

<b>Derby Diocesan Association of Church Bellringers Consultant's Report</b>	<b>Report no. DDACB 10/003</b>
<b>All Saints', Brailsford Feasibility Study For Improvement of Rope Circle</b>	<b>Issue date: 25/07/003</b>

## **1.0 Introduction**

A feasibility study for improving the rope circle was requested in a letter, dated 17 July 2003, written on behalf of the PCC by Mary Cox. An inspection of the tower layout was made on 24 July 2003 by the DDA bell consultants Robin Lyon and Mike Banks assisted by Mary Cox and Chris Booth.

A ringer's gallery has recently been installed which has allowed the previous ground floor ringing area to become a children's room. The new higher ringing position necessitated some ringing floor area to be lost to accommodate a compact spiral staircase and the shorter length of the bell ropes resulted in removal of the rope guides. These changes have resulted in reduced safety for ringers of bells 2 and 3, a hazardous entry / exit from the new spiral staircase when ringing is in progress and a less acceptable ringing circle.

## **2.0 Existing Situation (see figure 1)**

- Figure 1 shows that removal of the rope guide has caused the ropes for bells 2 and 3 to fall too closely to each other. (The circles represent recommended safety zones of radius 600 mm around each rope, which should be largely clear of any obstructions. This allows space for personnel to ring safely (particularly when under tuition) without unduly interfering with neighbouring ringers).
- The ringer of bell 4 blocks entry to the gallery from the spiral staircase. This is dangerous for both the ringer and any newcomer attempting to gain entry when ringing is in progress.
- When ringing is in progress it is essential that each ringer has a clear view of the ropes of each of the other ringers. This is achieved by ensuring the ropes fall essentially in a circle, certainly avoiding any tendency for ropes to be in a straight line. Figure 1 shows that ropes 1, 2 and 3 are close to being in a line making rope sight difficult for ringers in these positions.

## **3.0 Proposed Repositioning of Ropes (see figure 2)**

Figure 2 shows that repositioning the ropes as follows will give an acceptable rope circle.

- Rope 2 is moved to a position which is equidistant from ropes 1 and 3 and also 600 mm from the south wall. (This removes the safety hazard and improves rope sight between positions 1, 2 and 3).
- Rope 4 is moved to a position which is equidistant from ropes 3 and 5 and also 600 mm from the spiral stair balustrade. (This removes the safety hazard and gives a more circular rope circle).
- Rope 6 is moved 200 mm northwards away from rope 1 (it appears that rope 6 does not fall truly vertical through the intermediate room and this movement will not only give less overlap of safety zones between ropes 1 and 6 but will also allow rope 6 to now fall vertically).

#### **4.0 Structural Alterations to Achieve Proposed New Rope Circle**

Three new rope holes must be produced in the intermediate room floor / ringing room ceiling and fitted with rope bosses. Figure 3 shows the necessary positions, each of which avoids the floor beams and each lies within one of the nine ceiling panels.

In these new positions in the intermediate room, ropes 2 and 4 are offset 700 and 750 mm from a true vertical position beneath their respective bell pulleys. To allow free movement of the ropes each rope must pass through a new ceiling pulley and a new floor pulley in order to draw the rope through an angle of about 10° to achieve the required offsets. Four new single pulley assemblies are therefore required in the intermediate room, two mounted on the ceiling and two mounted on the floor. (Since the rope for bell 6 will now fall in a true vertical, it will not require additional pulleys).

The existing rope boxes in the intermediate room must be retained and repositioned on ropes 2, 4 and 6. They will be particularly important for ropes 2 and 4 to control flap in the sloping section of these ropes but attention must be paid to ensuring replacement ropes can be easily threaded through.

#### **5.0 Budgetary Costs**

Assuming the job will be done as a DIY job, the cost will be of the order £350 - £400.

Advice is given in good faith but no liability can be accepted.

Mike Banks

Bell Consultant to the Derby Diocesan Association of Church Bellringers

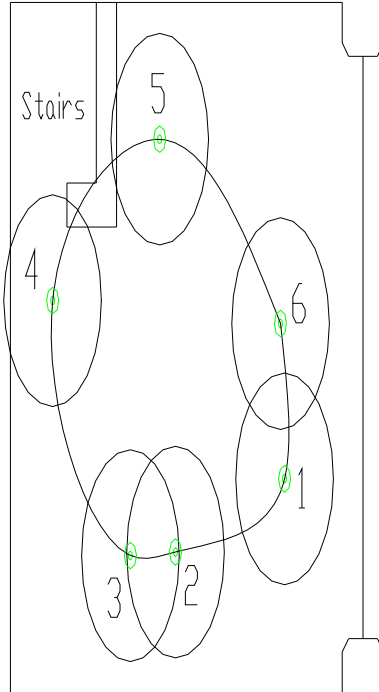


FIGURE 1  
RINGER'S GALLERY - EXISTING ROPE CIRCLE

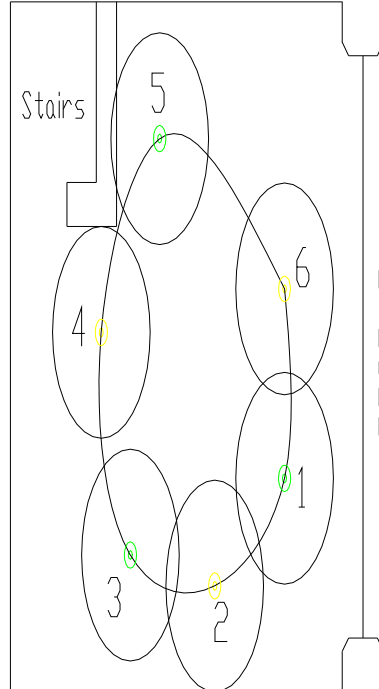


FIGURE 2  
RINGER'S GALLERY - PROPOSED NEW ROPE CIRCLE

