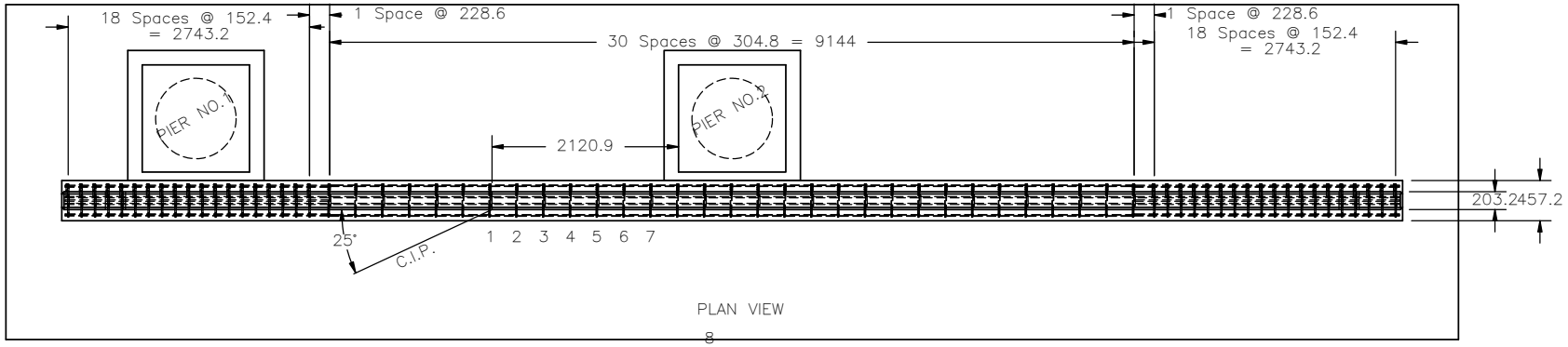
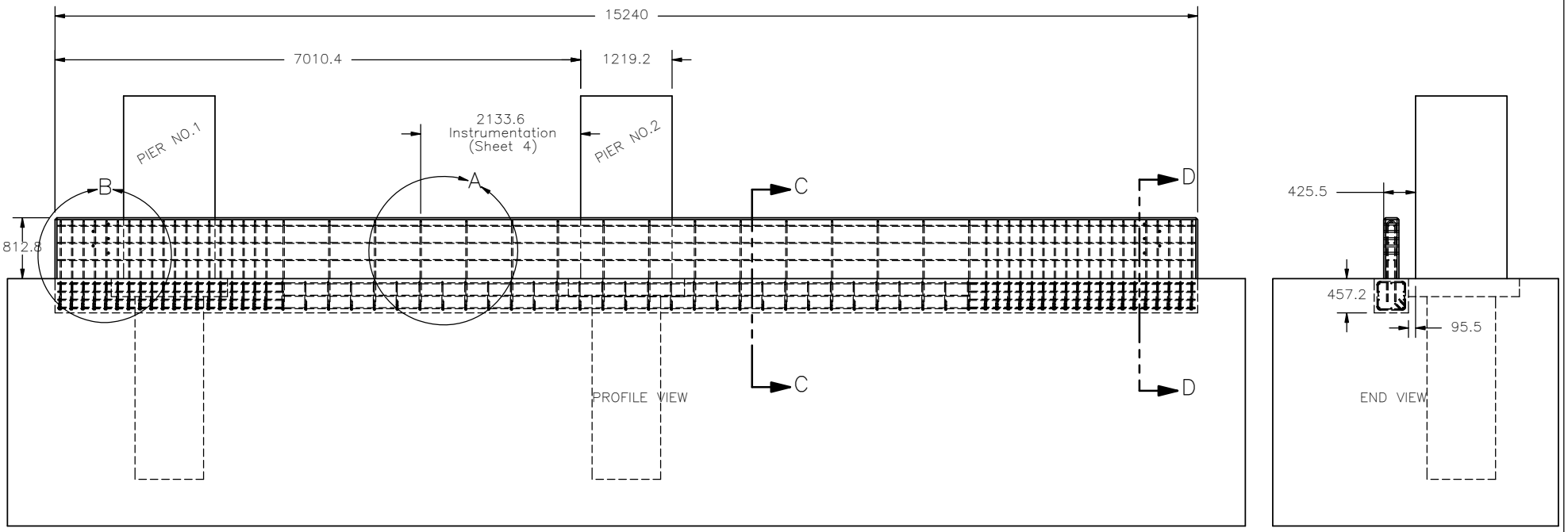




