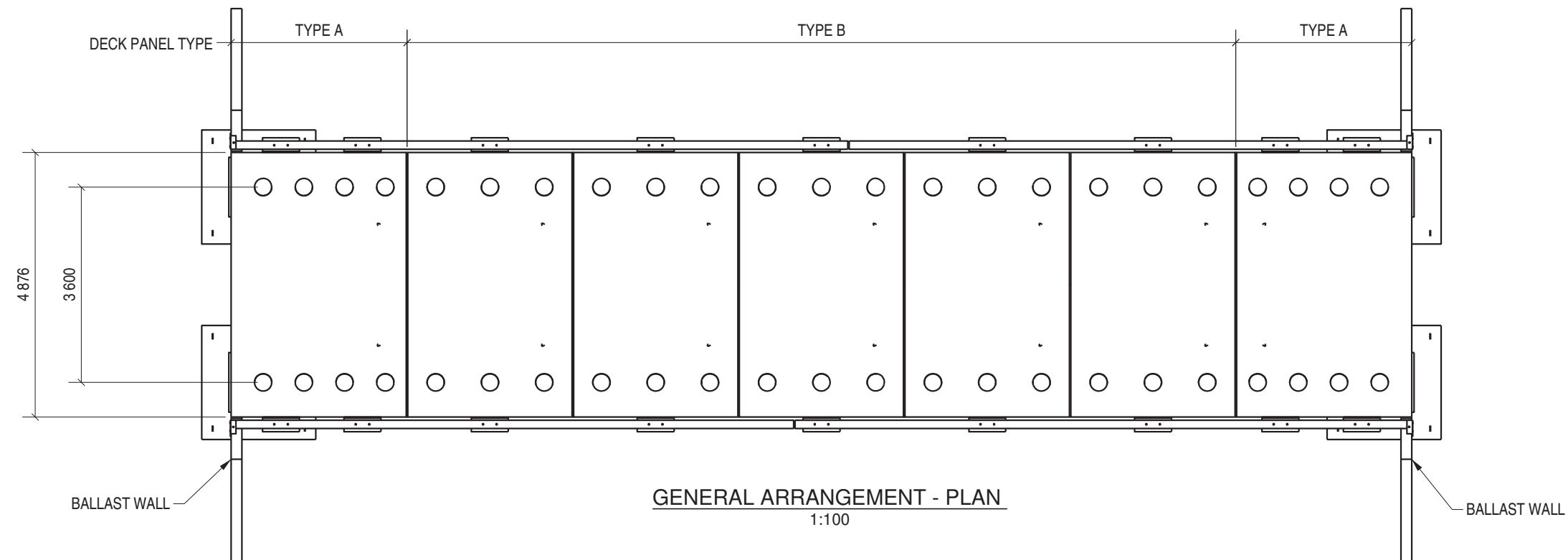
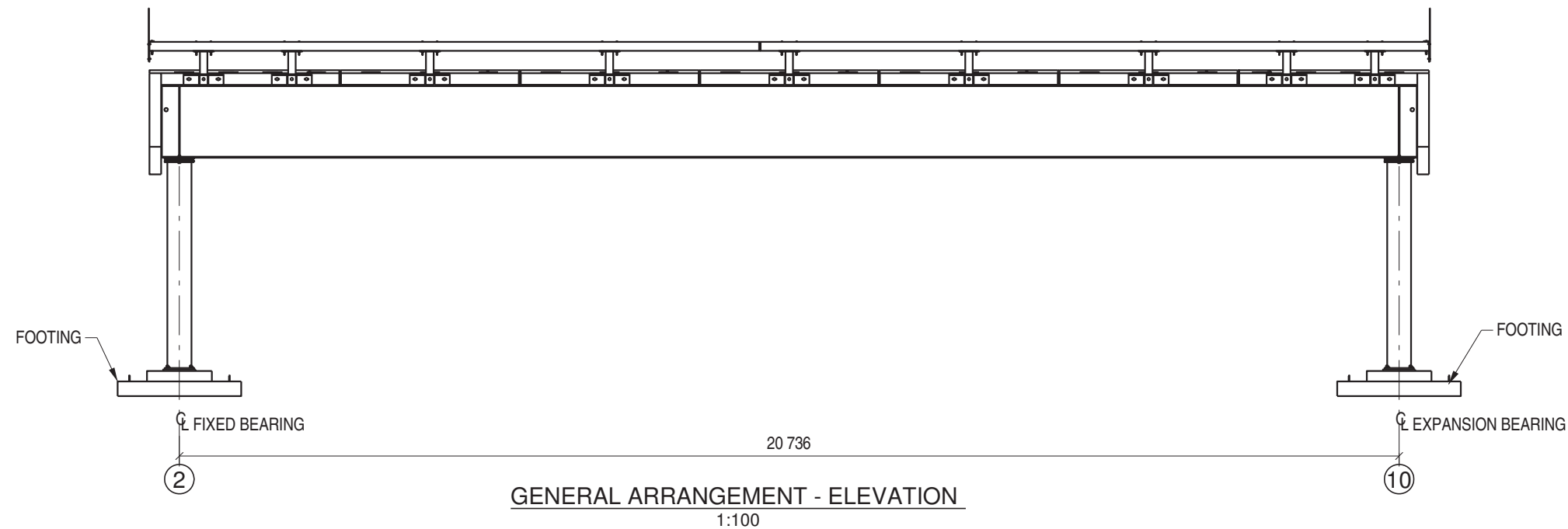


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PROJECT:		MINISTRY OF FORESTS BLACKFOOT CREEK CROSSING STRUCTURE NUMBER N2-135A 21.336 METER L100 COMPOSITE BRIDGE		
TITLE:		3D GA AND SHIPPING BOM		
ENGINEERED BY:	DRAWN BY:	JOB No:	DRAWING No:	REV
	RON RIEMENS	7471	020-E-01	



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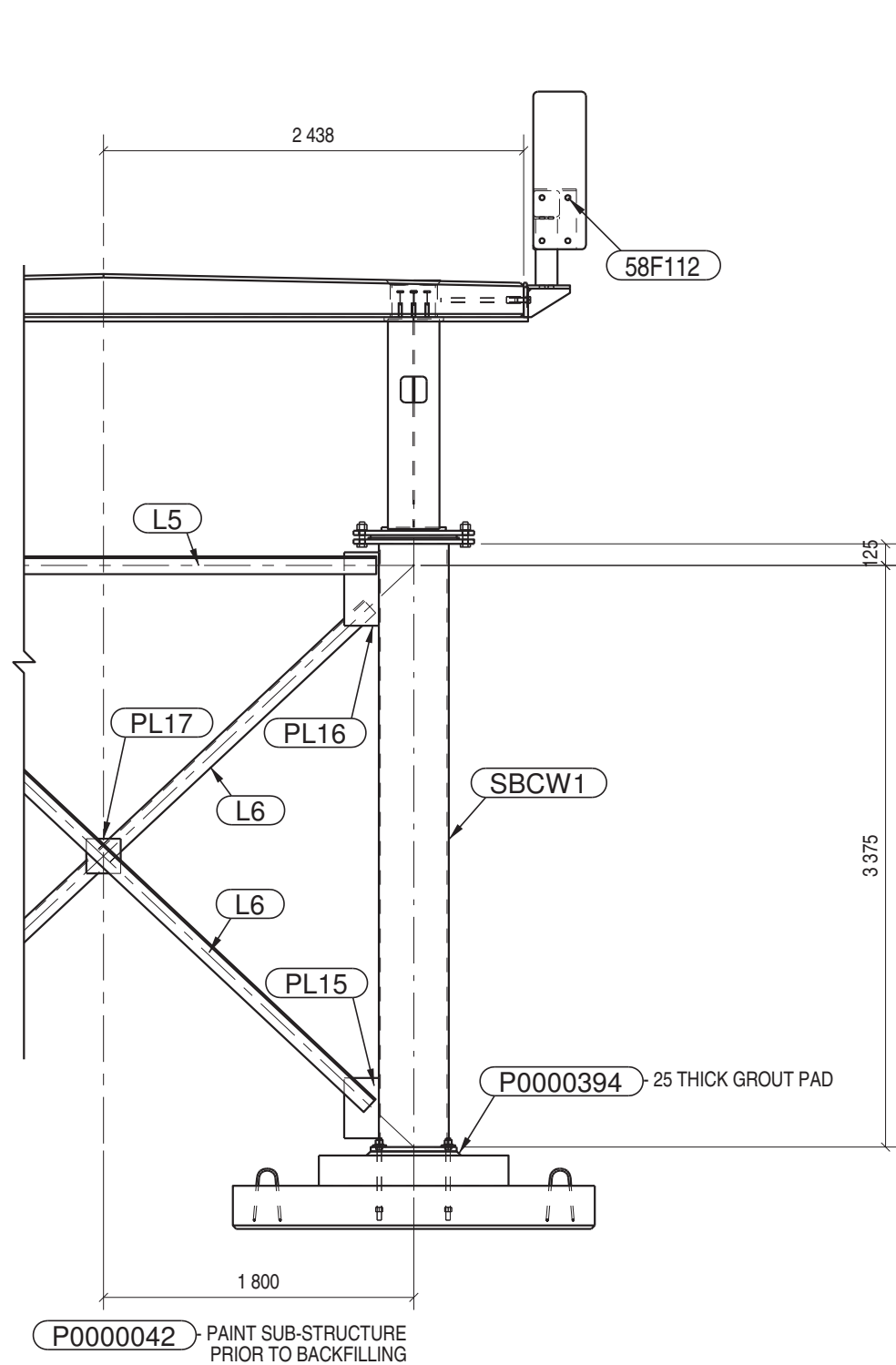
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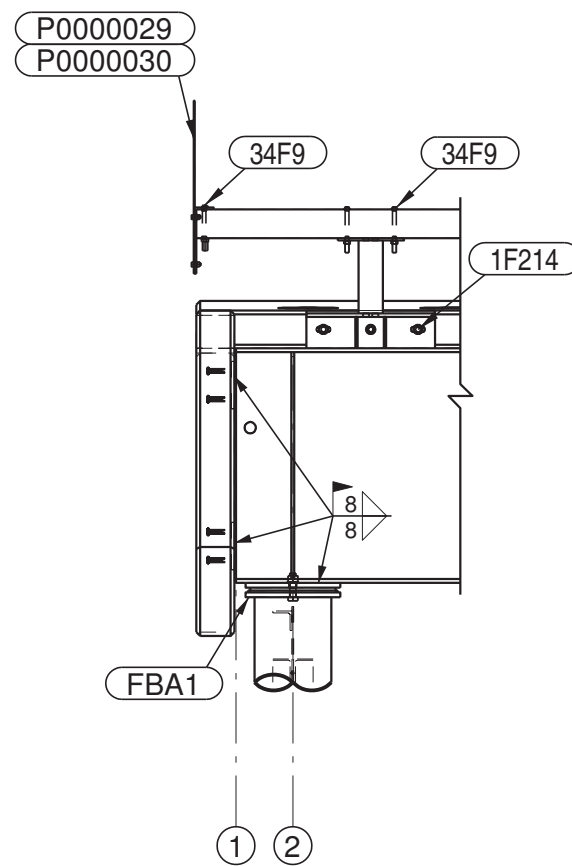
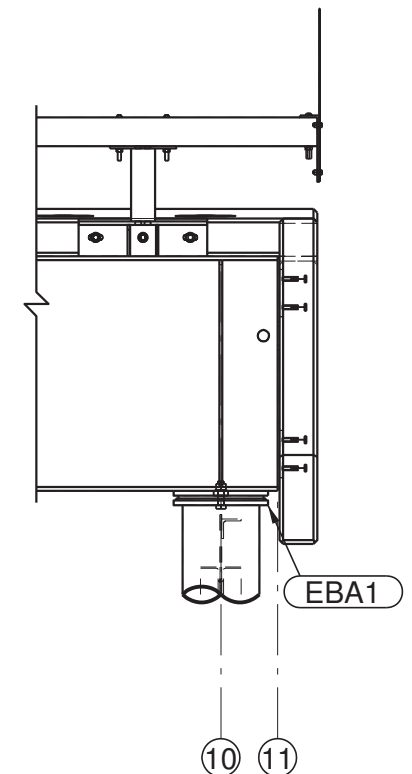
PROJECT: **MINISTRY OF FORESTS
BLACKFOOT CREEK CROSSING
STRUCTURE NUMBER N2-135A
21.336 METER L100 COMPOSITE BRIDGE**

TITLE: **GENERAL ARRANGEMENT**

ENGINEERED BY:	DRAWN BY:	JOB No:	DRAWING No:	REV
	RON RIEMENS	7471	020-E-02	0



TYPICAL ABUTMENT ELEVATION
1:40



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REV	DATE	DESCRIPTION	DRAWN	CHK

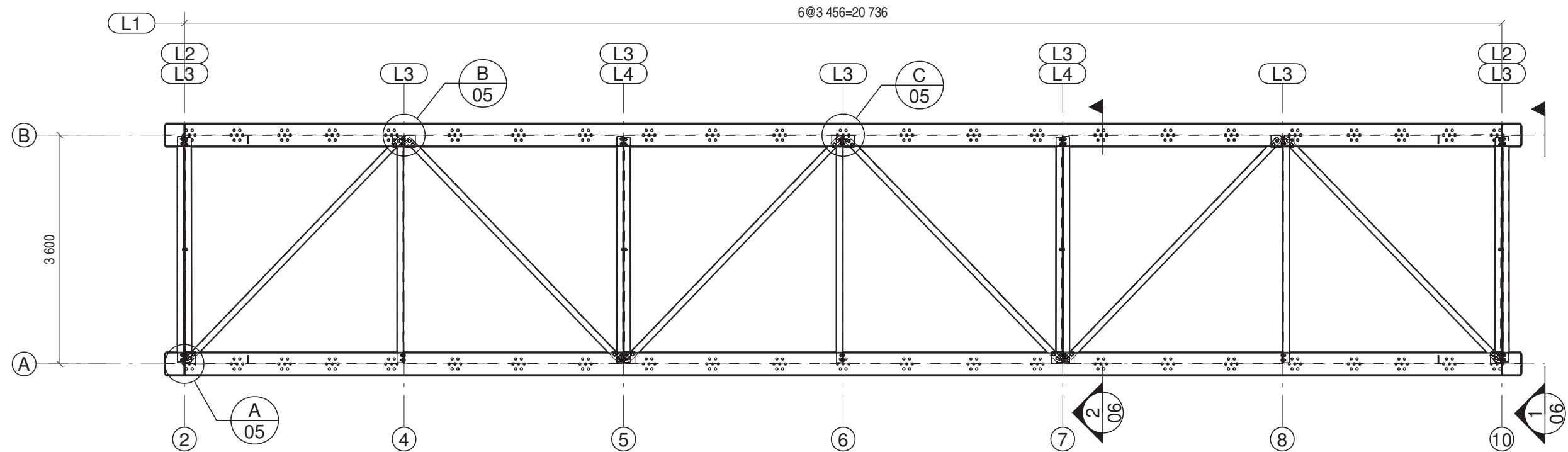


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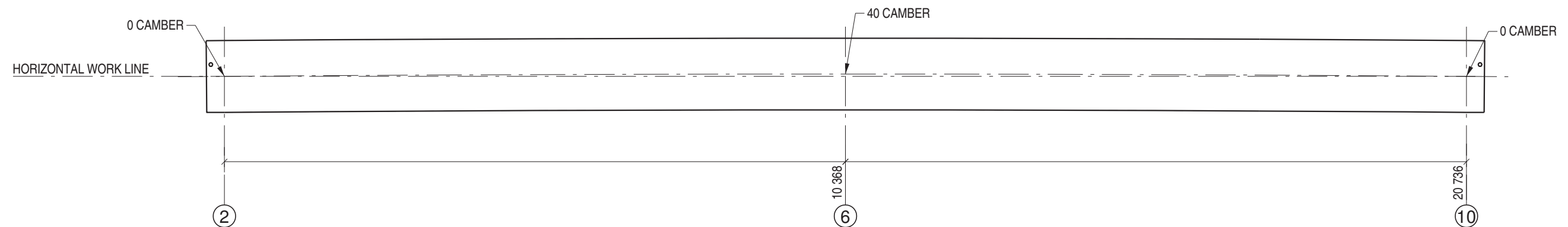
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PROJECT: MINISTRY OF FORESTS BLACKFOOT CREEK CROSSING STRUCTURE NUMBER N2-135A 21.336 METER L100 COMPOSITE BRIDGE				
TITLE: ABUTMENT AND CURB DETAILS				
ENGINEERED BY:	DRAWN BY:	JOB No:	DRAWING No:	REV
	RON RIEMENS	7471	020-E-03	0



STEEL SUPERSTRUCTURE - PLAN
1:75



CAMBER DIAGRAM
1:75

REV	DATE	DESCRIPTION	DRAWN	CHK
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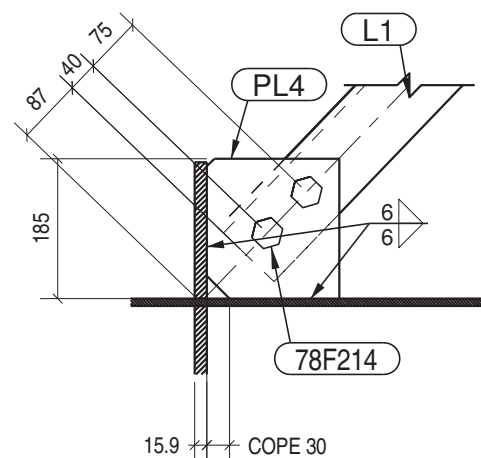


