LICK RING WALL RECEIPT INSPECTION REPORT

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1. LICK RING WALL RECEIPT INSPECTION

The initial ring wall receipt inspection was carried out on Wednesday 24/11/2004 with a follow up inspection on the 8/12/2004, at The Railways Workshops in Goulburn. A full survey of the ring beam, plus metrology of all finished parts was carried out by Mark Elphick and Jason Chapman on the 24/11/2004. Personnel present for the follow up inspection were Mark Elphick and Robert Paragalli. The principle contractor Ken Ainsworth was in attendance for both receipt inspections.

1.1 RING BEAM

1.1.1 Circularity and diameter

1. The ring beam was tested for circularity using and EOS supplied trammel and a set of digital verniers. The inside radius of the top flange of the UC was the dimension referred to for this inspection. Reference points were set up using each column attachment hole set. Where these holes straddled a join between ring beam sections, two reference marks were set up, one either side of the join, giving (15) points of reference. The ring beam circularity was slightly outside of the drawing specifications; however the Mt Stromlo Icestorm facility seems to have a much worse case ring beam and still performs its specified function. The Lick enclosure ring beam should be passed if the mapped circle is a better case than the Mt Stromlo ring beam. See the “Lick Ring Beam Survey Report

Figure 1-1 Trammel and ring beam

2. The ring beam mean diameter was found to be within the tolerance specified by the ring beam section drawings, MDD03029 & MDD0294. See the “Lick Ring Beam Survey Report “**Ring beam survey report.xls**”

1.1.2 Ring beam levels

1. The overall flatness of the ring beam was measured using a precision level and staff. The levels were measured directly over the top of the vertical web of the UC, on the same radial line as the column attachment holes. Where these holes straddled a join between ring beam sections, two reference marks were set up, one either side of the join, as per the circularity test. The greatest variation in relative levels was 4mm (3) column spacings apart, within. See the "Lick Ring Beam Survey Report Doc "**Ring beam survey report.xls**"

Figure 1-2 Ring beam

2. The ring beam profile flatness (camber profile) was measured and referred to the perpendicularity tolerance on document MDD03029. Technically this tolerance included the channel welded to the back of the rolled UC. As the azimuth drive wheels and azimuth support wheels do not interface with the channel, this was discounted when calculating the perpendicularity of the ring beam. The levelling references were as per the overall flatness check plus points 20mm inside the OD and ID of the UC. A level was also taken at the centre of the UC upper flange at the corresponding reference points (related to the column attachment holes). "**Ring beam survey report.xls**"

1.2 RING WALL DIAGONAL BRACES

Quantity 20-all dimensions within specifications outlined in drawing MDD 03128.

The fastener holes require de-burring.

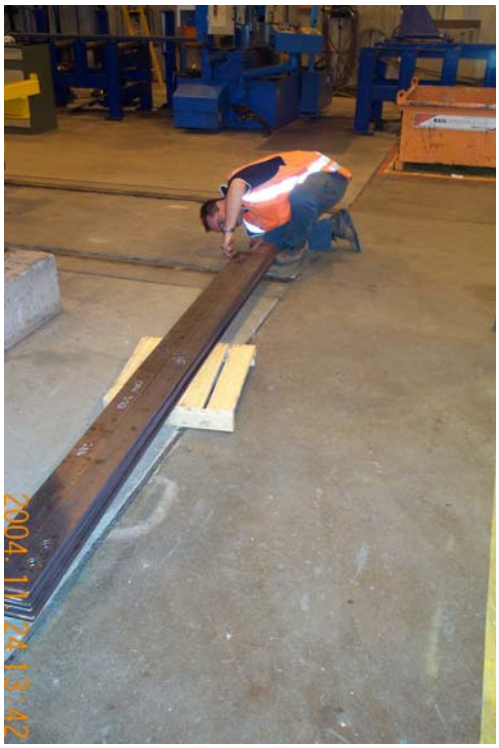

Figure 1-3 Diagonal Braces

1.3 HORIZONTAL INNER GIRTS

Quantity 25- all dimensions within specifications outlined in drawing MDD 03091. Chamfers are 25mm not 30mm-25mm was adopted to avoid sharp edges on steel.