DESIGN NOTES

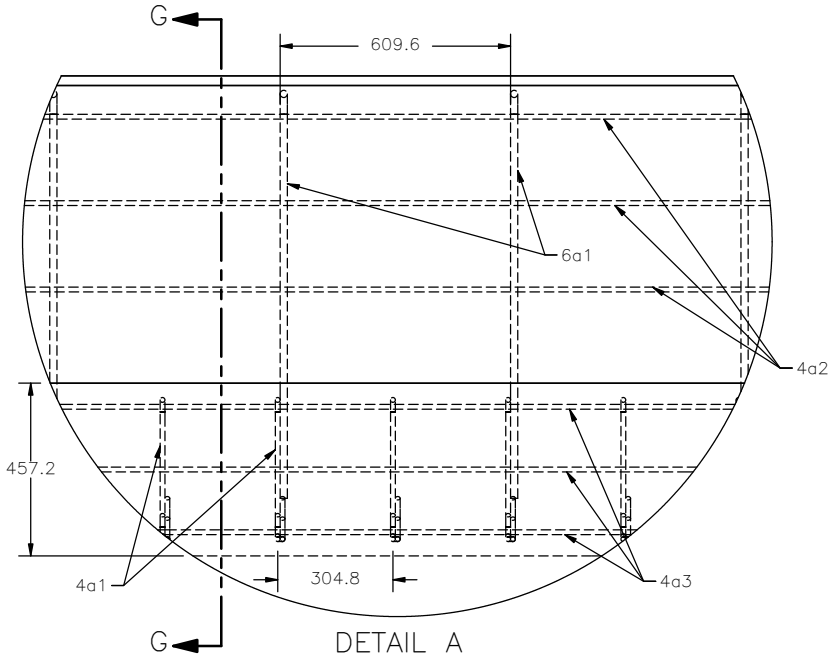
1. 27.5 MPa minimum 28-day concrete compressive strength
2. 413.7 MPa Steel tensilte strength
3. 38.2mm cover on all stirrups