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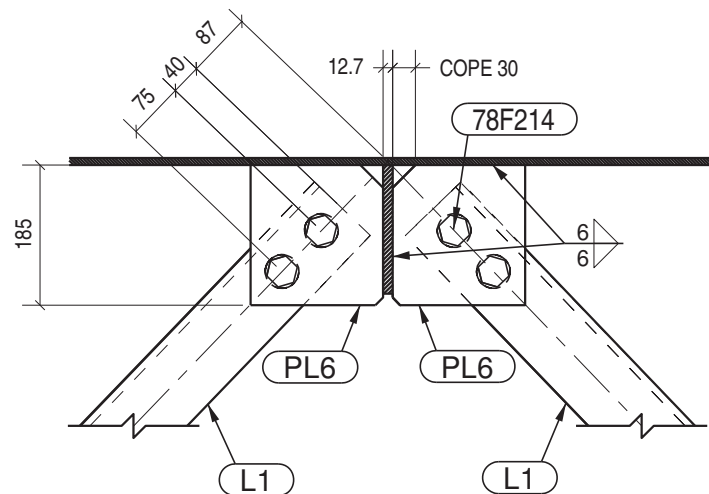
PROJECT: MINISTRY OF FORESTS
BLACKFOOT CREEK CROSSING
STRUCTURE NUMBER N2-135A
21.336 METER L100 COMPOSITE BRIDGE

TITLE: STEEL SUPERSTRUCTURE LAYOUT

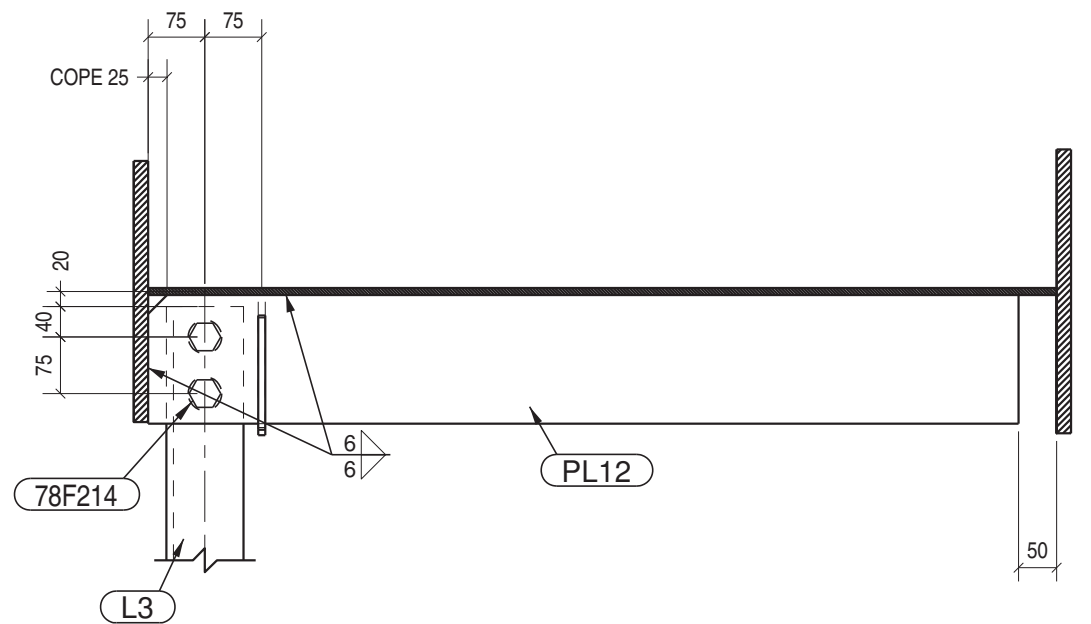
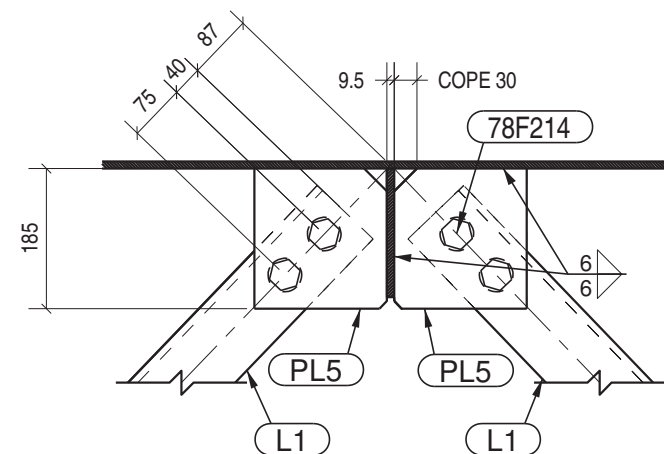
ENGINEERED BY:	DRAWN BY:	JOB No:	DRAWING No:	REV
P.J. KING	RON RIEMENS	7471	020-E-04	0



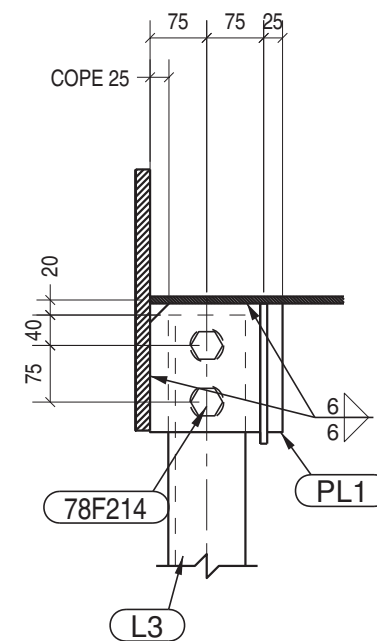
A LATERAL BRACE DETAIL
04 1:10



B LATERAL BRACE DETAIL
04 1:10



C LATERAL BRACE DETAIL
04 1:10



REV	DATE	DESCRIPTION	DRAWN	CHK
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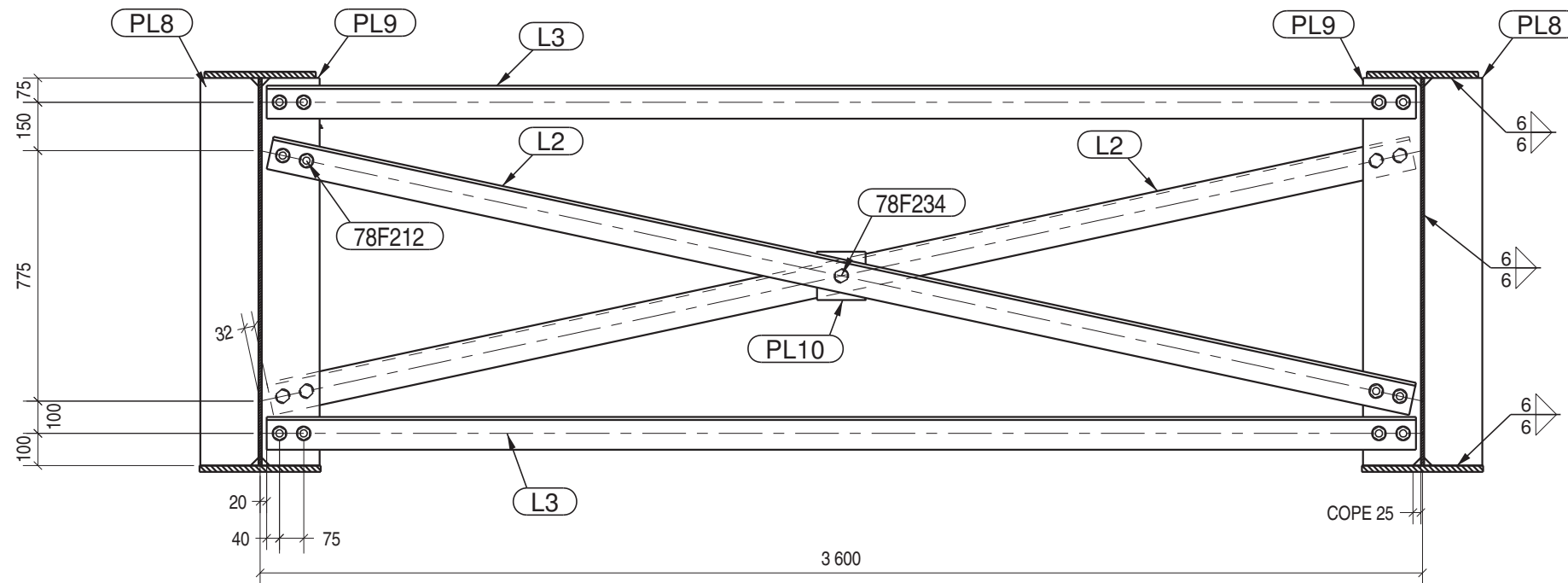
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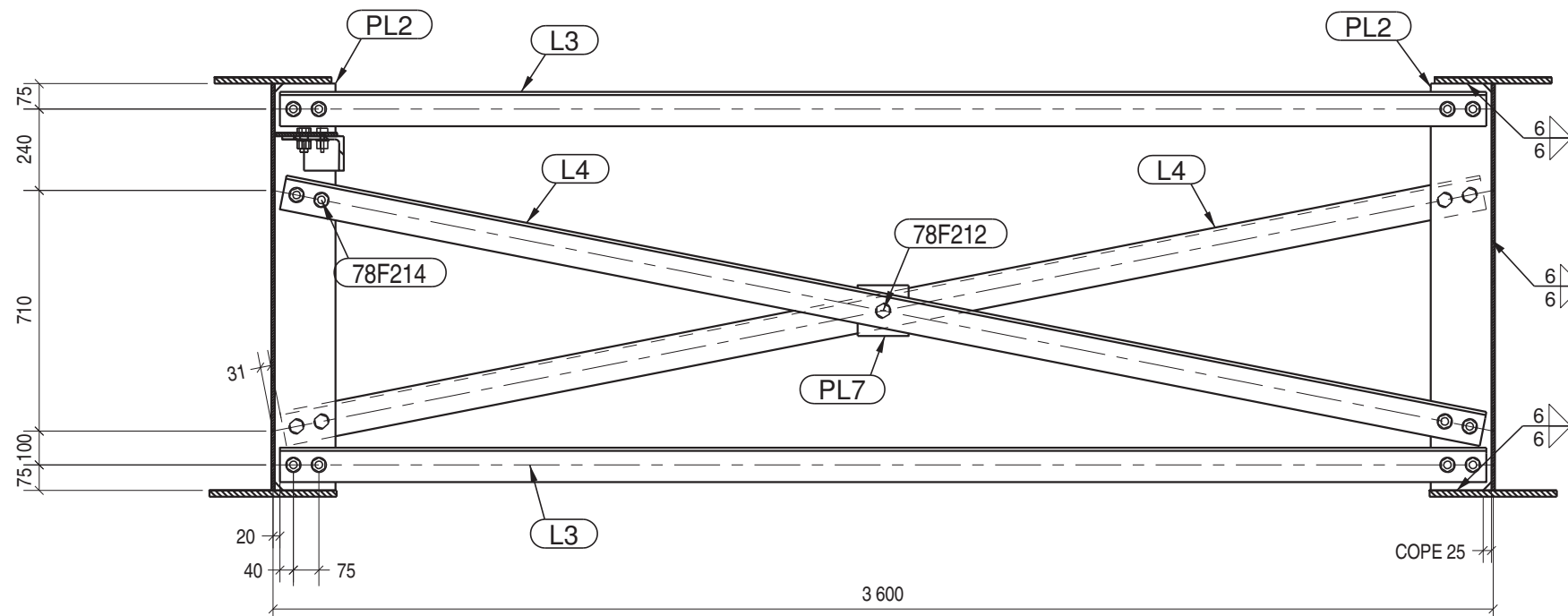


May. 01, 2017

PROJECT: MINISTRY OF FORESTS BLACKFOOT CREEK CROSSING STRUCTURE NUMBER N2-135A 21.336 METER L100 COMPOSITE BRIDGE				
TITLE: LATERAL BRACE DETAILS				
ENGINEERED BY: P.J. KING	DRAWN BY: RON RIEMENS	JOB No: 7471	DRAWING No: 020-E-05	REV 0



1
04 END DIAPHRAGM CROSS SECTION
1:20



2
04 INTERMEDIATE DIAPHRAGM CROSS SECTION
1:20

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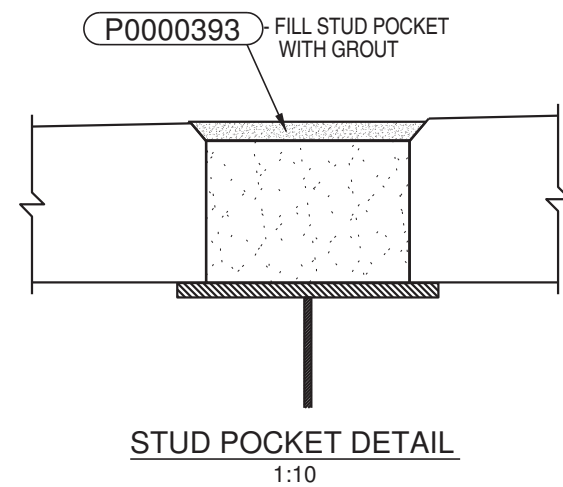
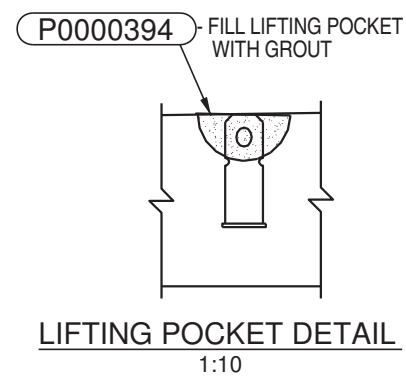
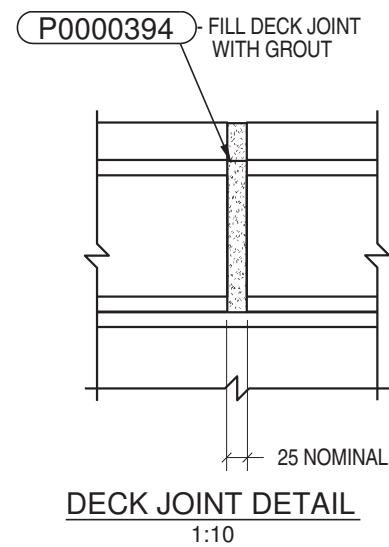
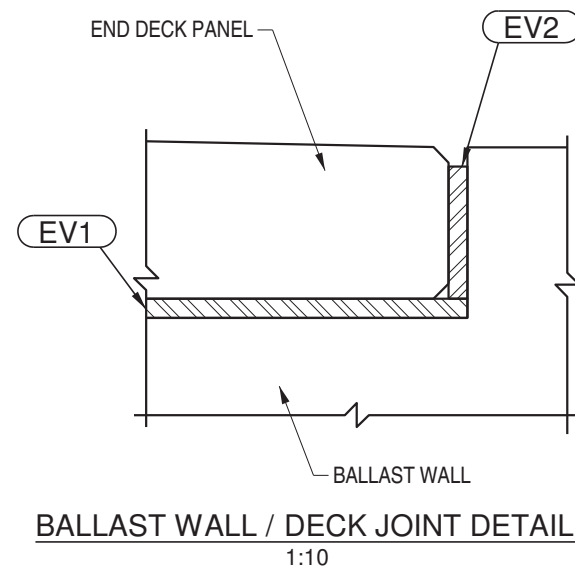
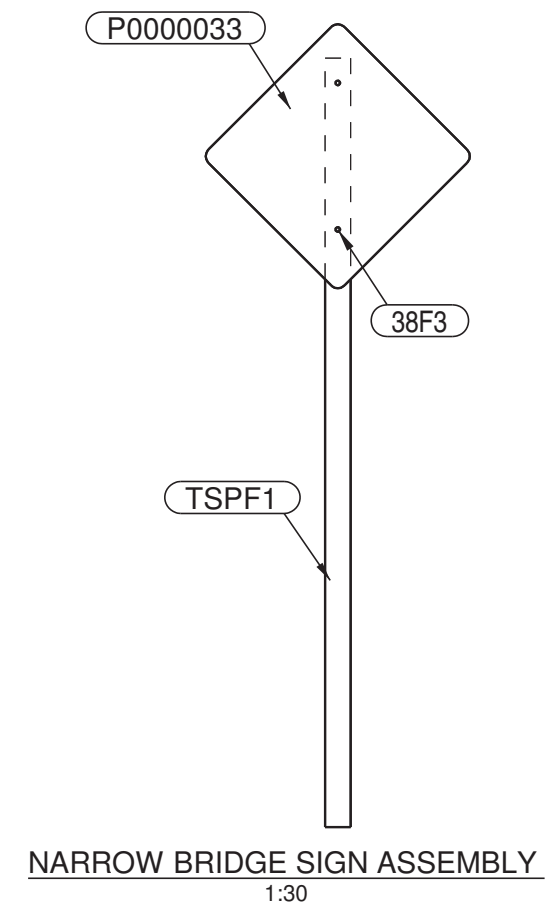


May. 01, 2017

PROJECT: MINISTRY OF FORESTS
BLACKFOOT CREEK CROSSING
STRUCTURE NUMBER N2-135A
21.336 METER L100 COMPOSITE BRIDGE

TITLE: DIAPHRAGM DETAILS

ENGINEERED BY:	DRAWN BY:	JOB No:	DRAWING No:	REV
P.J. KING	RON RIEMENS	7471	020-E-06	0



REV	DATE	DESCRIPTION	DRAWN	CHK
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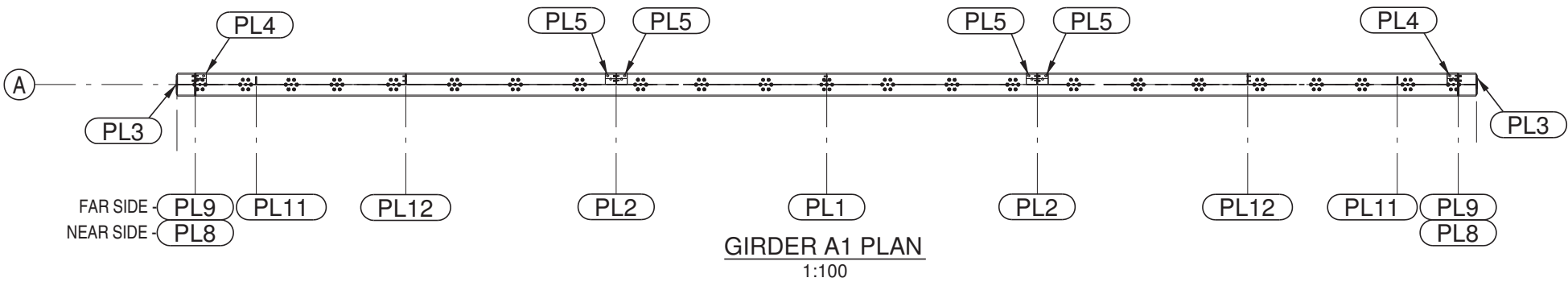
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PROJECT: MINISTRY OF FORESTS BLACKFOOT CREEK CROSSING STRUCTURE NUMBER N2-135A 21.336 METER L100 COMPOSITE BRIDGE				
TITLE: DECK AND MISCELLANEOUS DETAILS				
ENGINEERED BY:	DRAWN BY:	JOB No:	DRAWING No:	REV
	RON RIEMENS	7471	020-E-07	0

