



# The Bath & Wells Diocesan Association of Change Ringers

**President: THE RIGHT REVEREND THE LORD BISHOP OF BATH AND WELLS**

The BELL FUND of the Association is Registered Charity No. 273962

The Tower Adviser is John Hallett MSc CEng MIMechE MIET

The Assistant Tower Adviser is Bernard North BSc., C Eng., MIMechE.

Mr Ralph Berry,  
Greystones,  
Cary Road,  
Lydford on Fosse,  
East Lydford,  
Somerton, TA11 7HA

12<sup>th</sup> April 2021

Dear Mrs Berry

## West Lydford, Initial Tower Inspection

The B&WDACR General Secretary, David Parfrey, requested a Tower Advisory Service site visit and for a report to be produced for the PCC. I visited and carried out the inspection this morning and would like to thank you for meeting me and assisting. I understand that this inspection was requested as a general review of the installation, in particular clapper issues, and that you have already had an inspection and report from bellhanger Matthew Higby & Co Ltd.



St Peter, West Lydford

**Listing:** Doves guide has the listing: **West Lydford**, Somerset, S Peter. 6, 13¾ cwt (~700 kg) in F. PN shared: Barton St David; Kingweston; West Lydford. Mon (check with contact).

Bell	Weight	Nominal	Note	Diameter	Dated	Founder	Canons	Turning
1	5 cwt	1158.0	D	30.25"	1911	John Warner & Sons	F	N
2	5½ cwt	1045.0	C	31.00"	1911	John Warner & Sons	F	N
3	6¾ cwt	919.0	Bb	33.75"	1607†	Richard I Purdue	R	Y
4	8 cwt	865.0	A	36.75"	1587†	? (unidentified)	R	Y
5	10 cwt	768.0	G	39.25"	1605†	Richard I Purdue	R	Y
6	13¾ cwt	690.0	F	44.00"	1698	Thomas Purdue	R	Y
Frame	Bells	Year	Material	Maker				
1	1,2,3,4,5,6	2000	Cast iron	Andrew Nicholson				

Bells 3, 4 and 5 at West Lydford are indicated in the Dove Guide as being listed for preservation by the Church Buildings Council (Church Care).

The B&WDACR Annual Report for 2018-19 lists three members of The Bath and Wells Diocesan Association of Change Ringers (B&WDACR).

### **Faculty Jurisdiction**

When the PCC has decided on the general direction in which it would like to proceed, if any significant work is planned, it should begin Stage One Consultation with the Diocesan Advisory Committee immediately in order to pave the way for faculty petition by the PCC and faculty approval by the Diocesan Chancellor. A principal PCC officer normally starts the Stage One Consultation process by writing to the DAC Secretary.

### **General Observations**

The current re-built Church dates from the 1843. There is a three-stage west tower. Access to the first-floor ringing chamber is up a small stone staircase in the south east corner. Fixed ladders lead on up to the second-floor intermediate chamber and then to the bell chamber above.

There is light and power in the tower and emergency mains failure lighting in the ringing chamber.

The ringing chamber is well appointed with a good rope circle and is partly open to the Church.

There is an intermediate chamber about 8ft high. The ropes pass through this chamber partly drawn from the vertical about 5 degrees. The ropes are supported with flap boards and free running floor pulleys.

### **Inspection**

The bell chamber houses six bells hung clockwise on modern cast iron headstocks and steel frame installed in 2000.

I inspected the frame and bells individually.

The fabricated steel frame is in good condition, secure and well painted. The main bearing housings are secure to the frame. Most gudgeon pins are secure to their headstocks, except on the treble bell in particular, where the retaining bolt has sheared off. This is an important bolt and should be replaced, although the gudgeon pin itself currently appears secure, but should be monitored for change.

The cast iron headstocks are in good condition and well painted. The bells hang secure to their headstocks. Some of the bells retain their cast in iron staples from when they were originally cast. These are best drilled out by a bellhanger as they gradually corrode over time and expand, eventually cracking the bell. This is not an uncommon failure and results in a very expensive repair or bell replacement.

The stays and running gear are in good condition as are the ground pulleys for the ropes. The ropes are serviceable, but have been repaired in places and will eventually need replacement with, hopefully, PSP topped ropes for improved stability and wear. The rope wheels are good and secure.

The cast iron clappers are secure and their bearings are good. I understand that the main issue with the clappers is raising them “right side” when raising the bells. The bell gudgeon bearing and the clapper suspension bearing are distanced by the “throw” and form a compound pendulum. The swing time relationship between the two affects the ability to get them up “right side” easily. The relationship of 90% swing time difference is recommended to correct this. This relationship can be influenced by the “throw” distance, the hanging of the bell and the design of the clapper and flight. Additionally, the speed of the bell swing is influenced greatly by the weight and design of the headstock. Consequently, the solution ideally might be to replace the headstocks with an improved lighter design with a better bell swing time and matched with the clappers. I understand that these bells do swing a little slowly, dictated by the weight of the headstocks and the hanging of the bell below.

**Summary and Recommendations.**

The bell installation at West Lydford is in a good condition and well maintained.

When the opportunity arises the cast in iron staples should be drilled out from the crown of the bells to guard against the future cracking risk.

The broken gudgeon retaining bolts should be replaced as soon as bell work is next undertaken and they should be regularly checked for changes or becoming loose. The gudgeon pins currently appear secure, but if movement is detected, ringing should stop.

It would be good to improve the swing time of the bells and the clapping up by replacing the headstocks and clappers, or just resolve the clapping by replacing the clappers with a matched designed set.

I will be happy to clarify anything in my report if you contact me as below.

Yours sincerely



John Hallett    Tel: 01278691966  
Email: [Tower.Adviser@bath-wells.org](mailto:Tower.Adviser@bath-wells.org)

**Disclaimer**

*Attention is drawn to the fact that, while reports and advice are given in good faith, they are given gratuitously and without reward, and no liability can be accepted by the adviser, the advisory service or the Bath & Wells Diocesan Association of Change Ringers in respect of such reports and advice. This report is for the sole use of the PCC and it must not be passed to, or copied in whole or in part to, or used by any third party.*