Midwest Roadside Safety Facility

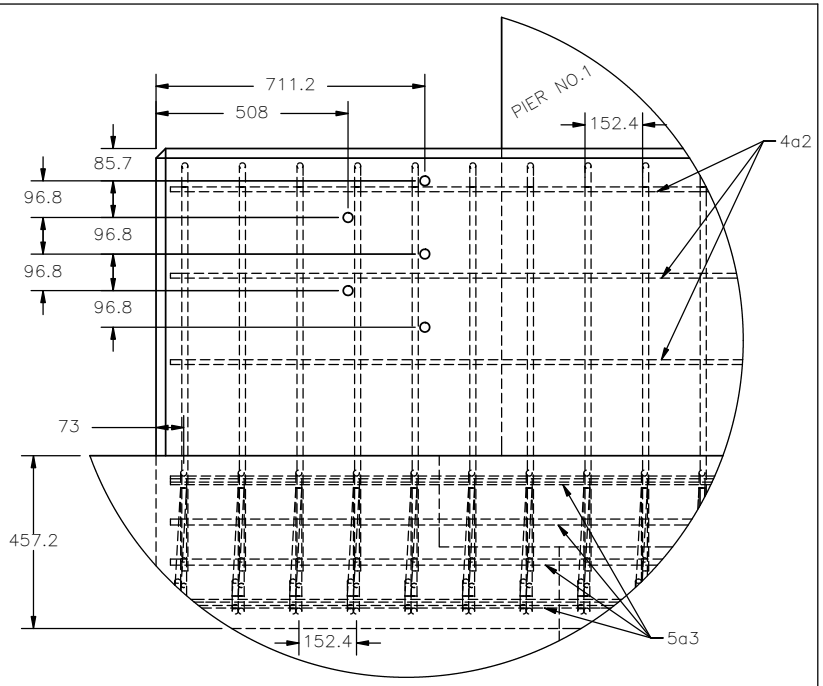
Bridge Pier Protection

System Layout

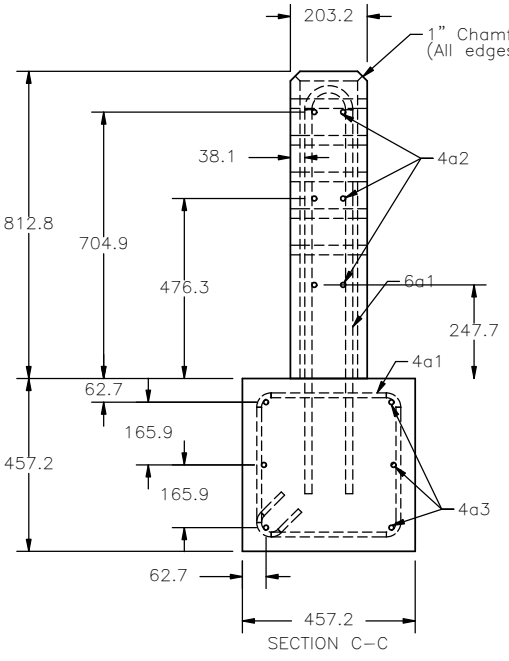
SHEET:	1 of 4
DATE:	1/24/2008
DRAWN BY:	JAH/GEP
DWG. NAME.	BPP_R4_metric
SCALE:	None
UNITS:	mm
REV. BY:	RKF