Figure 1-4 Horizontal inner girts

1.4 DOOR ASSEMBLY

The door assembly and ring wall column double were incomplete and will be revisited when the second RI is scheduled. See Chapter **2**

Figure 1-5 Equipment door columns

Figure 1-6 Incomplete equipment door

1.5 RING WALL COLUMNS

The nine available ring beam columns were checked all ring wall Type 1 dimensions are as per drawing MDD 03087.
A problem was encountered with the ring wall column balcony supports. The attachment cross brace support plates were shortened by 5mm to accommodate the weld fillet between the cross brace support plate and the balcony support plate, resulting in the tab being misaligned by 6mm vertically.
The tabs will not require repositioning as the problem can be addressed during construction. However it does highlight the problems that can be created if verification is not obtained prior to altering fabricated parts.

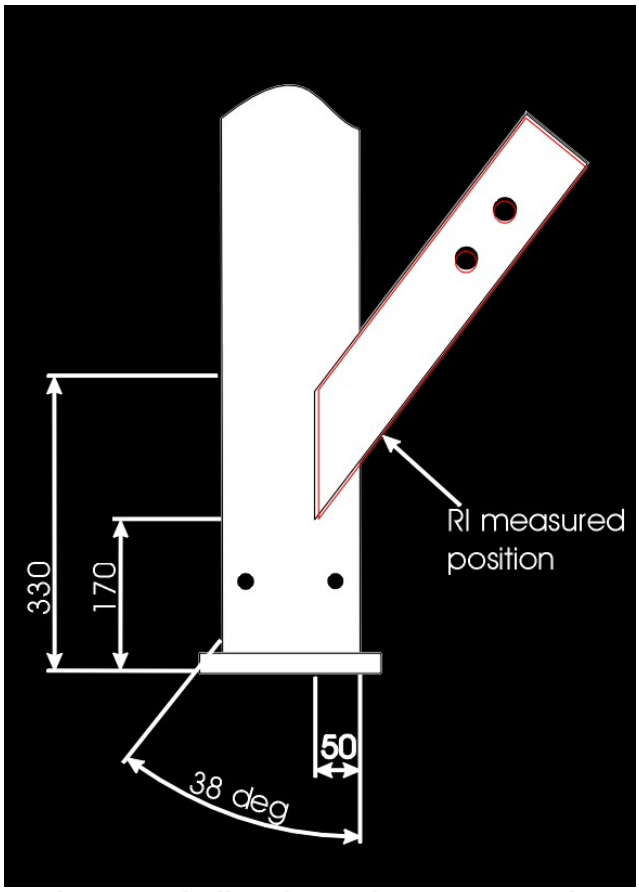

Figure 1-7Misaligned cross brace support tabs

Figure 1-8 Ring beam columns

2. SECOND LICK RING WALL RECEIPT INSPECTION

The second ring wall receipt inspection was carried out on Wednesday 08/12/2004, at The Railways Workshops in Goulburn. Metrology inspections of the ring beam, equipment door and other outstanding items from the receipt inspection of the 24/11/2004. The inspection was carried out by Mark Elphick and Robert Paragalli of EOS with the principle contractor Ken Ainsworth in attendance.

1.6 RING BEAM

1.6.1 Issues resolved since RI on the 24/11/2004.

1. Weld spatter removed from ring beam running surface.
2. Raised and untidy welds between UC and channel ground down.
3. Raised lip on the inside of the ring beam running surface ground flush with ring beam running surface.