BILL OF MATERIALS - JOB # 7471				
ITEM	QTY	DESCRIPTION OR NAME	SIZE	WT.LBS. TOTAL
GA1	1	GIRDER	377 x 1405 x 21364	10082.0

BFA1-1	1	BOTTOM FLANGE PLATE	19.1 x 375 x 21327	2643.6
TFA1-1	1	TOP FLANGE PLATE	19.1 x 345 x 21346	2434.3
WA1-1	1	CAMBERED WEB PLATE	9.5 x 1200 x 21327	4208.6
P0000028	1	IDENTIFICATION PLAQUE	200 x 250	0.3
PL1	1	LATERAL BRACE STRUT STIFFENER	9.5 x 170 x 175	4.8
PL2	2	INTERMEDIATE DIAPHRAGM STIFFENER	9.5 x 180 x 1200	70.8
PL3	2	END PLATE	9.5 x 300 x 1220	113.1
PL4	2	LATERAL BRACE GUSSET	9.5 x 175 x 185	10.5
PL5	4	LATERAL BRACE GUSSET	9.5 x 175 x 185	21.0
PL8	2	BEARING STIFFENER	15.9 x 180 x 1200	118.5
PL9	2	END DIAPHRAGM STIFFENER	15.9 x 180 x 1200	118.5
PL11	2	WEB STIFFENER	12.7 x 127 x 1150	64.1
PL12	2	LATERAL BRACE STRUT STIFFENER	12.7 x 170 x 1150	85.8
78S6	161	ASTM A108 STUD	7/8" DIA. x 6" LONG	188.1



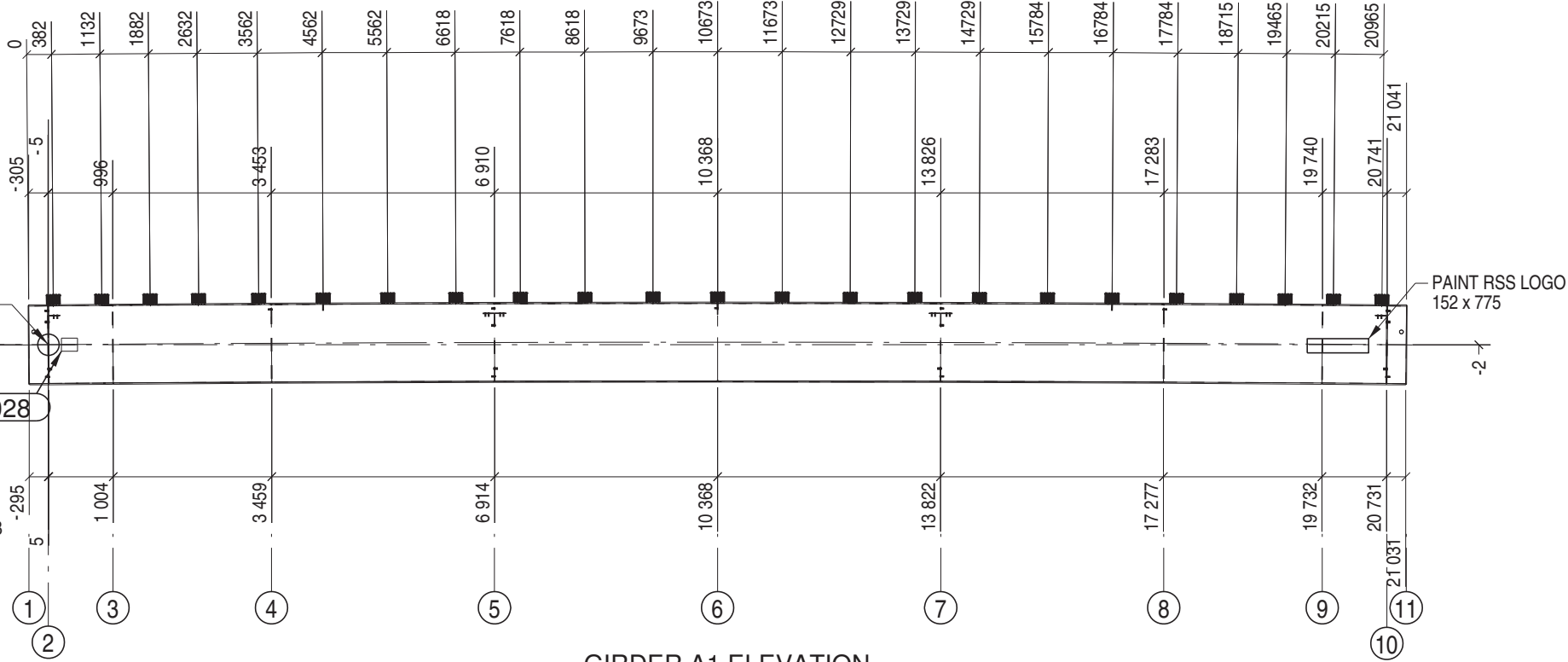
RUNNING DIMENSIONS TO
STUD GROUP ALONG TOP
FLANGE. SEE DETAIL D ON
DRAWING NUMBER 041-G-01

RUNNING DIMENSIONS TO
STIFFENERS AT TOP OF WEB

0 REF.
HORIZONTAL WORK LINE

MOF
21.336M L100
7471 MAR. 2017
N2-135A

RUNNING DIMENSIONS TO
STIFFENERS AT BOTTOM OF WEB



NOTE: ALL DIMENSIONS AT ABUTMENT
IS TO I/S END PLATES.

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B	MAR 27, 2017	ISSUED FOR APPROVAL	RR	DA
A	MAR 23, 2017	PRELIMINARY	RR	PK

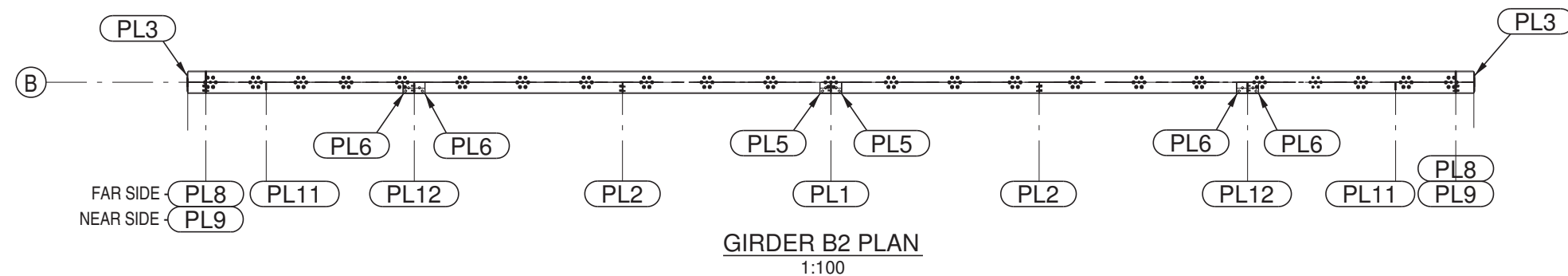


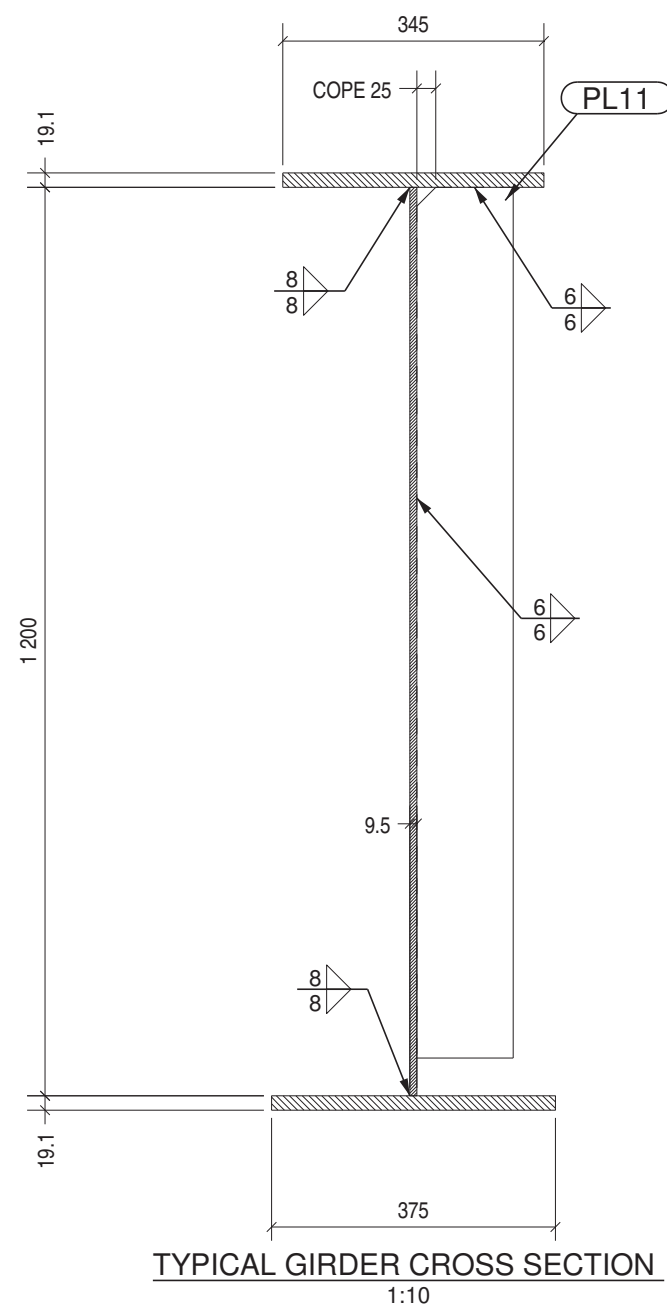
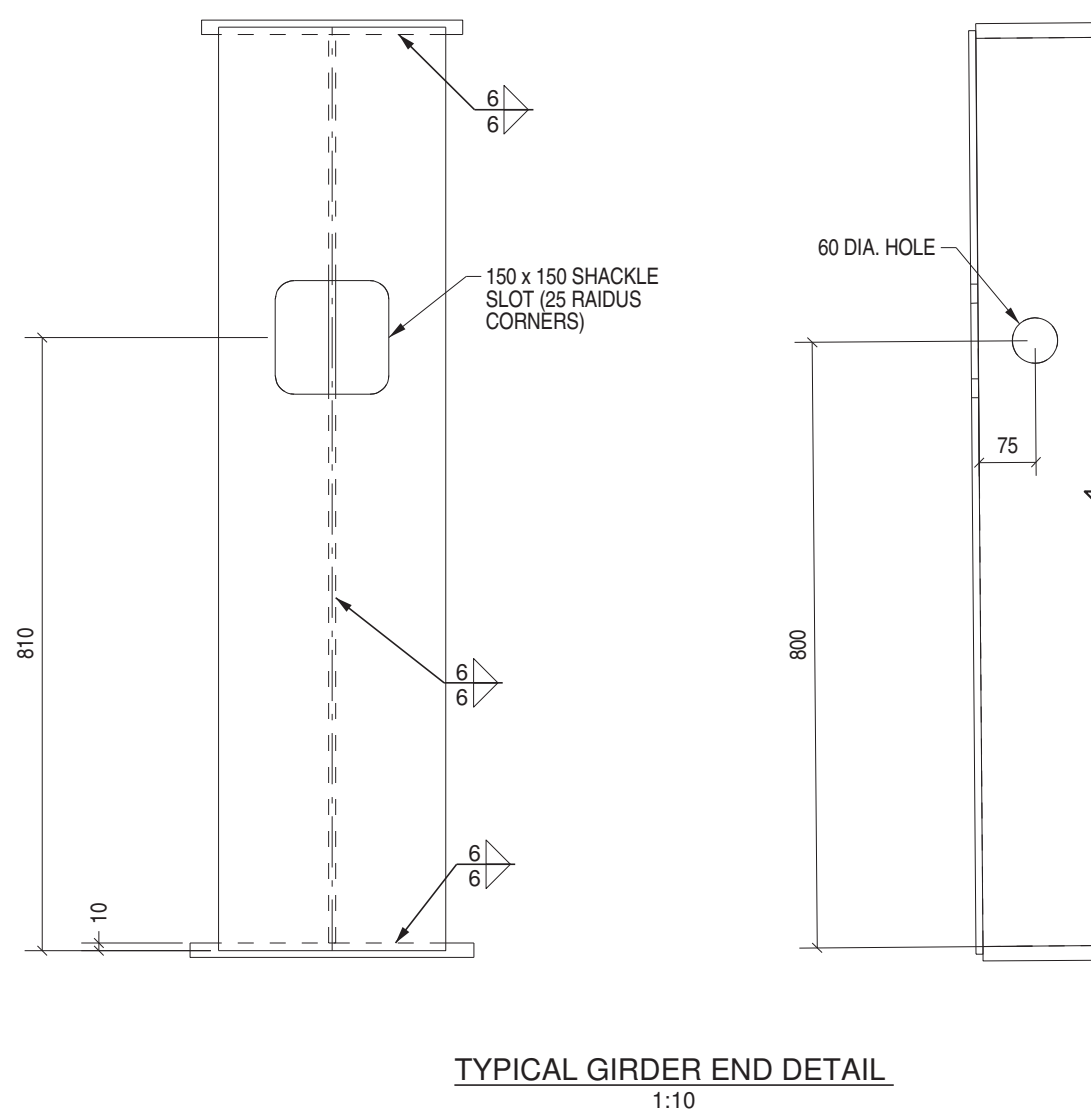
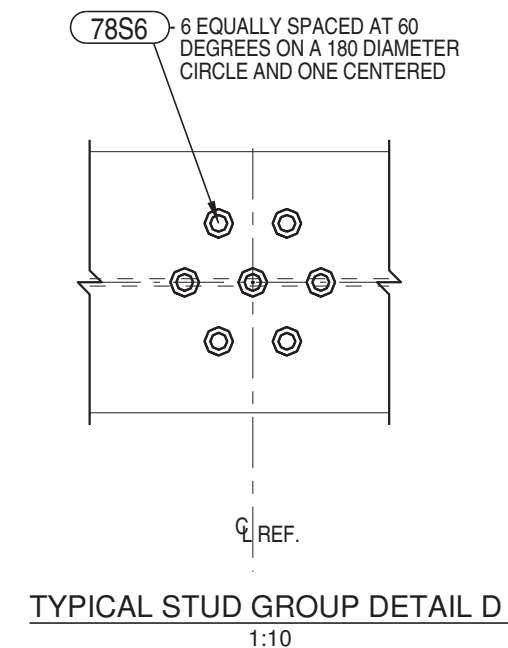
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PROJECT: MINISTRY OF FORESTS BLACKFOOT CREEK CROSSING STRUCTURE NUMBER N2-135A 21.336 METER L100 COMPOSITE BRIDGE				
TITLE: GIRDER A1 LAYOUT				
ENGINEERED BY: P.J. KING	DRAWN BY: RON RIEMENS	JOB No: 7471	DRAWING No: 040-GA1-01	REV 0





