



Our ref: 17274/PBC/lc/Reports
By email: (j.poland@jonathan-rhind.co.uk)

19th February 2025

Jonny Poland
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Dear Jonny

Re: ST DUBRICIUS CHURCH, PORLOCK



Further to our limited inspection of the church spire on Wednesday 18th December 2024, and our various liaison with yourselves, we report as follows having made various amendments and additions to our original initial report dated 20th January 2025.

Our inspection was limited to an initial assessment of the timber-framed spire. It is proposed to re-cover the spire with new oak shingles and undertake any necessary

repairs to the timber structure, the lucarnes and associated elements, together with upgrading the gutters and rainwater discharge.

The church is Grade I Listed, with the broached spire dating back to C13, and is of significant historic importance. The spire suffered storm damage in 1703 with the top of the spire being blown off. There is a record of the spire being repaired in 1889, presumably with the upper section of the spire never reinstated resulting in the truncated top evident today. The most recent major works to the spire were undertaken in 1933, including renewing the oak shingles, undertaking timber repairs and strengthening works. It is also thought that the lucarnes, one on each tower elevation, date back to the 1933 works. Since then, the four corner broaches were re-shingled in 1981 with cedar shingles, and the truncated spire top re-leaded in 2007.

As outlined, the general construction of the spire is timber framed, with the earliest parts of it dating back to C13. This includes the central crown post (nominal 250 square) and the four inclined primary posts (nominal 230 square), together with the foundation bearing beams, which span west to east. Some of the bracing timbers are also original, including wing braces off the central crown post.



Central crown post showing original wing braces.

The spire facets include timber shingles bearing on horizontally laid sarking boarding of varying width in turn supported by common rafters, intermediate purlins and primary hip members. The hips and primary timbers are then strutted back to the central tower framework.

The spire structure is supported off the principal walls of the tower, with an inner and outer wall plate, the outer plate being in the order of 300x150 deep, chamfered at its external edge and jettied slightly over the external wall line, with the internal plate being nominal 275 wide and 100 deep. These inner and outer wall plates are linked, and half lapped at the corners of the tower and are generally embedded in to the tower wall head stonework.



Typical wall plate arrangement on head of tower wall.

The foundation bearing oak beams span west to east, and it appears that the original centre beam, nominal 300x300, has been strengthened with an additional 200x300 timber on either side. This central beam arrangement primarily supports the central crown post. The raking corner posts of the central braced tower framework bear off further 200x300 timber beams.



Strengthening timbers added in the late C19 and early C20.

It is very evident that various strengthening works and repairs have been undertaken to the spire structure over time, with timbers of varying ages having been installed to strengthen and complement the original structure. This includes several bracing timbers, steel straps and replacement members probably in the 1889 works, together with 16 primary posts and struts added in 1933, which aid to further stabilise the central 4 post arrangement within the centre of the spire, with new struts and braces added, strutting back to the rafter line of the spire.

The added primary posts in the 1933 works bear off both the inner and outer wall plates, two on each side of the tower. The outer posts are set at a shallower angle, providing a wider base for support and bracing. Additional horizontal struts have also been added, further securing this added structure to the existing. Generally, with the number of timbers which have been added or altered in the past, the current structure is quite complicated.

The lead covered small octagonal flat roof to the truncated spire is drained on its eastern side with a 100mm diameter PVC drain pipe extending down the inside of the spire and discharging, via a slightly tortuous route, in to the eastern eaves gutter. The eaves' guttering arrangement is poor and includes a plastic gutter set within the oak/elm timber gutter with no lead lining, all of which needs to be repaired and upgraded.



Octagonal lead flat roof to truncated spire.



Inadequate guttering and spire roof rainwater collection requiring repair and renewal.

As outlined, it is proposed to re-cover the spire with new oak shingles, as the existing have reached the end of their effective life. Some rot and deterioration has been occurring to sarking boarding, rafter feet, the external wall plate and trimming timbers around the lucarnes, together with the lucarnes themselves, particularly on the exposed elevations. Repairs will be required to these elements, with works undertaken in a considered and traditional manner.



An example of deterioration of timber work around the southern lucarne.

However, as far as we can ascertain, the general condition of the primary spire framework is quite reasonable and appears to be working adequately since the major strengthening works in 1933, with no areas of serious structural concern. However, when the works are being undertaken, primary timbers and connections should be checked and additional coach screw fastenings added if required.

As outlined, the spire roof was recovered in 2007, and allowance should be made to renew or repair joists and boarding where required once the existing lead has been taken off, prior to relaying the new Code 8 lead.

The sarking boarding on the spire appears to be in fair condition when viewed internally, but is heavily 'holed' by nails, and quite possibly has suffered from rot and deterioration externally. We therefore suggest a significant allowance is made for sarking board replacement. It will be important that this work is sequenced, with potentially one facet of the spire worked on at any one time, in order to protect the short term stability of the structure.

It is probable that the external aspect of the substantial external wall plate may have suffered from some rot and deterioration. It may be possible to repair the plate, by scribing in new timber to match, in a traditional way, but allowance should be made for some replacement. Sections should be half lapped or plane scarfed where connecting to retained plate. Allowance should be made where required to mechanically connect the plate to the wall head using M12 stainless steel studding set @ 1.2m c/c staggered, resin fixed allowing for a minimum embedment of 300mm.

As part of the work required to repair wall plates, allowance should be made for wall head consolidation and making good stonework where required.

Deterioration of the rafter feet may also have occurred requiring repair. Where required, we would recommend a 'scarfed foot' repair is adopted, similar to that used previously.



An example of a previous hip 'scarfed foot' repair undertaken in 1933.

As outlined, repairs will be required around the Lucarnes, particularly on the exposed elevations. Allowance should be made for potential replacement timbers, including rafters and trimmers, as well as traditional scarf repairs where appropriate.

Once the works start and adequate access is available, further inspections and investigations can be undertaken to verify the extent of repairs required. We would reiterate that when undertaking the repairs, and in particular to any primary timber elements, it will be important to ensure that the short term stability of the structure is maintained, allowing for work to be sequenced where necessary.

We hope that the above comments are helpful, and should you have any queries or require any further information from ourselves at this stage, please do not hesitate to contact us.

Kind regards,



Paul B Carpenter
PCA Consulting Engineers