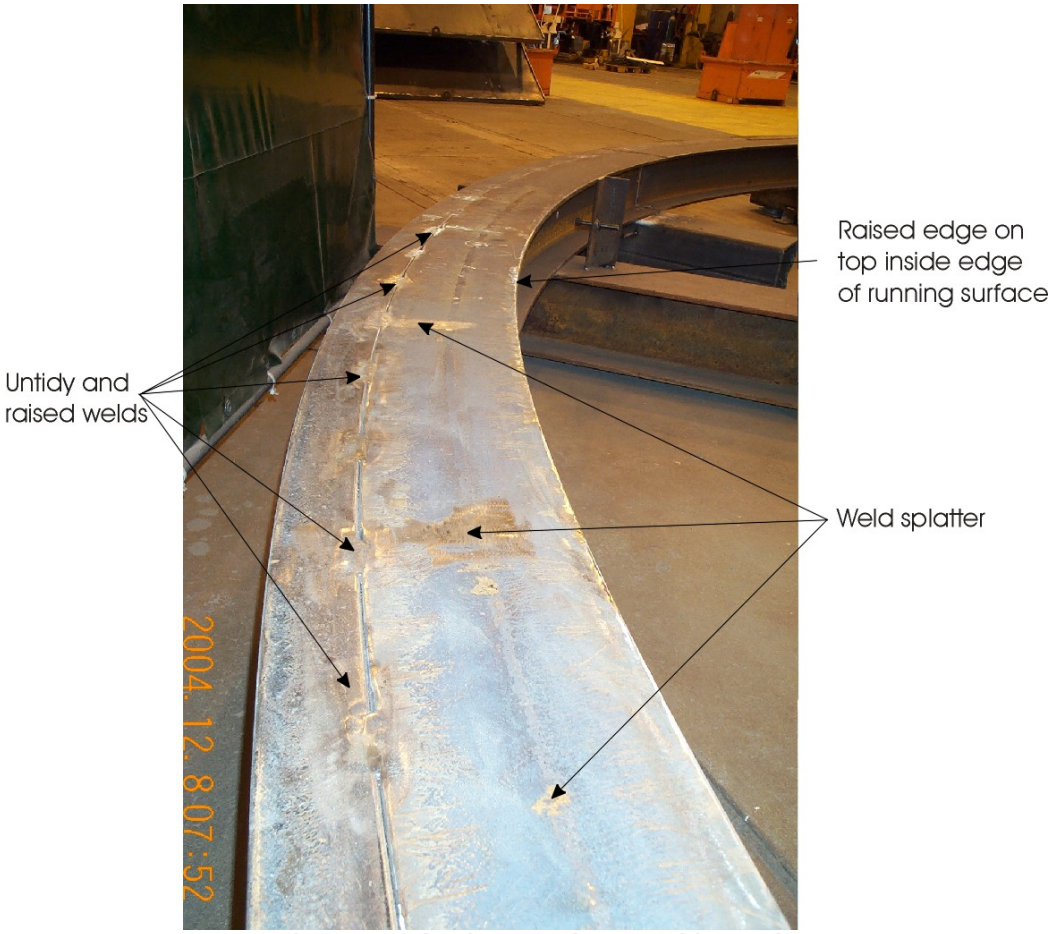

Figure 2-1 Ring beam RI issues addressed

1.6.2 Outstanding issues.

1. Stamping of column numbers on the inside of the ring beam. Numbers are to be stamped prior to the level 2 survey. A digital photograph of the stamped ring beam provided to EOS as confirmation of completion of this task.

2. Dowel pins are to be inserted in the ring beam after the level 2 basket survey is completed. The ring beam is to be used as the datum for the survey of the basket circularity and azimuth support rail camber. The insertion of the dowel pins prior to the placement of the basket and subsequent basket raised some OH & S (Occupational health and Safety) concerns. The dowel pins and locating brackets would protrude from the outside of the ring beam and restrict access around the outside of the ring beam.

3. Braces will be welded to the ring beam as per drawings MDD03089 and MDD03294 after all surveys are completed.

1.7 OUTER GIRTS

There are 44 horizontal outer girts and 6 horizontal outer girts type 2 required. All girts inspected were as per drawing MDD 03090, none were of type 2 MDD 07990.

This issue has now been addressed six of the normal girts had 10mm cut from each end. There are now 44 horizontal outer girts and 6 outer girts of type 2 – 50 girts in total.

Figure 2-2 Horizontal outer girts

1.8 Z BRACES

Initial RI there was two Z braces unaccounted for. The two missing Z braces are being used in the erected ring wall section that houses the equipment door – 52 in total.