REV	DATE	DESCRIPTION	DRAWN	CHK
0	MAR 31, 2017	ISSUED FOR CONSTRUCTION	RR	
B	MAR 27, 2017	ISSUED FOR APPROVAL	RR	DA
A	MAR 23, 2017	PRELIMINARY	RR	PK



www.rapidspan.com

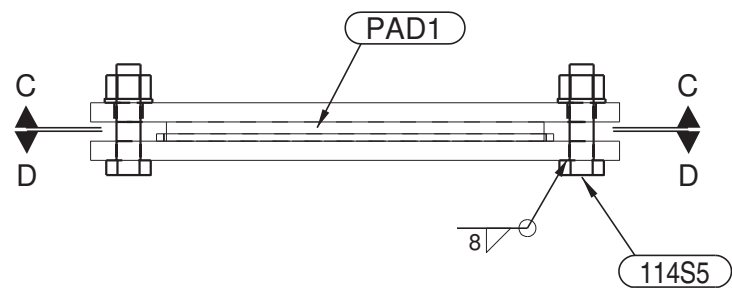
1-800-661-2047

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May. 01, 2017

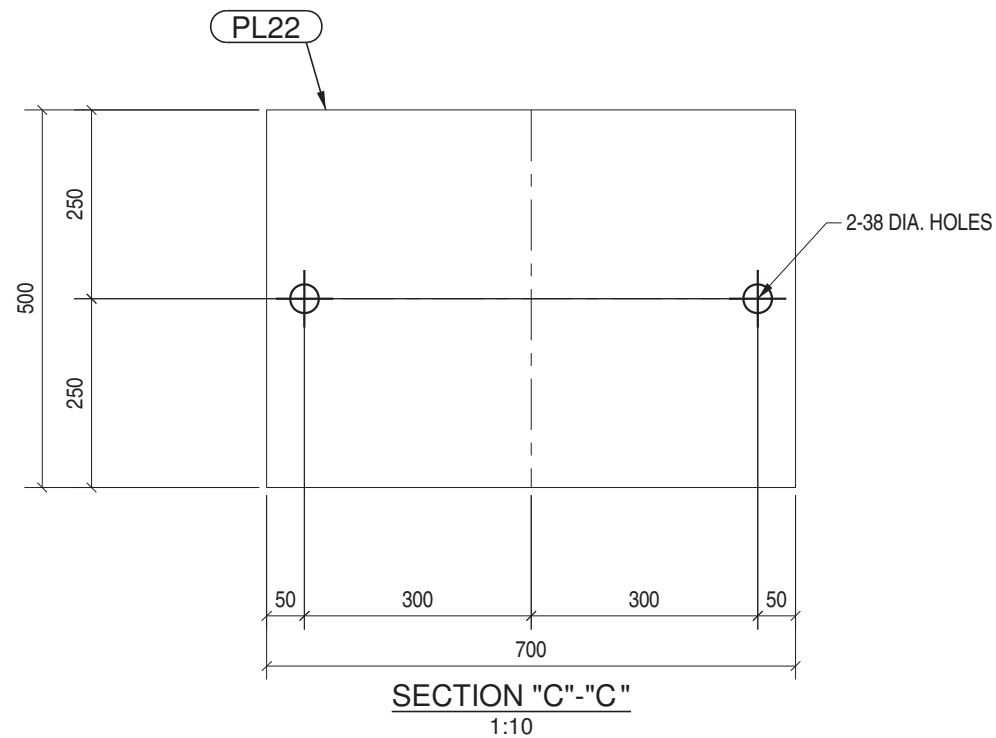
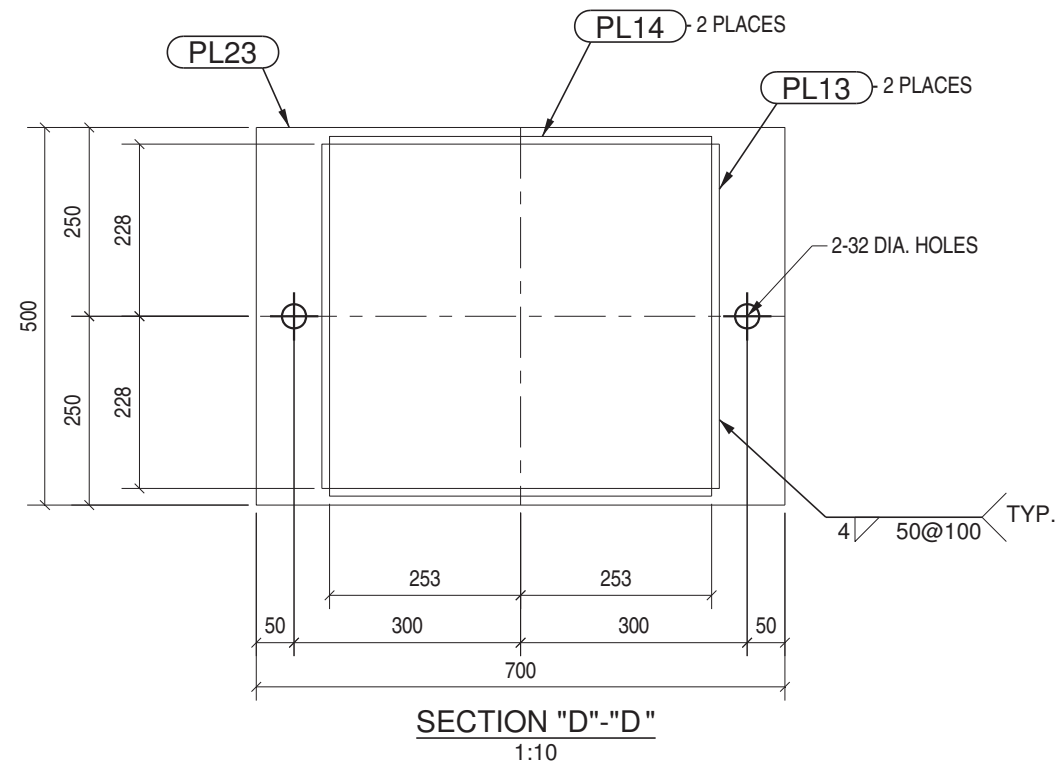
PROJECT: MINISTRY OF FORESTS BLACKFOOT CREEK CROSSING STRUCTURE NUMBER N2-135A 21.336 METER L100 COMPOSITE BRIDGE				
TITLE: GIRDER DETAILS				
ENGINEERED BY: P.J. KING	DRAWN BY: RON RIEMENS	JOB No: 7471	DRAWING No: 041-G-01	REV 0



FIXED BEARING ASSEMBLY
1:10

BILL OF MATERIALS - JOB # 7471				
ITEM	QTY	DESCRIPTION OR NAME	SIZE	WT.LBS. TOTAL
FBA1	2	FIXED BEARING SANDWICH	76 x 500 x 700	658.5

PAD1	2	RUBBER BEARING PAD	25.4 x 450 x 500	27.7
PL13	4	KEEPER BAR	9.5 x 10 x 456	3.0
PL14	4	KEEPER BAR	9.5 x 10 x 506	3.3
PL22	2	BASE PLATE	25.4 x 500 x 700	307.7
PL23	2	SOLE PLATE	25.4 x 500 x 700	307.7
114S5	4	ASTM A325-1 BOLT ASSEMBLY	1 1/4" DIA. x 5" LONG	9.0



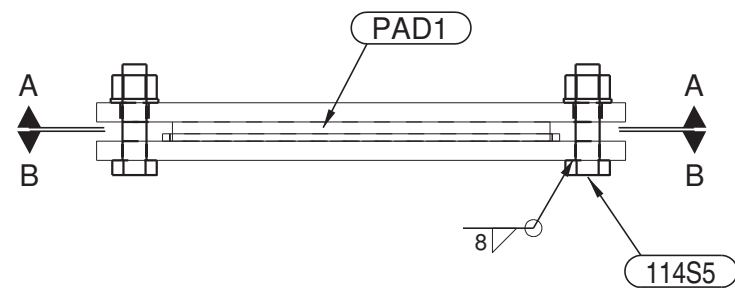
REV	DATE	DESCRIPTION	DRAWN	CHK
0	MAR 31, 2017	ISSUED FOR CONSTRUCTION	RR	
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A	MAR 23, 2017	PRELIMINARY	RR	PK



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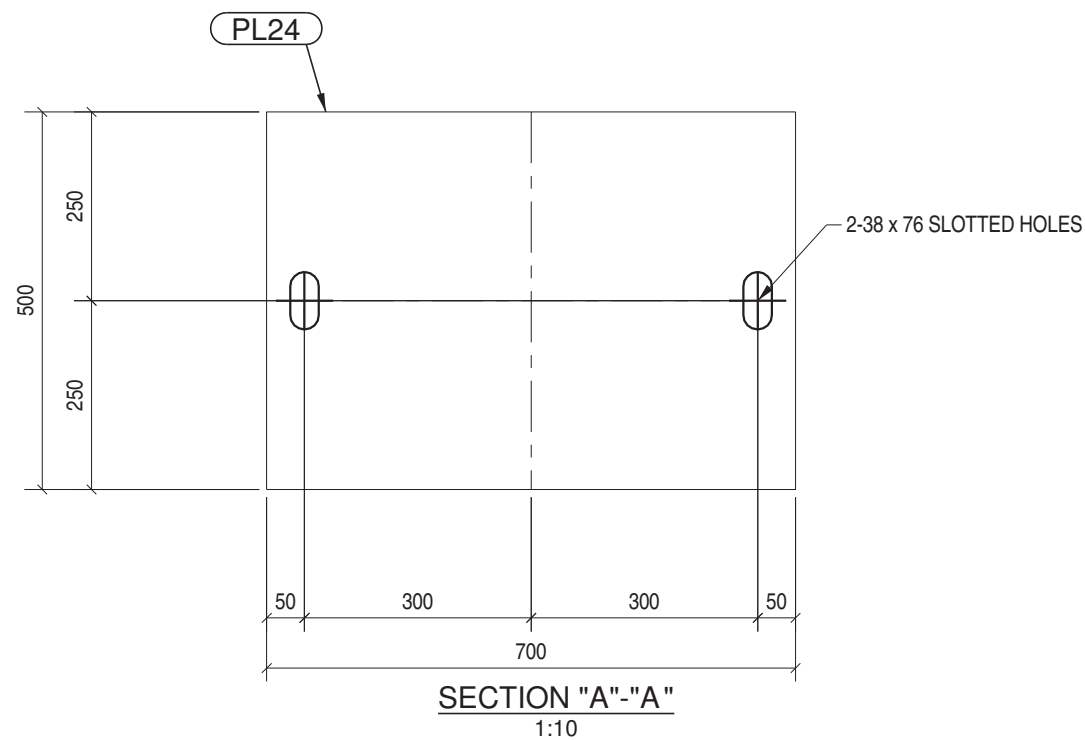
PROJECT: MINISTRY OF FORESTS BLACKFOOT CREEK CROSSING STRUCTURE NUMBER N2-135A 21.336 METER L100 COMPOSITE BRIDGE				
TITLE: FIXED BEARING ASSEMBLY				
ENGINEERED BY:	DRAWN BY:	JOB No:	DRAWING No:	REV
	RON RIEMENS	7471	042-FBA1-01	0



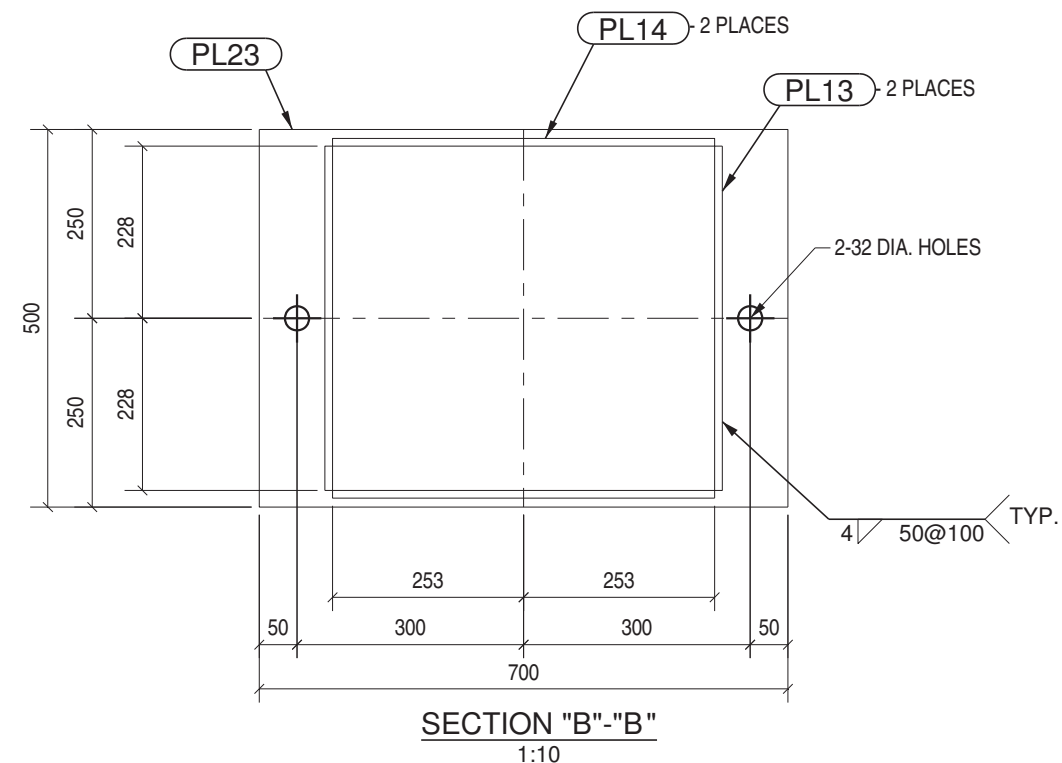
FIXED BEARING ASSEMBLY
1:10

BILL OF MATERIALS - JOB # 7471				
ITEM	QTY	DESCRIPTION OR NAME	SIZE	WT.LBS. TOTAL
EBA1	2	EXPANSION BEARING SANDWICH	76 x 500 x 700	658.5

PAD1	2	RUBBER BEARING PAD	25.4 x 450 x 500	27.7
PL13	4	KEEPER BAR	9.5 x 10 x 456	3.0
PL14	4	KEEPER BAR	9.5 x 10 x 506	3.3
PL23	2	SOLE PLATE	25.4 x 500 x 700	307.7
PL24	2	BASE PLATE	25.4 x 500 x 700	307.7
114S5	4	ASTM A325-1 BOLT ASSEMBLY	1 1/4" DIA. x 5" LONG	9.0



SECTION "A"-"A"
1:10



SECTION "B"-"B"
1:10

REV	DATE	DESCRIPTION	DRAWN	CHK
0	MAR 31, 2017	ISSUED FOR CONSTRUCTION	RR	
B	MAR 27, 2017	ISSUED FOR APPROVAL	RR	DA
A	MAR 23, 2017	PRELIMINARY	RR	PK



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PROJECT: MINISTRY OF FORESTS BLACKFOOT CREEK CROSSING STRUCTURE NUMBER N2-135A 21.336 METER L100 COMPOSITE BRIDGE				
TITLE: EXPANSION BEARING ASSEMBLY				
ENGINEERED BY:	DRAWN BY:	JOB No:	DRAWING No:	REV
	RON RIEMENS	7471	043-EBA1-01	0

PIPE1

PL25

BILL OF MATERIALS - JOB # 7471				
ITEM	QTY	DESCRIPTION OR NAME	SIZE	WT.LBS. TOTAL
SBCW1	4	STEEL BENT COLUMN WELDMENT	500 x 500 x 3525	2581.4

PIPE1	4	STEEL BENT COLUMN	PIPE406 O.D. x 9.5 x 3500	2141.8
PL25	4	STEEL BENT BASE PLATE	25.4 x 500 x 500	439.6

0	MAR 31, 2017	ISSUED FOR CONSTRUCTION	RR	
B	MAR 27, 2017	ISSUED FOR APPROVAL	RR	DA
A	MAR 23, 2017	PRELIMINARY	RR	PK
REV	DATE	DESCRIPTION	DRAWN	CHK

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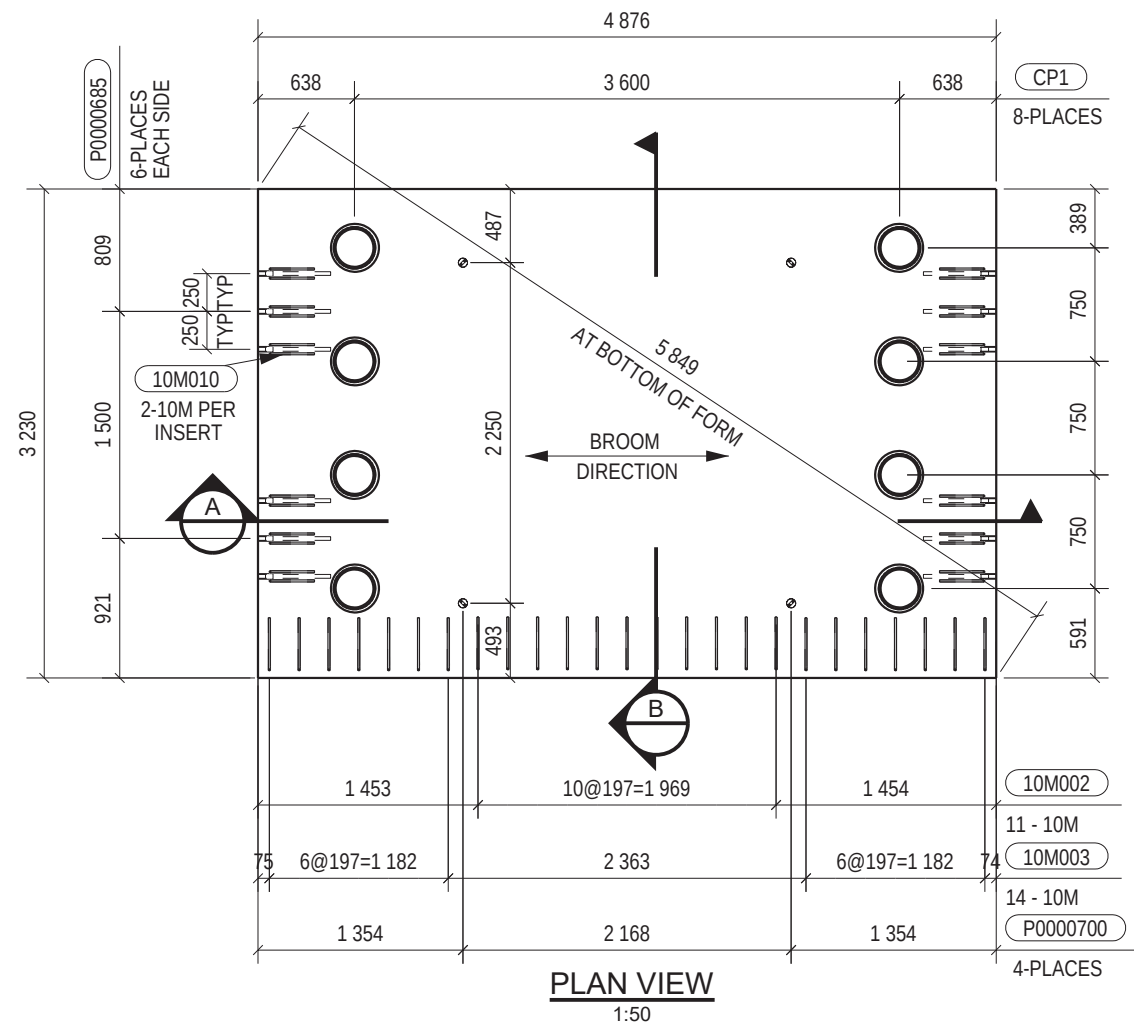
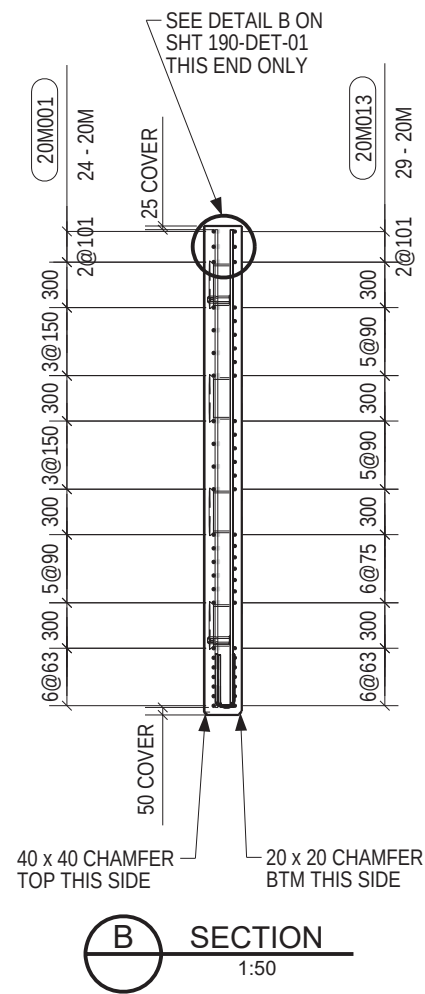
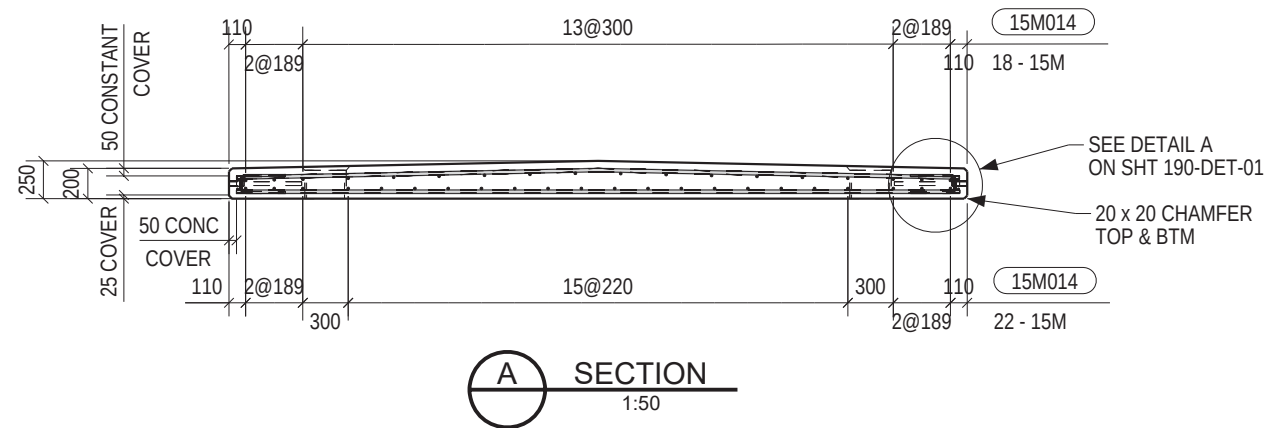
PROJECT:

MINISTRY OF FORESTS
BLACKFOOT CREEK CROSSING
STRUCTURE NUMBER N2-135A
21.336 METER L100 COMPOSITE BRIDGE

TITLE:

STEEL BENT COLUMN WELDMENT

ENGINEERED BY:	DRAWN BY:	JOB No:	DRAWING No:	REV
	RON RIEMENS	7471	043-SBCW1-01	



BILL OF MATERIALS - JOB # 7471

ITEM	QTY	DESCRIPTION		SIZE	MIX	VOL. CU. M.	WT LBS EA
A	2	END DECK PANEL		4876 x 250 x 3230	108.0	3.47 EA.	18897
ITEM	QTY ONE	QTY ALL	DESCRIPTION	SIZE	LENGTH	WT LBS ONE	
10M002	11	22	FORMED REBAR - SEE DETAIL	10M	772	14.7	
10M003	14	28	FORMED REBAR - SEE DETAIL	10M	751	18.2	
10M009	4	8	REBAR	10M	3155	21.8	
10M010	24	48	FORMED REBAR - SEE DETAIL	10M	672	27.9	
15M014	40	80	REBAR	15M	3155	436.8	
20M001	24	48	FORMED REBAR - SEE DETAIL	20M	4775	594.9	
20M013	29	58	REBAR	20M	4776	719.1	
ITEM	QTY ONE	QTY ALL	DESCRIPTION	SIZE		WT LBS ONE	
CP1	8	16	CORRUGATED PIPE POCKET 10" GALV	10"Ø x 188 LONG		192.6	
P0000685	12	24	COUPLER 1" HDG C/W 25M x 430 LG REBAR	1"Ø x 19" LONG		53.4	
P0000700	4	8	DAYTON LIFTING ANCHOR FL509 HDG	SEE DETAIL		8.8	

REV	DATE	DESCRIPTION	DRAWN	CHK
0	MAR 31, 2017	ISSUED FOR CONSTRUCTION	JK	
B	MAR 28, 2017	ISSUED FOR APPROVAL	JK	DA
A	MAR 23, 2017	PRELIMINARY	JK	PK



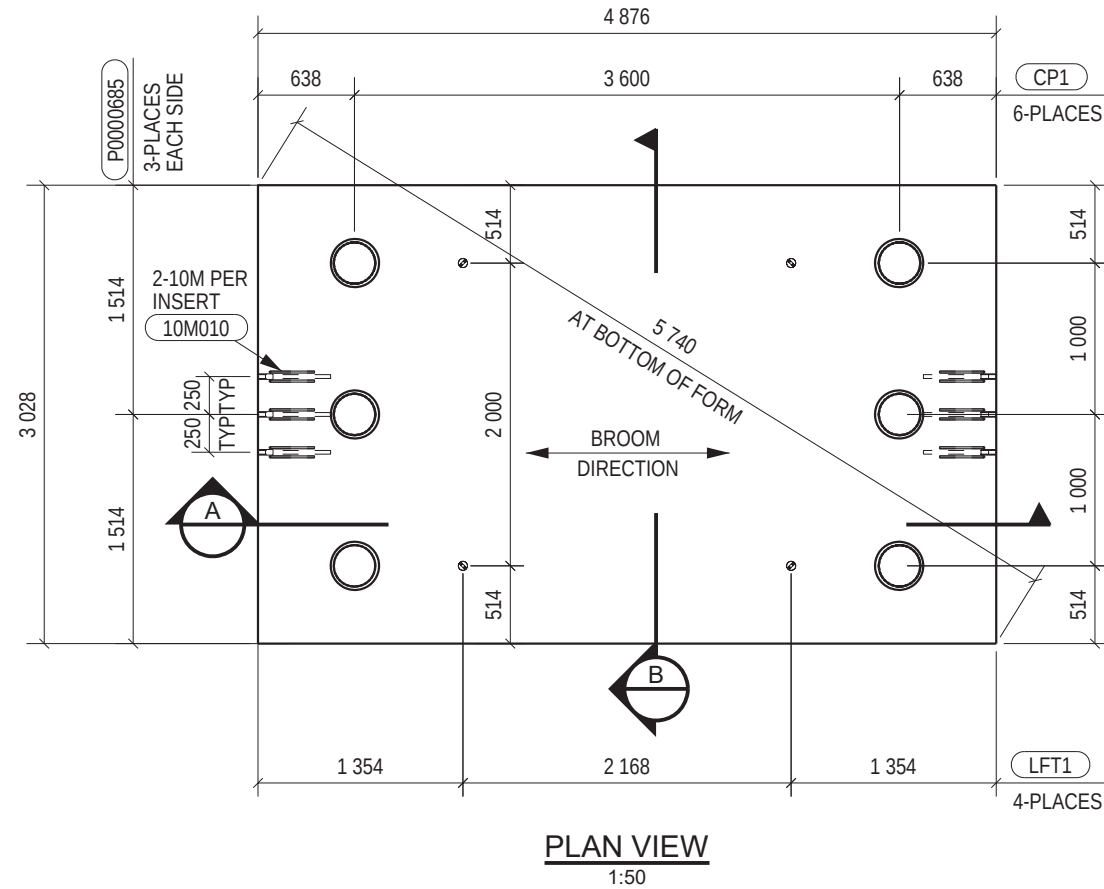
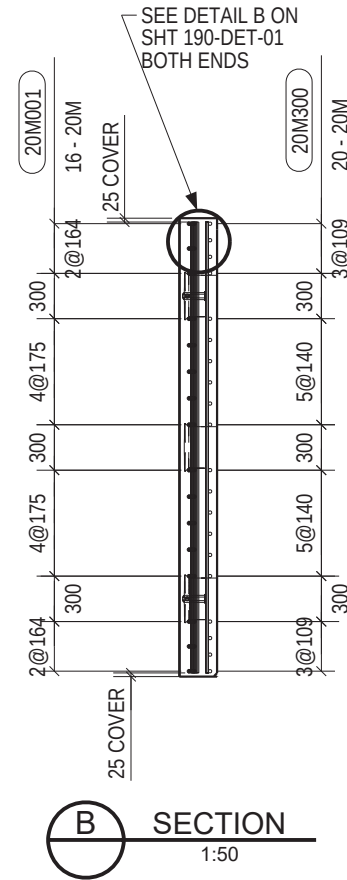
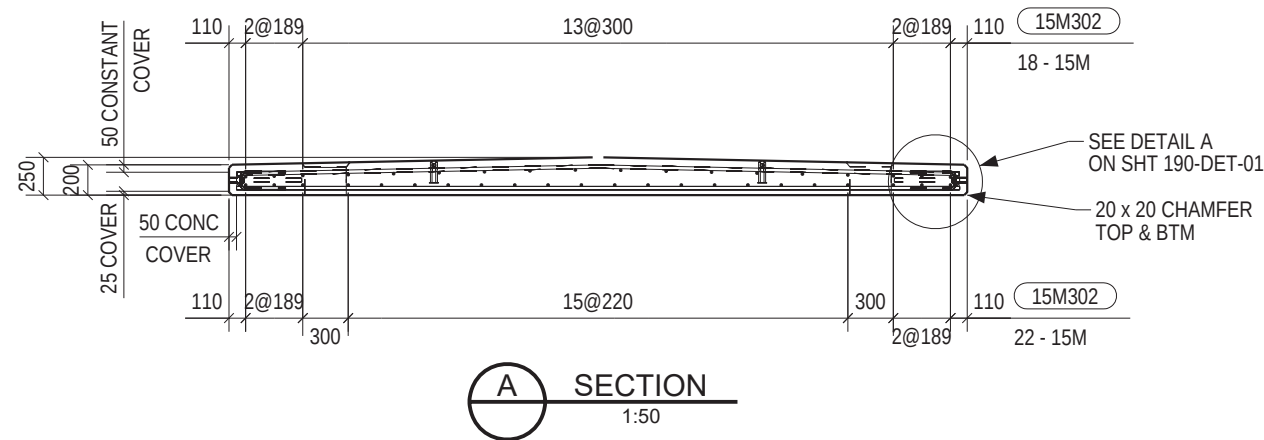
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PROJECT:	MINISTRY OF FORESTS BLACKFOOT CREEK CROSSING STRUCTURE NUMBER N2-135A 21.336 METER L100 COMPOSITE BRIDGE				
TITLE:	END DECK PANEL A				
ENGINEERED BY:	DRAWN BY:	JOB No:	DRAWING No:	REV	
P.J. KING	J KASHUBA	7471	100-A-01	0	



BILL OF MATERIALS - JOB # 7471

ITEM	QTY	DESCRIPTION		SIZE	MIX	VOL. CU. M.	WT LBS EA
B	5	INTERMEDIATE DECK PANEL		4876 x 250 x 3028	108.0	3.25 EA.	17697
ITEM	QTY ONE	QTY ALL	DESCRIPTION	SIZE	LENGTH	WT LBS ONE	
10M010	24	120	FORMED REBAR - SEE DETAIL	10M	672	27.9	
10M012	8	40	REBAR	10M	2978	41.2	
15M302	80	400	REBAR	15M	2978	824.5	
20M001	32	160	FORMED REBAR - SEE DETAIL	20M	4775	793.2	
20M300	40	200	REBAR	20M	4776	991.8	
ITEM	QTY ONE	QTY ALL	DESCRIPTION	SIZE		WT LBS ONE	
CP1	6	30	CORRUGATED PIPE POCKET 10" GALV	10"Ø x 188 LONG		144.5	
P0000685	6	30	COUPLER 1" HDG C/W 25M x 430 LG REBAR	1"Ø x 19" LONG		26.7	
P0000700	4	20	DAYTON LIFTING ANCHOR FL509 HDG	SEE DETAIL		8.8	

REV	DATE	DESCRIPTION	DRAWN	CHK
0	MAR 31, 2017	ISSUED FOR CONSTRUCTION	JK	
B	MAR 28, 2017	ISSUED FOR APPROVAL	JK	DA
A	MAR 23, 2017	PRELIMINARY	JK	PK



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PROJECT:	MINISTRY OF FORESTS BLACKFOOT CREEK CROSSING STRUCTURE NUMBER N2-135A 21.336 METER L100 COMPOSITE BRIDGE				
TITLE:	INTERMEDIATE DECK PANEL B				
ENGINEERED BY:	DRAWN BY:	JOB No:	DRAWING No:	REV	
P.J. KING	J KASHUBA	7471	100-B-01	0	