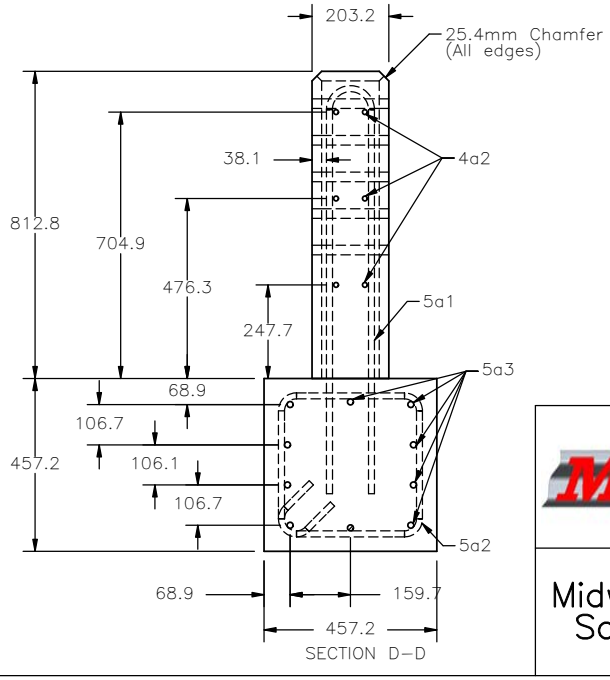
DETAIL A



DETAIL B



SECTION C–C



SECTION D–D

Midwest Roadside Safety Facility

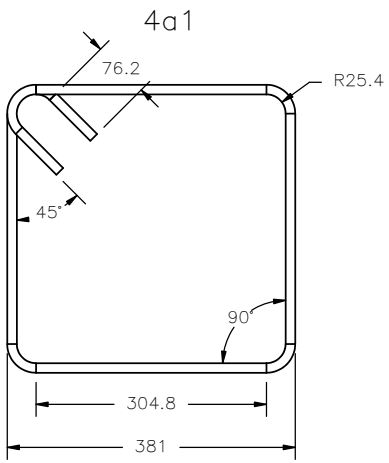
Bridge Pier Protection

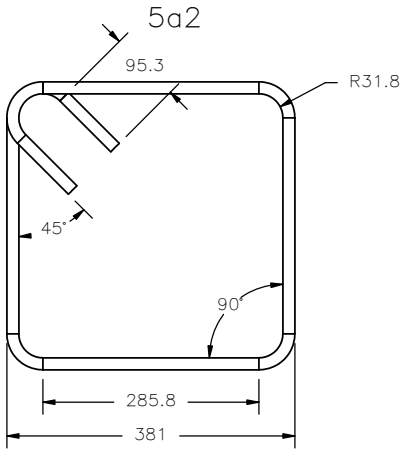
Section Details

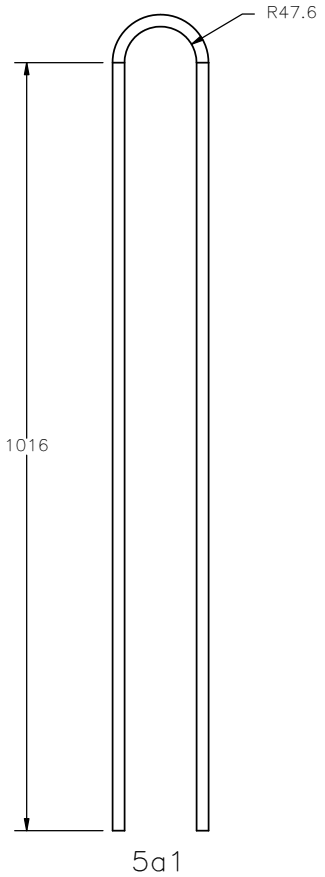
SHEET:	2 of 4
DATE:	1/24/2008
DRAWN BY:	JAH/GEP
DWG. NAME.	BPP_R4_metric
SCALE:	None
UNITS:	mm
REV. BY:	RKF

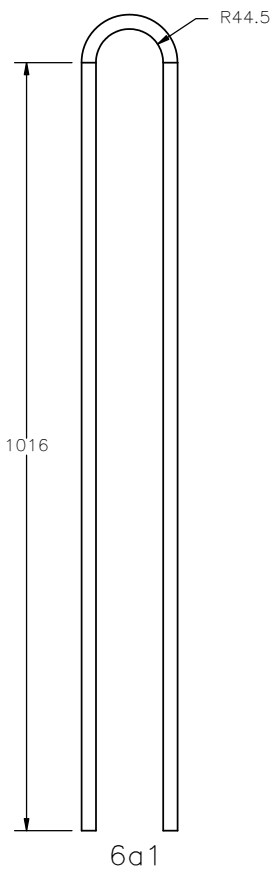
Bill of Bars

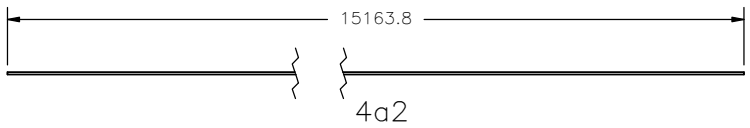
Item No.	Bar Size	Pin Dia.	Bar Length	Description	Material	QTY.
4a1	4	50.8	1670	Footer Interior Stirrups	A615 Gr. 60	31
4a2	4	–	15,164	Wall Longitudinal Bar	A615 Gr. 60	6
4a3	4	–	9144	Footer Interior Longitudinal Bar	A615 Gr. 60	6
5a1	5	95.3	2207	Wall End Stirrup	A615 Gr. 60	38
5a2	5	63.5	1708	Footer End Stirrups	A615 Gr. 60	38
5a3	5	–	3010	Footer End Longitudinal Bar	A615 Gr. 60	20
6a1	6	89	2200	Interior Wall Stirrups	A615 Gr. 60	16
–	–		Made October 2005	–	–	2