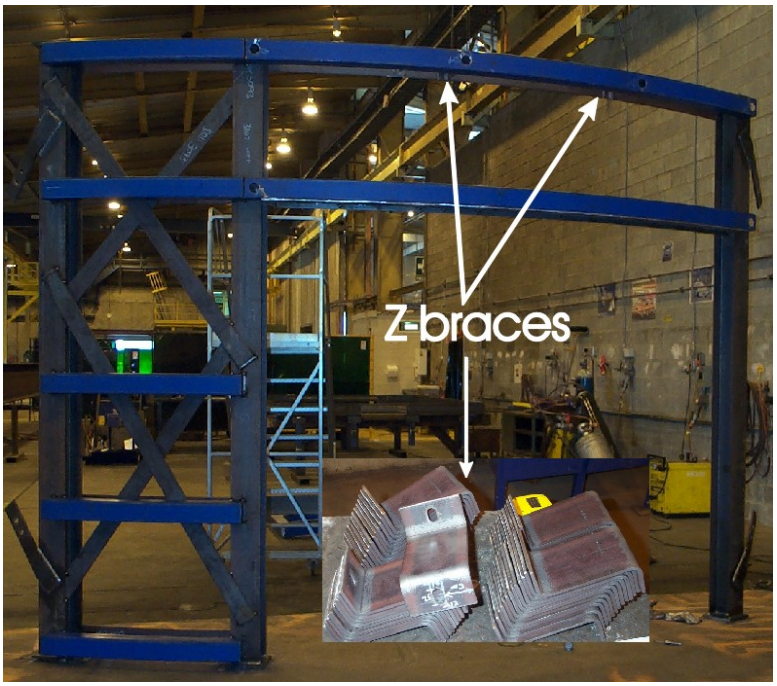

Figure 2-3 Z braces

1.9 RING WALL BALCONY SUPPORT COLUMNS

The length of the cleat was reduced by 5mm to accommodate weld fillet, all other dimensions are as specified in MDD 07967. See section 1.5.

Figure 2-4 Balcony support columns

1.10 RING WALL DIAGONAL BRACES

All sections have been de-burred. Dimensions are all within specifications-see first RI.

1.11 RING WALL EQUIPMENT DOOR AND DOUBLE COLUMN

Figure 2-5 Ring wall equipment door

1.11.1 Ring Wall Door Column Double

The column cross brace support tabs were the only problem on the double column. The measurements were taken from the inside of the column base plate and should have been measured from the outside of the plate (See Figure 2-6). Column cross brace support tabs need to be removed and re-welded in the correct position.
All other dimensions are as per specifications in drawing MDD 03093.