15M006

13

QTY ONE	QTY ALL	LENGTH
1	2	7073
1	2	7433
1	2	7783
1	2	8133
1	2	8483
1	2	8833
1	2	9193
1	2	9553
1	2	9893
4	8	10103

15M007

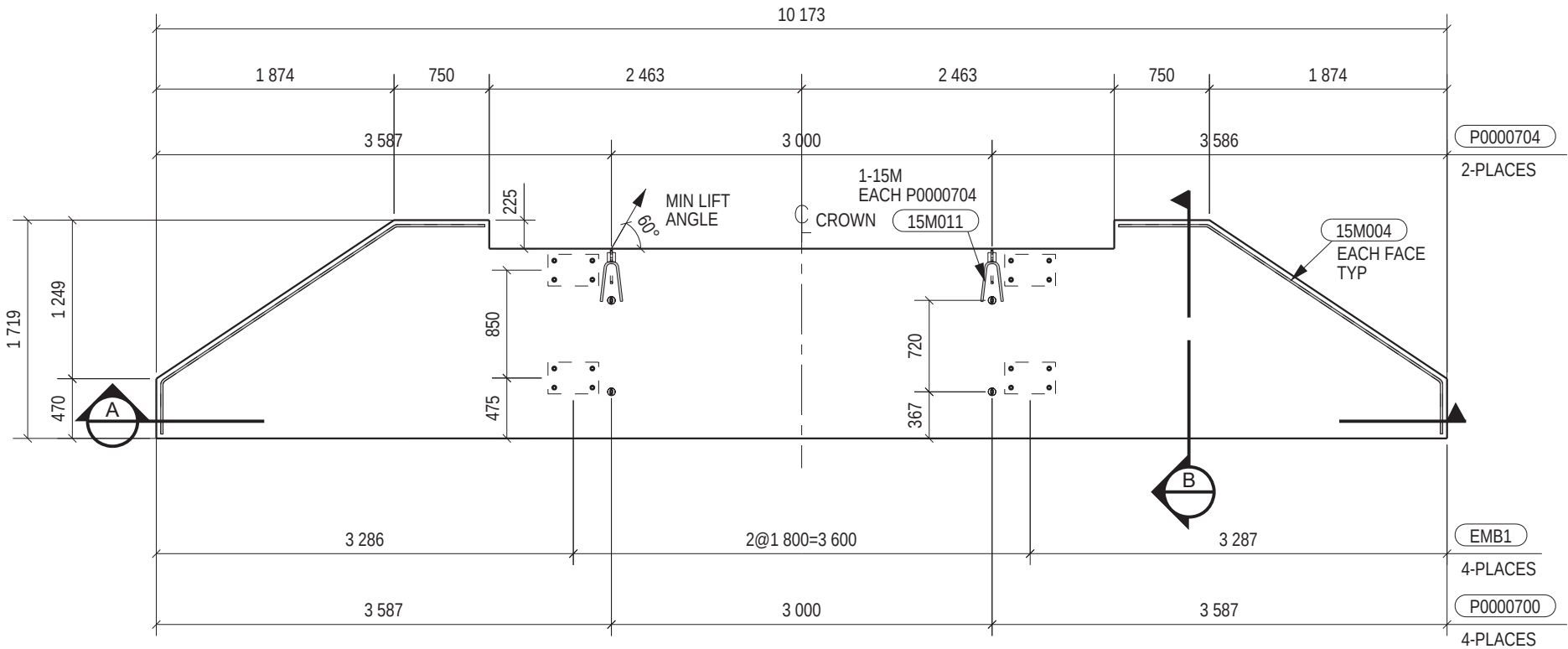
7

QTY ONE	QTY ALL	LENGTH
1	2	7073
1	2	7783
1	2	8483
1	2	9193
1	2	9893
2	4	10103

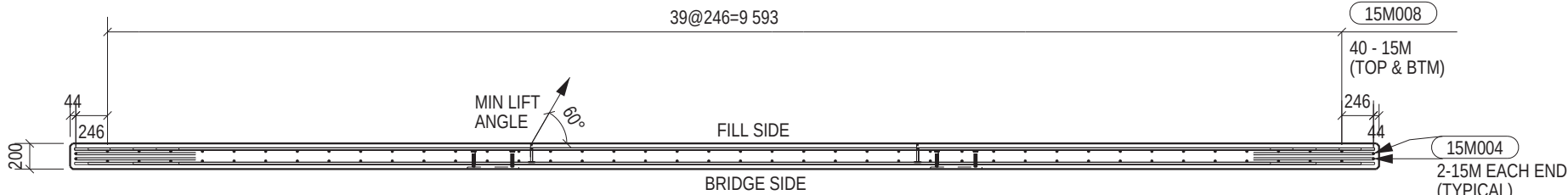
15M008

80

QTY ONE	QTY ALL	LENGTH
4	8	579
4	8	744
4	8	909
4	8	1069
4	8	1239
4	8	1399
40	80	1424
4	8	1564
12	24	1649

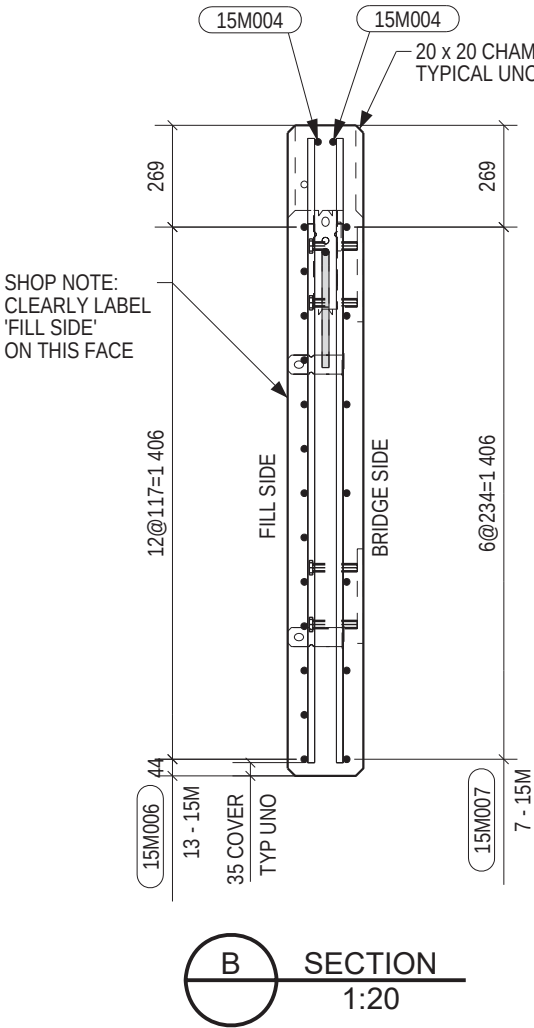


PLAN VIEW
1:50



A SECTION
1:50

BILL OF MATERIALS - JOB # 7471						
ITEM	QTY	DESCRIPTION	SIZE	MIX	VOL. CU. M.	WT LBS EA
BW	2	BALLAST WALL	1719 x 10173 x 200	108.0	2.81 EA.	15246
ITEM	QTY ONE	QTY ALL	DESCRIPTION	SIZE	LENGTH	WT LBS ONE
15M004	4	8	FORMED REBAR - SEE DETAIL	15M	3324	46.0
15M005	2	4	REBAR	15M	874	6.0
15M006	13	26	REBAR - SEE TABLE	15M	VARIES	454.6
15M007	7	14	REBAR - SEE TABLE	15M	VARIES	244.8
15M008	80	160	REBAR - SEE TABLE	15M	VARIES	160.3
15M011	2	4	FORMED REBAR - SEE DETAIL	15M	678	4.7
ITEM	QTY ONE	QTY ALL	DESCRIPTION	SIZE		WT LBS ONE
EMB1	4	8	EMBEDDED PLATE	15.9 x 250 x 400		110.1
P0000700	4	8	DAYTON LIFTING ANCHOR FL509 HDG	SEE DETAIL		8.8
P0000704	2	4	FLEET LIFT ERECTION ANCHOR FL175L HDG	SEE DETAIL		6.6



B SECTION
1:20

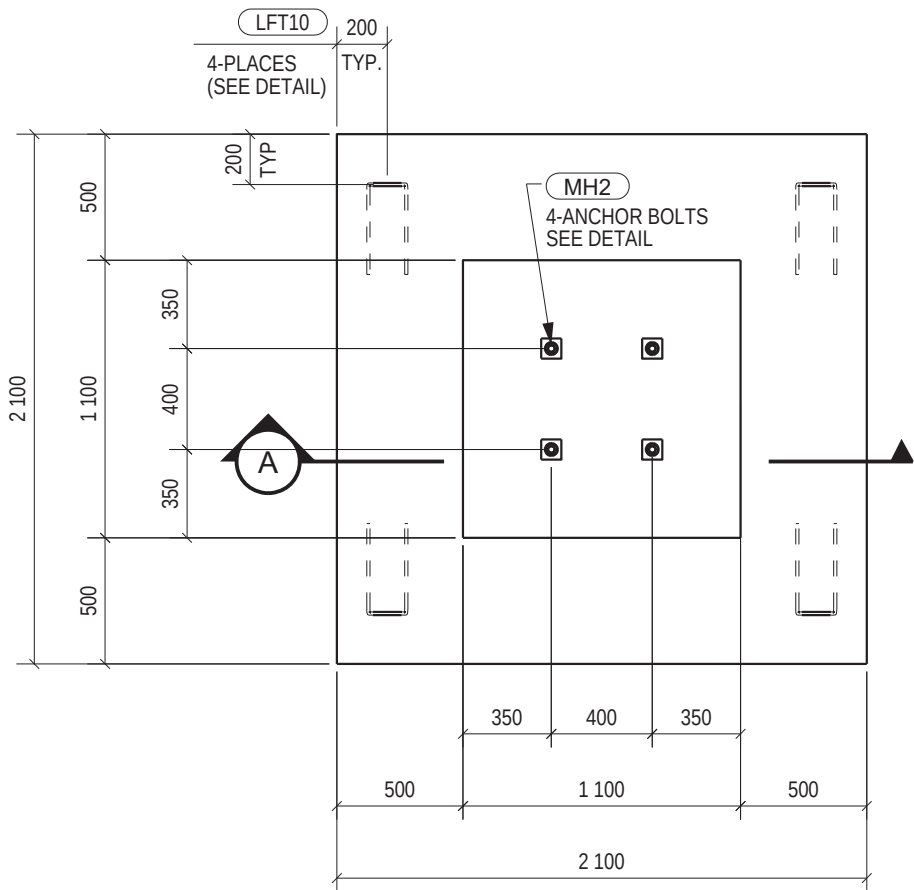
REV	DATE	DESCRIPTION	DRAWN	CHK
0	MAR 31, 2017	ISSUED FOR CONSTRUCTION	JK	
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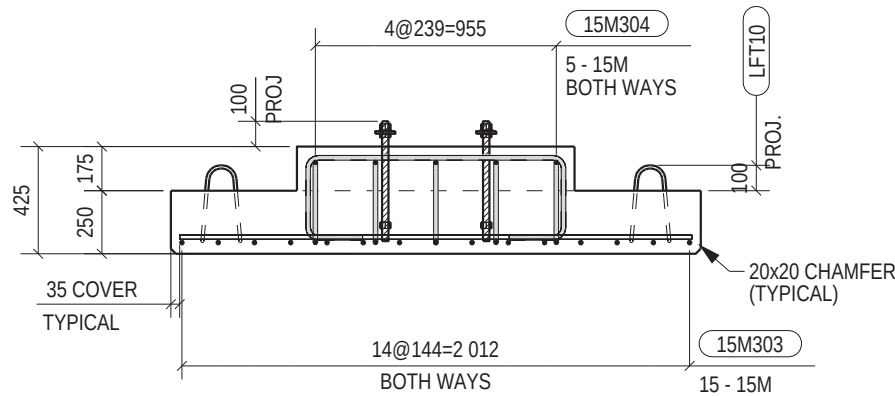
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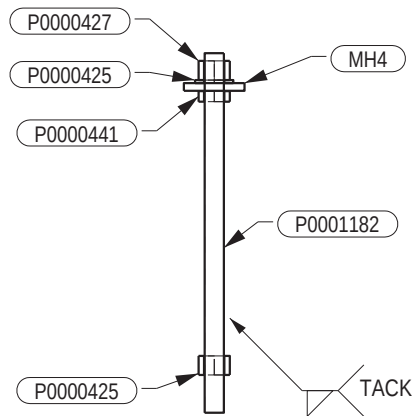
PROJECT: MINISTRY OF FORESTS BLACKFOOT CREEK CROSSING STRUCTURE NUMBER N2-135A 21.336 METER L100 COMPOSITE BRIDGE				
TITLE: BALLAST WALL				
ENGINEERED BY:	DRAWN BY:	JOB No:	DRAWING No:	REV
	J KASHUBA	7471	150-BW-01	0



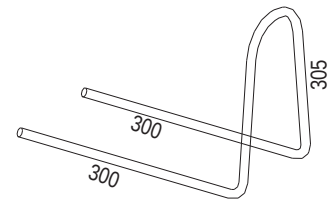
PLAN VIEW
1:30



A SECTION
1:30



ANCHOR DETAIL
1:10



STRAND LIFTING LOOP DETAIL
1:10

BILL OF MATERIALS - JOB # 7471

ITEM	QTY	DESCRIPTION	SIZE	MIX	VOL. CU. M.	WT LBS EA
F	4	FOOTING	2100 x 2100 x 425	108.0	1.31 EA.	7125
ITEM	QTY ONE	QTY ALL	DESCRIPTION	SIZE	LENGTH	WT LBS ONE
15M303	30	120	REBAR	15M	2030	210.8
15M304	10	40	FORMED REBAR - SEE DETAIL	15M	2008	69.5
ITEM	QTY ONE	QTY ALL	DESCRIPTION	SIZE		WT LBS ONE
LFT10	4	16	12.7 DIA. STRAND	13 DIA. x 1349		10.6
MH4	4	16	GR 300W WASHER PLATE	80.0 x 80 x 10		4.4
P0000425	8	32	ASTM A194-2H NUT	1"		3.2
P0000427	4	16	ASTM A194-2H JAM NUT	1"		0.9
P0000441	4	16	ASTM F436-1 FLAT WASHER	1"		0.4
P0001182	4	16	ASTM 193 TYPE B7 THREADED ROD	1" x 18 3/4" LONG		15.9

REV	DATE	DESCRIPTION	DRAWN	CHK
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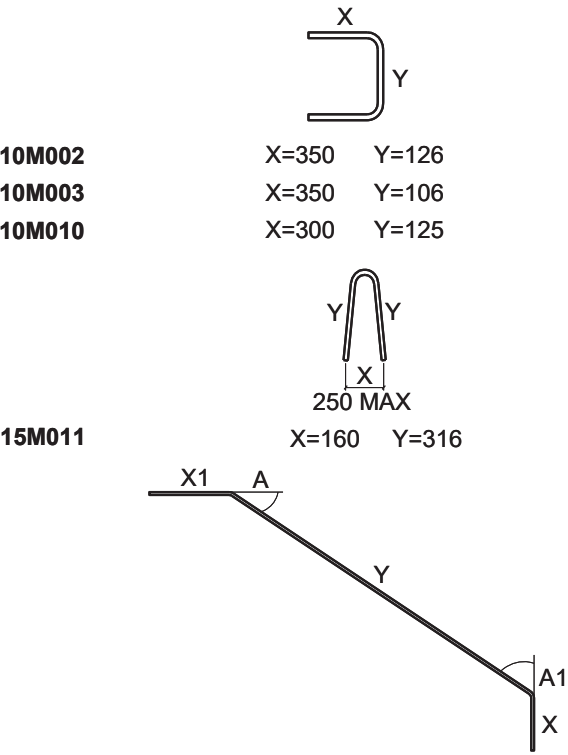
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PROJECT: MINISTRY OF FORESTS
BLACKFOOT CREEK CROSSING
STRUCTURE NUMBER N2-135A
21.336 METER L100 COMPOSITE BRIDGE

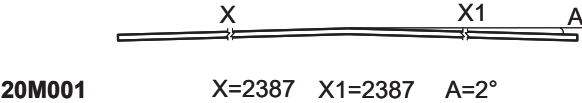
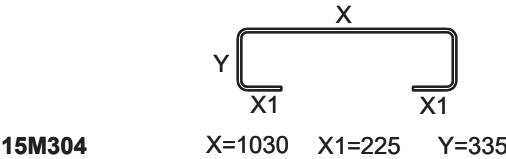
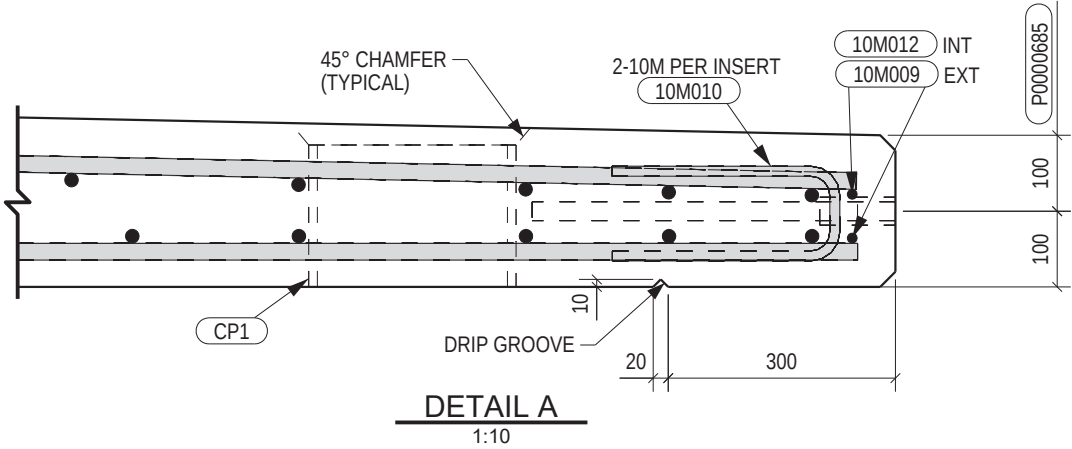
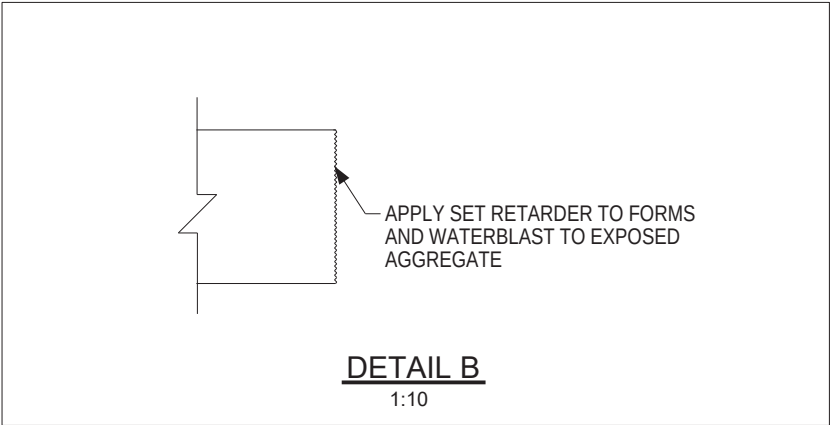
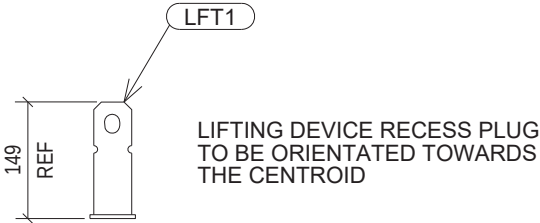
TITLE: FOOTING

ENGINEERED BY:	DRAWN BY:	JOB No:	DRAWING No:	REV
	J KASHUBA	7471	170-F-01	0

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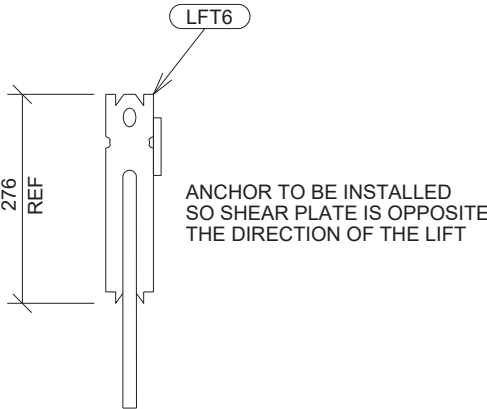


15M004 X=416 X1=704 Y=2222 A=56° A1=34°



SAFE WORKING LOAD = 8250 LBS
GALVANIZED FINISH

DAYTON SUPERIOR FL509 DETAIL
1:10



S.W.L WITH TENSION BAR=8,000 lbs.
GALVANIZED FINISH

DAYTON SUPERIOR FL175L DETAIL
1:10

REV	DATE	DESCRIPTION	DRAWN	CHK
0	MAR 31, 2017	ISSUED FOR CONSTRUCTION	JK	
B	MAR 28, 2017	ISSUED FOR APPROVAL	JK	DA
A	MAR 23, 2017	PRELIMINARY	JK	PK