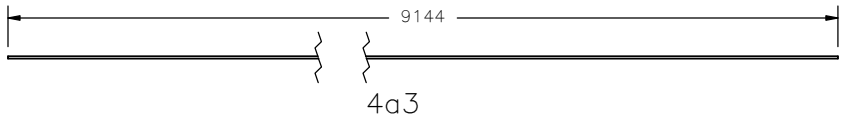


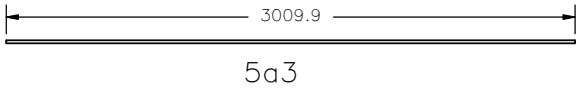












Midwest Roadside Safety Facility

Bridge Pier Protection

Bill of Bars

SHEET: 3 of 4

DATE: 1/24/2008

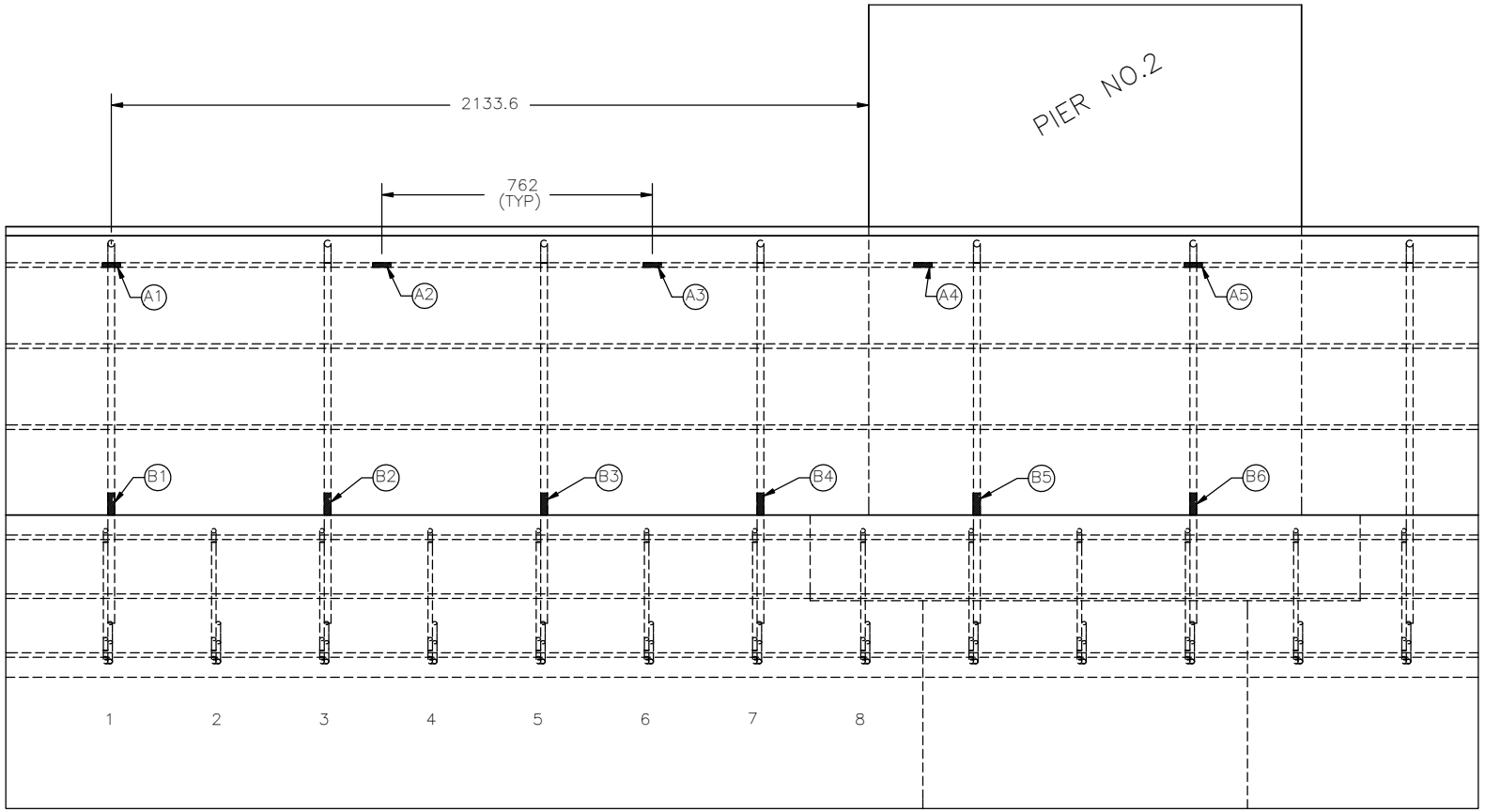
DRAWN BY: JAH/GEP

DWG. NAME. BPP_R4_metric

SCALE: None

UNITS: mm

REV. BY: RKF



NOTE:

1. Strain gauges A1–A5 are attached to the top horizontal 4a2 bars of the wall on both sides (10 gauges total)

2. Strain gauges B1–B6 are attached to the vertical 6a1 bars of the wall on the front side of wall (6 gauges total)

3. Other linear displacement transducers still may be utilized on the back side of the parapet.

Midwest Roadside Safety Facility

Bridge Pier Protection

Instrumentation Layout
–16 Strain gauges

SHEET:	4 of 4
DATE:	1/24/2008
DRAWN BY:	JAH/GEP
REV. BY:	RKF

DWG. NAME. BPP_R4_metric

SCALE: None
UNITS: mm