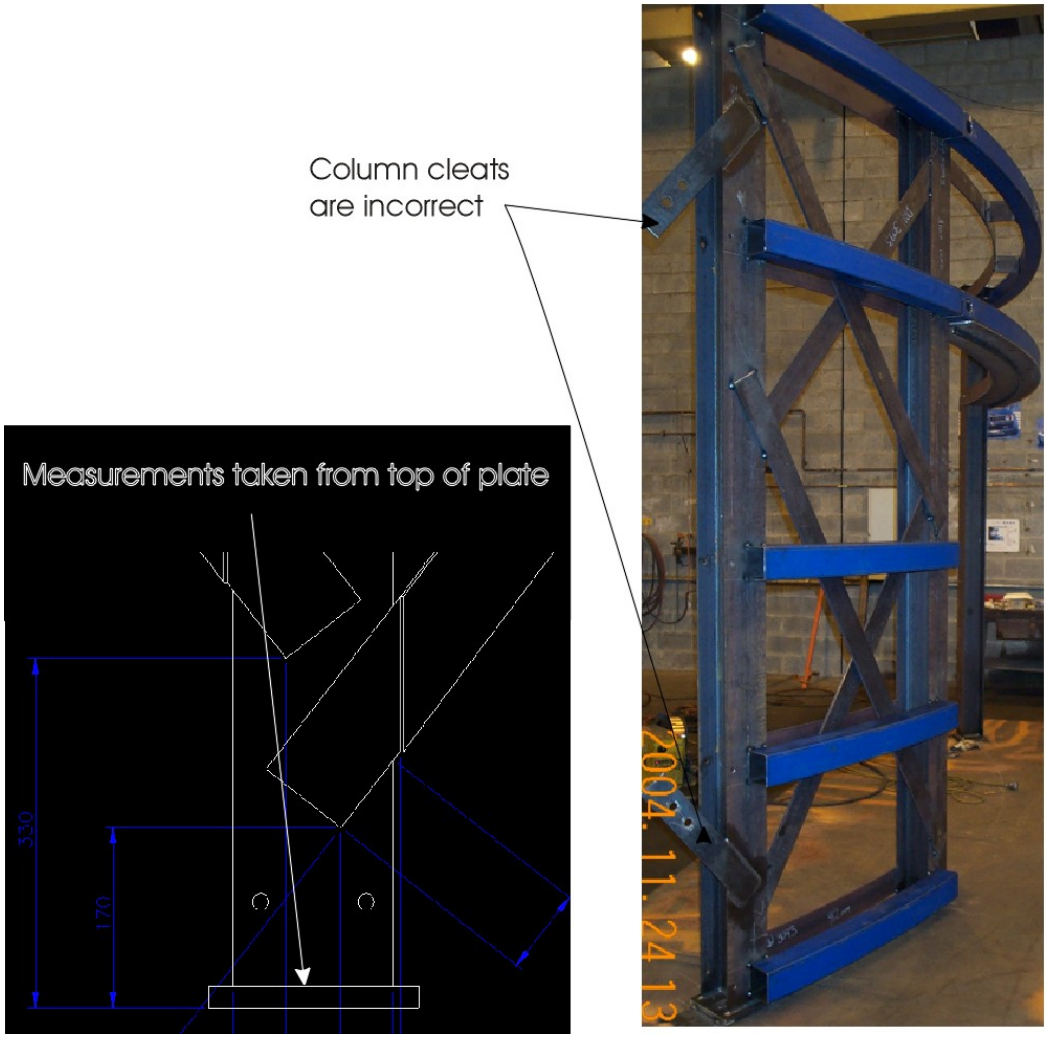

Figure 2-6 Ring wall double column

1.11.2 Ring door column single

The column cross brace support tabs were the only problem on the single column. The measurements were taken from the inside of the column base plate and should have been measured from the outside of the plate (See figures 2-6 and 2-7). Column cross brace support tabs need to be removed and re-welded in the correct position.
All other dimensions are as per specifications in drawing MDD 03348.

Figure 2-7 Single column

1.11.3 Equipment doors

The equipment doors are incomplete. Listed below are the items that need to be addressed all other dimensions are as specified in ASY 07766.
The width of the steel plate housing the door lock and handle was reduced in width (50mm to 42mm) to accommodate the door lock.

Again if there is an assumed problem with the dimensions there is a need to contact EOS before making changes to the fabricated parts.

Items to be addressed.

- Missing striker plate.
- Hurricane bolt-not yet manufactured.

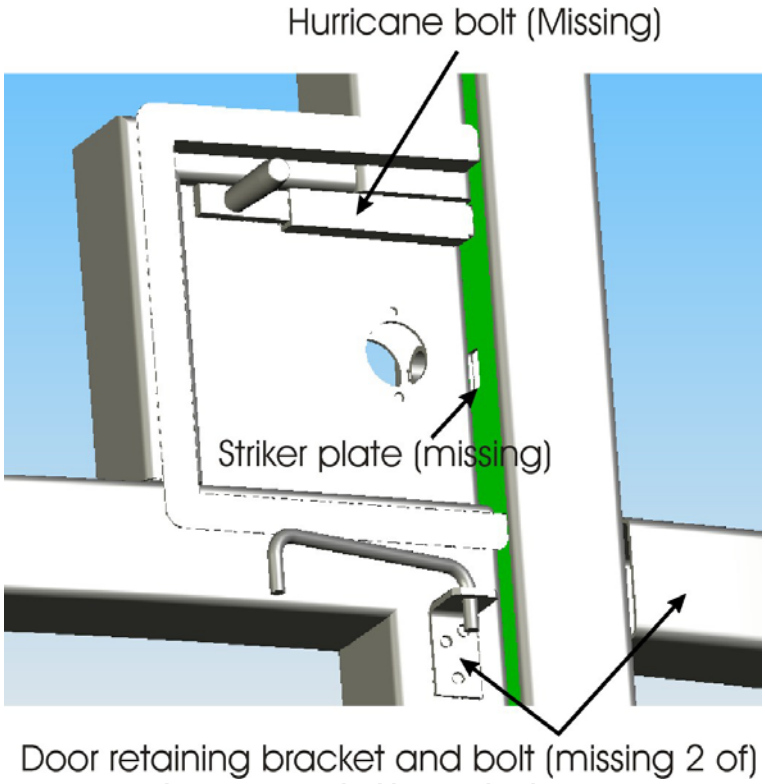

Figure 2-8 Door locking mechanism

- Door retaining brackets and bolts for double and single door. Only two brackets had been fabricated however both bolts were available. Manufacture two more brackets and install the brackets on the double and single door (See figure 2-9)

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Figure 2-9 Retaining brackets and bolts

- The steel plate housing the door lock requires the welds to be grinded back. Many of the welds are uneven and proud (See figure 2-10).

Figure 2-10 Untidy welds on door lock housing plate

1.12 AZIMUTH SEAL BLADES MIDDLE AND END

The azimuth seal blades are being fabricated by Precision Metals in Queanbeyan. The seal blades had not been completed by the day of the second inspection.

1.13 SUMMARY

All parts listed on document AD-07754 “Ring wall assembly” except the ring wall seal blades and the azimuth seal blades were accounted for. The seal blades were being fabricated by a sheet steel specialist and will be viewed at Queanbeyan when ready, due end of week 49.

Nil parts are painted for this milestone. An agreement was reached between the principle contractor and EOS to allow batch painting/undercoating at a date when large groups of parts (requiring same finishes) can be done in the same batch. This is primarily a cost saving exercise.