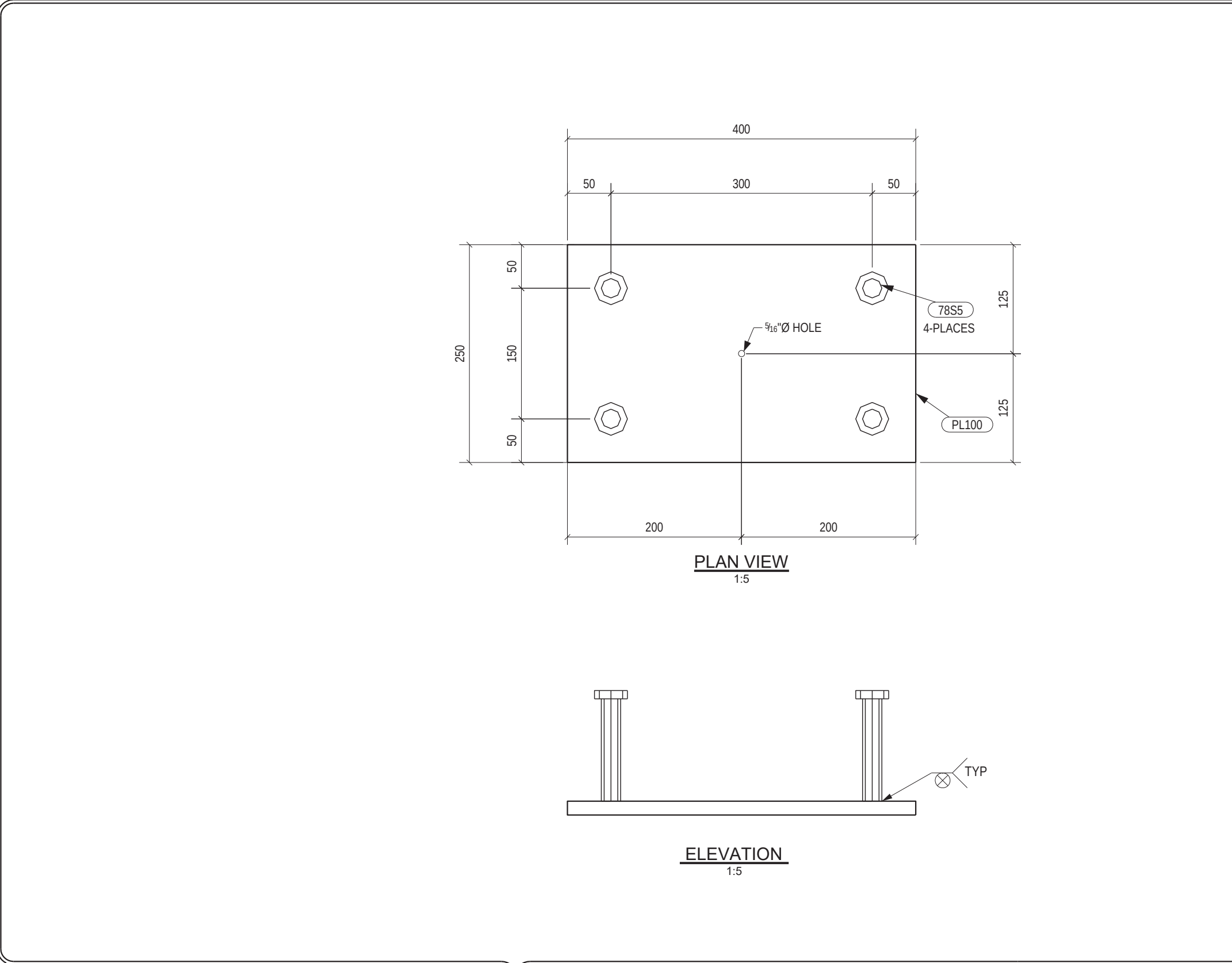


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PROJECT: MINISTRY OF FORESTS BLACKFOOT CREEK CROSSING STRUCTURE NUMBER N2-135A 21.336 METER L100 COMPOSITE BRIDGE				
TITLE: FORMED REBAR & MISCELLANEOUS DETAILS				
ENGINEERED BY:	DRAWN BY:	JOB No:	DRAWING No:	REV
	J KASHUBA	7471	190-DET-01	0



BILL OF MATERIALS - JOB # 7471				
ITEM	QTY	DESCRIPTION OR NAME	SIZE	WT.LBS. TOTAL
EMB1	8	EMBEDDED PLATE ASSEMBLY	143 x 250 x 400	247.6
PL100	8	PLATE	15.9 x 250 x 400	220.1
78S5	32	ASTM A108 STUD	7/8" DIA. x 5" LONG	27.5

0	MAR 31, 2017	ISSUED FOR CONSTRUCTION	JK	
B	MAR 28, 2017	ISSUED FOR APPROVAL	JK	DA
A	MAR 23, 2017	PRELIMINARY	JK	PK
REV	DATE	DESCRIPTION	DRAWN	CHK



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PROJECT:

MINISTRY OF FORESTS
BLACKFOOT CREEK CROSSING
STRUCTURE NUMBER N2-135A
21.336 METER L100 COMPOSITE BRIDGE

TITLE:

BALLAST WALL EMBED

ENGINEERED BY:	DRAWN BY:	JOB No:	DRAWING No:	REV
	J KASHUBA	7471	190-RSS-01	

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GENERAL NOTES:

1. MATERIAL STRENGTH:

1.1. ROLLED SECTIONS: GRADE 350W

1.2. HSS – GRADE 350W and/or A500 GRADE C

1.3. MISCELLANEOUS PLATE – GRADE 350W

2. WELDING STANDARD:

2.1. WELDING TO CSA W59–M

3. MATERIAL FINISH:

3.1. ALL POSTS (953P1 IN DWG#100–A–001) AND WASHER PLATE (953W1) ARE GALVANIZED AFTER FABRICATION, GALVANIZING TO BE IN ACCORDANCE WITH ASTM A123/A123M

3.2. HSS RAILS (ALL ASSEMBLIES ON DWG#100–A–002) AND DELINEATOR PLATE (ASSEMBLY 953M1 ON DWG# 100–A–003) ARE POWDER COATED SAFETY YELLOW AFTER FABRICATION.

4. DO NOT SCALE PRINTS.

DRAWING INDEX

DRAWING NUMBER	DESCRIPTION	REVISION	REVISION DATE (DDMONYY)
100–G–001	MINISTRY OF FORESTRY BRIDGE GUARDRAIL GENERAL NOTES	0	30MAR17
100–E–001	MINISTRY OF FORESTRY BRIDGE GUARDRAIL ERECTION	0	30MAR17
100–E–002	MINISTRY OF FORESTRY BRIDGE GUARDRAIL END DETAIL	0	30MAR17
100–A–001	MINISTRY OF FORESTRY BRIDGE GUARDRAIL ASSEMBLY SHEET 1 OF 3	0	30MAR17
100–A–002	MINISTRY OF FORESTRY BRIDGE GUARDRAIL ASSEMBLY SHEET 2 OF 3	0	30MAR17
100–A–003	MINISTRY OF FORESTRY BRIDGE GUARDRAIL ASSEMBLY SHEET 3 OF 3	0	30MAR17
100–P–001	MINISTRY OF FORESTRY BRIDGE GUARDRAIL PARTS	0	30MAR17

MARCON INTERNAL USE ONLY

ESTIMATED HOURS:

PROCESSING DUE DATE:

FINAL DUE DATE:

INSTALLATION (YES / NO):

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DWG. NO.

REFERENCE DRAWINGS

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0 ISSUED FOR FABRICATION

A ISSUED FOR APPROVAL

REV. No.

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30MAR17 HT

23MAR17 HT

DATE

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BY

DISCIPLINE: STEEL

PROJECT MANAGER: AB

SCALE: NONE

DATE

DRAWN BY: HT

23MAR17

CHECKED BY: SK

23MAR17

APPROVED BY: SB

30MAR17

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MOF BRIDGE RAILING N2-135A RS7471
MINISTRY OF FORESTRY
CL-2 BRIDGE GUARDRAIL
GENERAL NOTES

PROJECT NUMBER

16953

DRAWING NUMBER

100–G–001

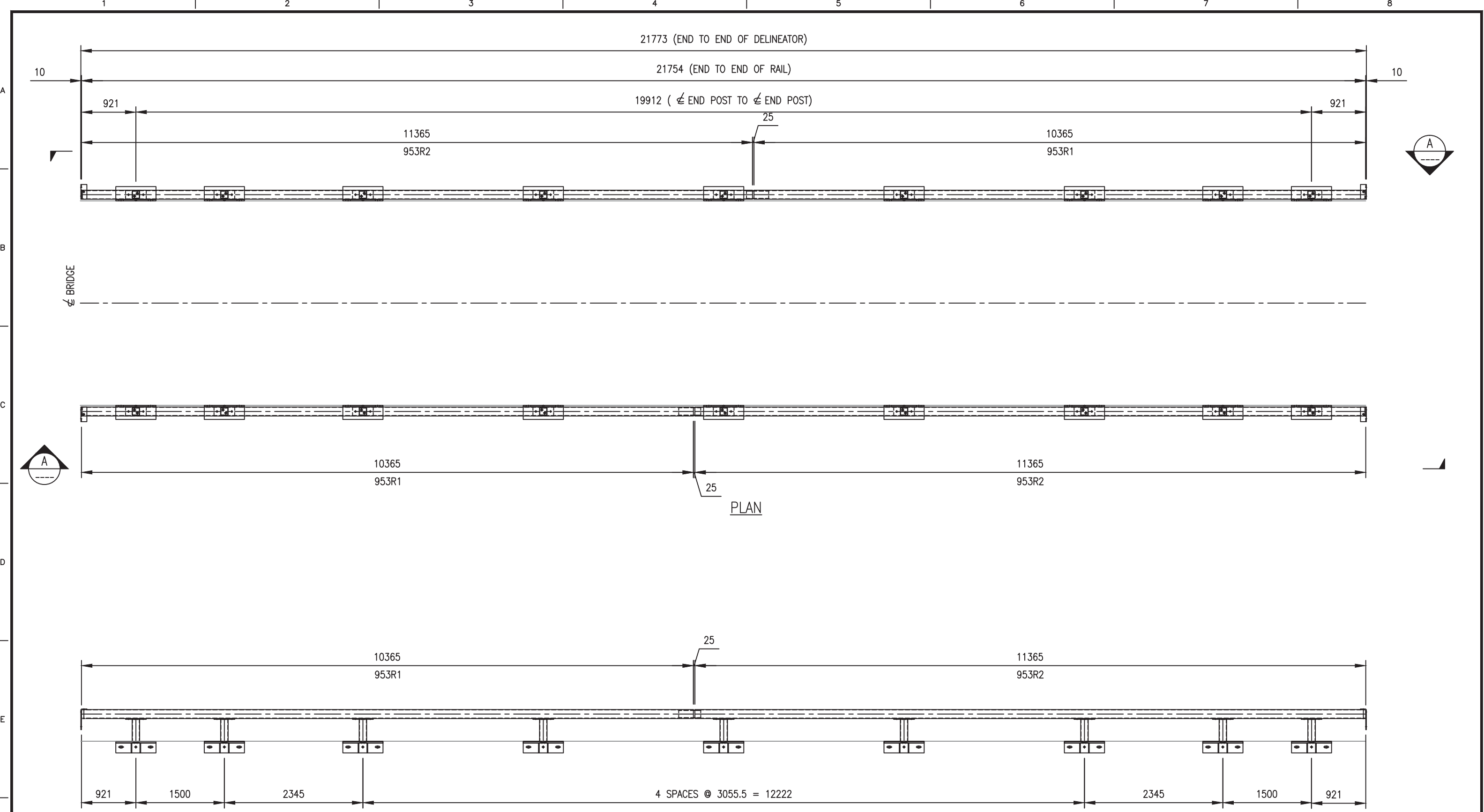
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NOTES:

1. SEE DWG #: 100-G-001 FOR GENERAL NOTES.

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DWG. NO.	REFERENCE DRAWINGS	

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0	ISSUED FOR FABRICATION	30MAR17	HT	-	-
A	ISSUED FOR APPROVAL	23MAR17	HT	-	-
REV. No.	DESCRIPTION	DATE	BY	-	-

DISCIPLINE: STEEL	
PROJECT MANAGER: AB	
SCALE: 1:80	DATE
DRAWN BY: HT	23MAR17
CHECKED BY: SK	23MAR17
APPROVED BY: SB	30MAR17

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CUSTOMER NAME: Rapid-Span Structures

MOF BRIDGE RAILING N2-135A RS7471 MINISTRY OF FORESTRY CL-2 BRIDGE GUARDRAIL ERECTION		
PROJECT NUMBER	DRAWING NUMBER	REV.
16953	100-E-001	0

11 x 17

NOTES:

1. SEE DWG #: 100-G-001 FOR GENERAL NOTES.

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DWG. NO.	REFERENCE DRAWINGS	

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A	ISSUED FOR APPROVAL	23MAR17	HT		
REV. No.	DESCRIPTION	DATE	BY		

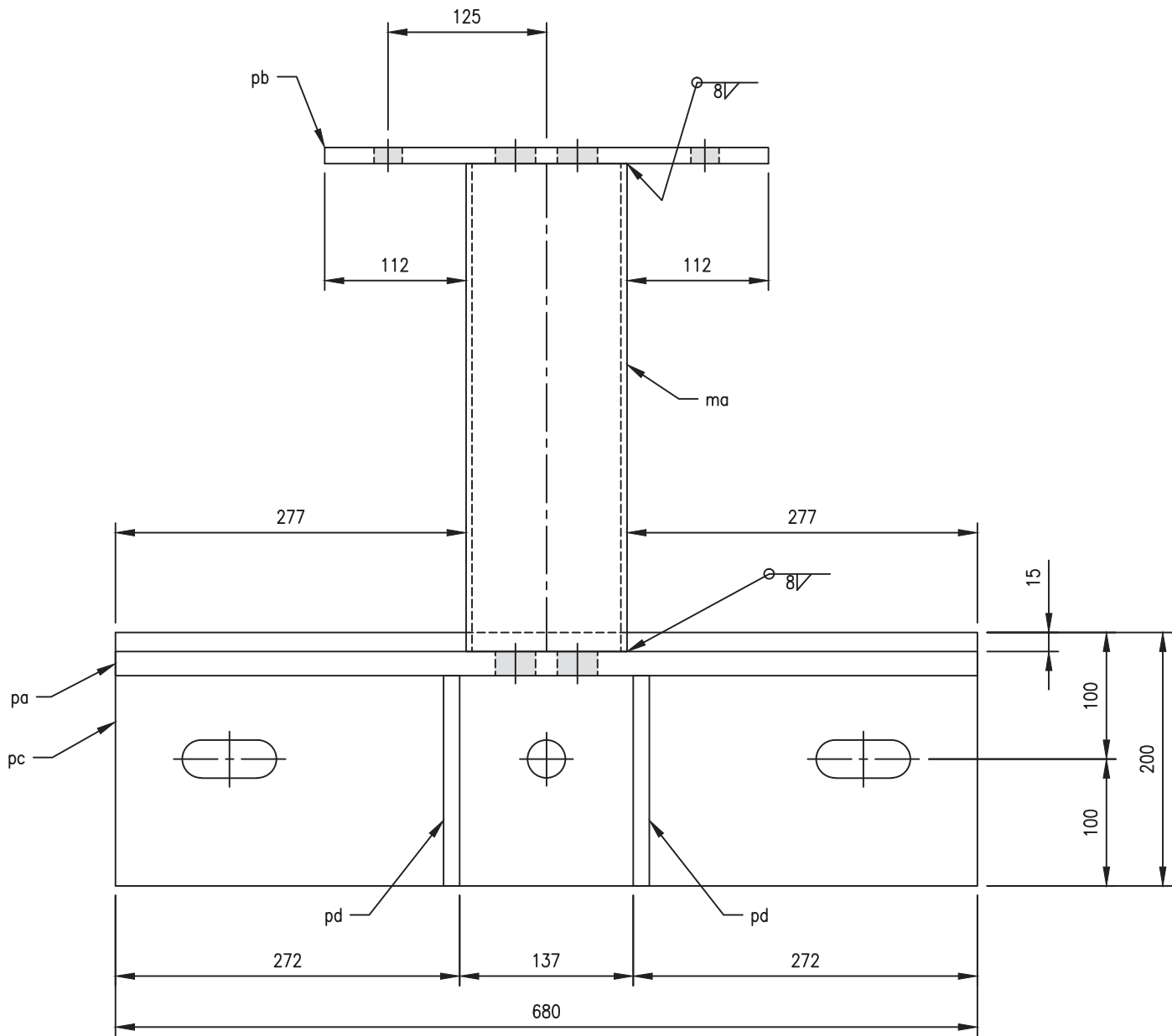
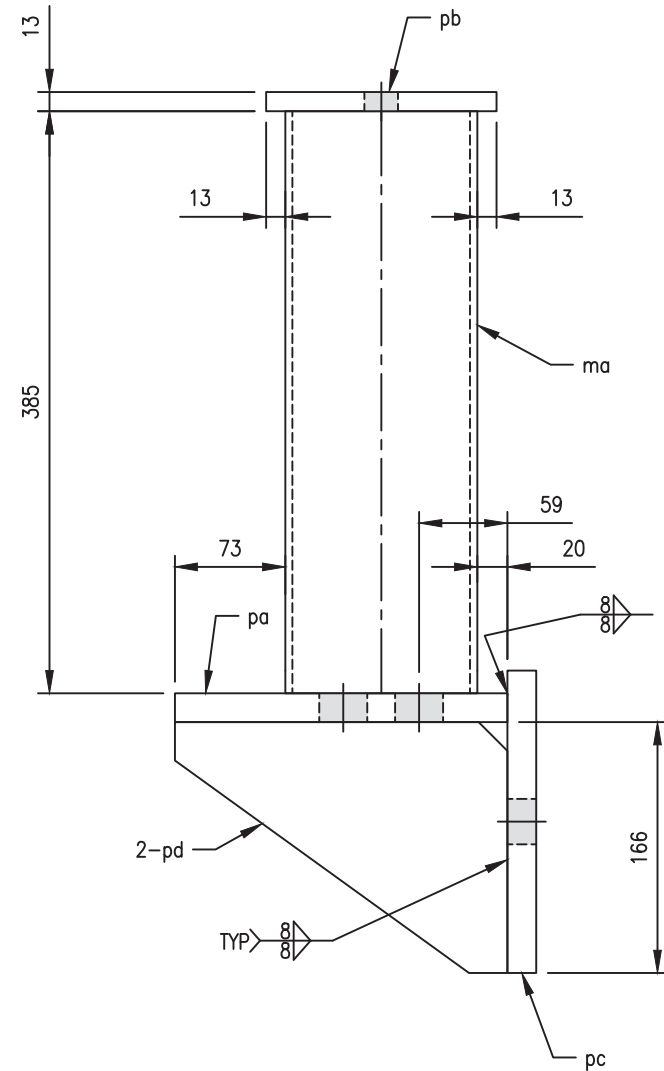
DISCIPLINE: STEEL	
PROJECT MANAGER: AB	
SCALE: 1:8	DATE
DRAWN BY: HT	23MAR17
CHECKED BY: SK	23MAR17
APPROVED BY: SB	30MAR17

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CUSTOMER NAME: Rapid-Span Structures

MOF BRIDGE RAILING N2-135A RS7471 MINISTRY OF FORESTRY CL-2 BRIDGE GUARDRAIL END DETAIL		
PROJECT NUMBER	DRAWING NUMBER	REV.
16953	100-E-002	0



18-REQUIRED-953P1
ASSEMBLY

NOTES:

1. SEE DWG #: 100-G-001 FOR GENERAL NOTES.

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DWG. NO.	-	REFERENCE DRAWINGS

SHOP
ISSUE

REV. No.	DESCRIPTION	DATE	BY
0	ISSUED FOR FABRICATION	30MAR17	HT
A	ISSUED FOR APPROVAL	23MAR17	HT

DISCIPLINE:	STEEL
PROJECT MANAGER:	AB
SCALE:	1:5
DATE:	
DRAWN BY:	HT
CHECKED BY:	SK
APPROVED BY:	SB

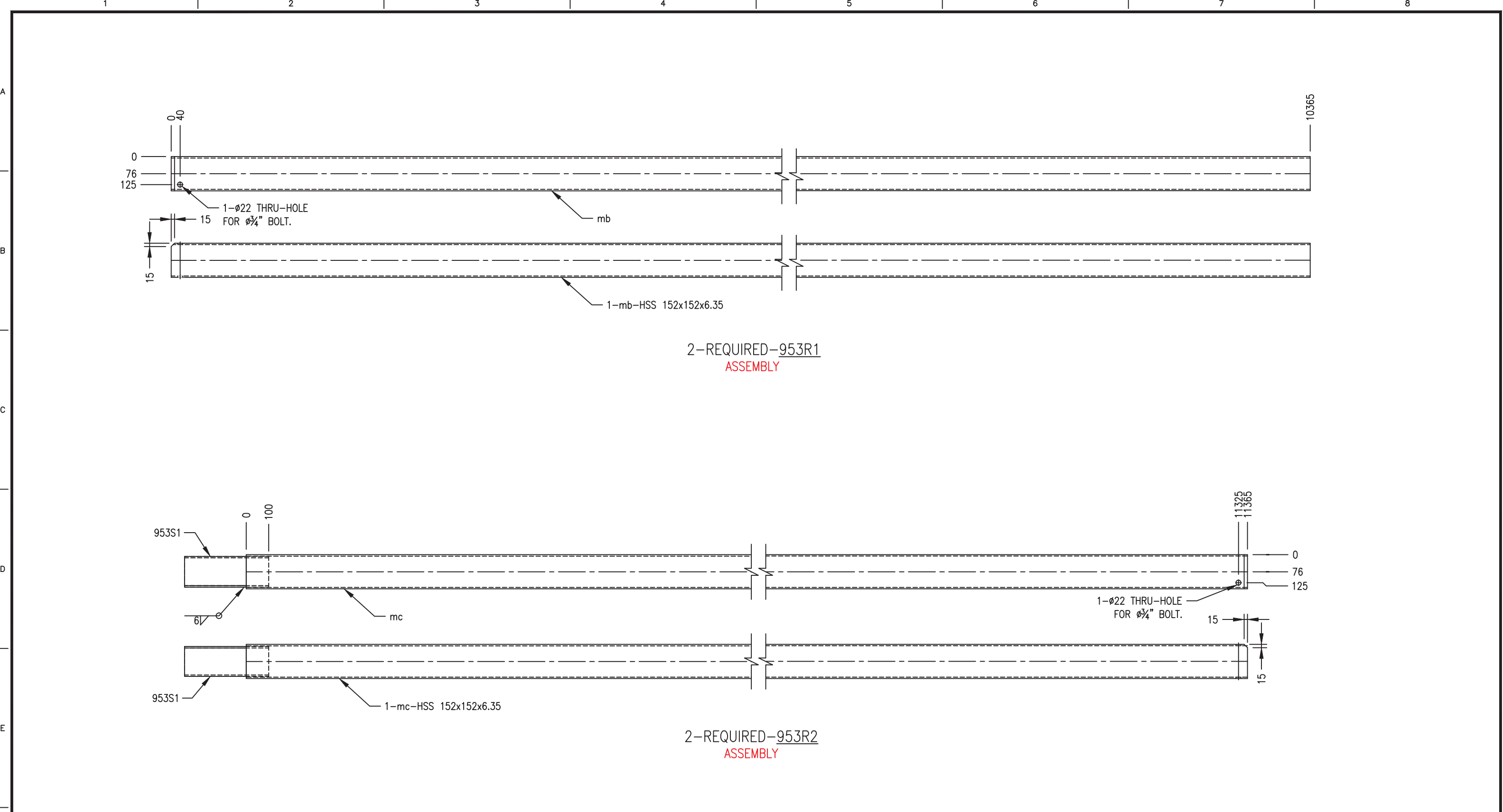
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CUSTOMER NAME: Rapid-Span Structures

PROJECT NUMBER	DRAWING NUMBER	REV.
16953	100-A-001	0

MOF BRIDGE RAILING N2-135A RS7471
MINISTRY OF FORESTRY
CL-2 BRIDGE GUARDRAIL
ASSEMBLY
SHEET 1 OF 3



NOTES:

- SEE DWG #: 100-G-001 FOR GENERAL NOTES.
- RAILS SHALL BE FIELD DRILLED (BY OTHERS)

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DWG. NO.	REFERENCE DRAWINGS	

SHOP
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REV.	0	ISSUED FOR FABRICATION	30MAR17	HT
REV.	A	ISSUED FOR APPROVAL	23MAR17	HT
REV. No.		DESCRIPTION	DATE	BY

DISCIPLINE: STEEL	
PROJECT MANAGER: AB	
SCALE: 1:16	DATE
DRAWN BY: HT	23MAR17
CHECKED BY: SK	23MAR17
APPROVED BY: SB	30MAR17

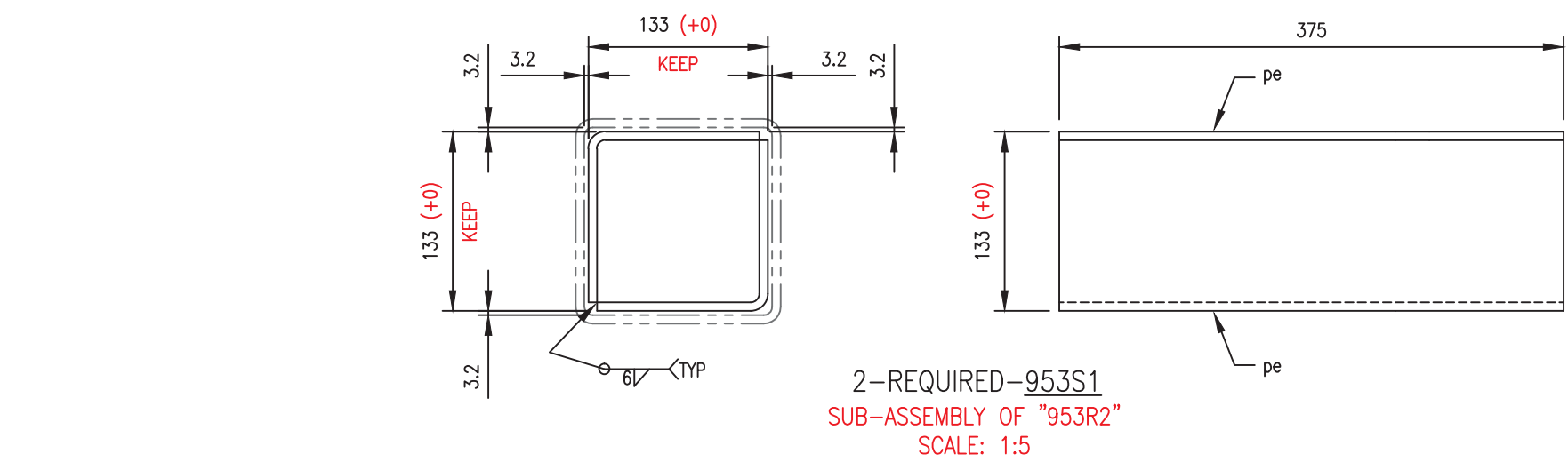
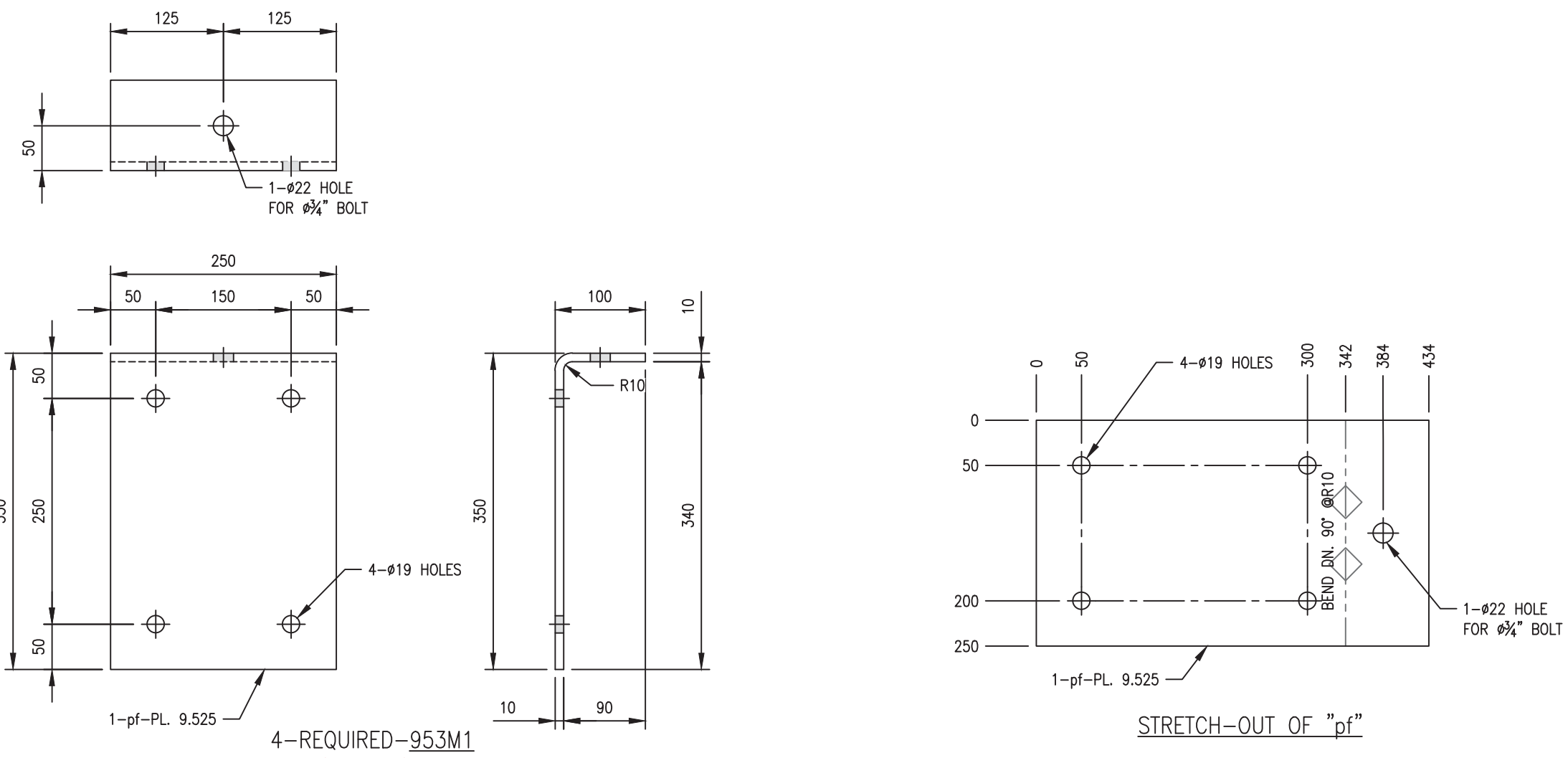
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CUSTOMER NAME: Rapid-Span Structures

MOF BRIDGE RAILING N2-135A RS7471 MINISTRY OF FORESTRY CL-2 BRIDGE GUARDRAIL ASSEMBLY SHEET 2 OF 3		
PROJECT NUMBER	DRAWING NUMBER	REV.
16953	100-A-002	0

11 x 17

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NOTES:

1. SEE DWG #: 100-G-001 FOR GENERAL NOTES.

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DWG. NO.	-	-
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SHOP
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REV. No.	DESCRIPTION	DATE	BY
0	ISSUED FOR FABRICATION	30MAR17	HT
A	ISSUED FOR APPROVAL	23MAR17	HT

DISCIPLINE:	STEEL
PROJECT MANAGER:	AB
SCALE:	AS NOTED
DATE:	23MAR17
DRAWN BY:	HT
CHECKED BY:	SK
APPROVED BY:	SB

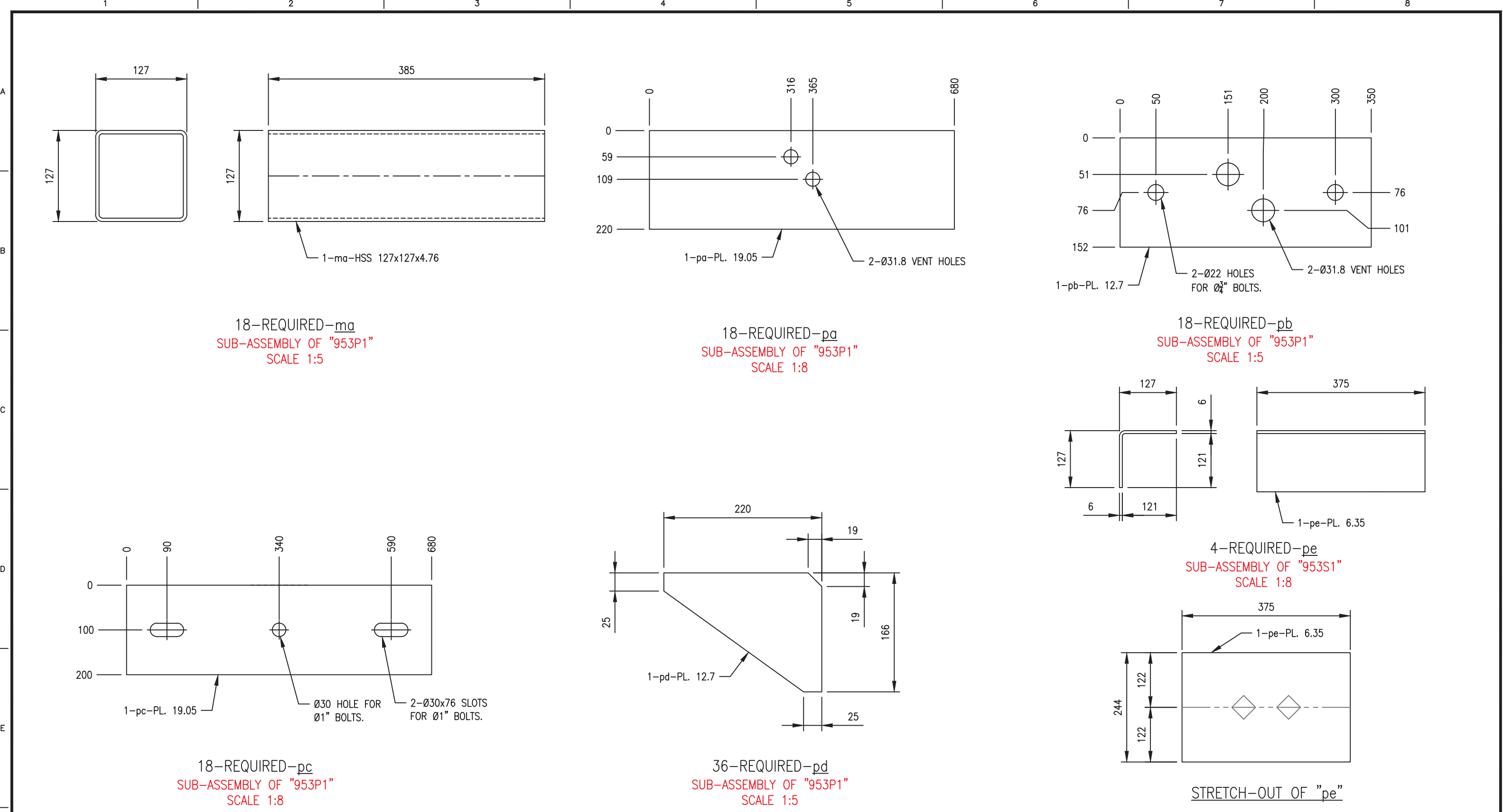
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CUSTOMER NAME: Rapid-Span Structures

PROJECT NUMBER	DRAWING NUMBER	REV.
16953	100-A-003	0

MOF BRIDGE RAILING N2-135A RS7471
MINISTRY OF FORESTRY
CL-2 BRIDGE GUARDRAIL
ASSEMBLY
SHEET 3 OF 3



NOTES:

1. SEE DWG #: 100-G-001 FOR GENERAL NOTES.

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DWG. NO.	-	REFERENCE DRAWINGS

SHOP
ISSUE

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-	-	-	-	-	-	PROJECT MANAGER:	AB
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0	ISSUED FOR FABRICATION	30MAR17	HT			CHECKED BY:	SK
A	ISSUED FOR APPROVAL	23MAR17	HT			APPROVED BY:	SB
REV. No.	DESCRIPTION	DATE	BY				

30MAR17	HT
23MAR17	HT
30MAR17	SB

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CUSTOMER NAME: Rapid-Span Structures

MOF BRIDGE RAILING N2-135A RS7471 MINISTRY OF FORESTRY CL-2 BRIDGE GUARDRAIL PARTS		
PROJECT NUMBER	DRAWING NUMBER	REV.
16953	100-P-001	0