

Ivy Cottage
32 High Street
Bodicote
OX15 4BP

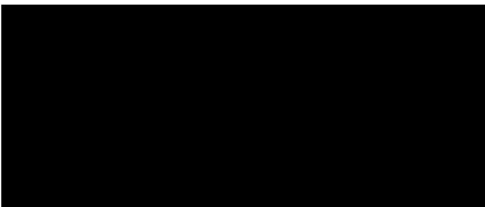
26th February 2022

Assessment of Existing Roof Structure at East End of Ivy Cottage, Bodicote OX15 4BP

The roof structure at the east end of the building is formed from rafters that are at about 400mm centres. The rafters span from a minimal ridge board to a wall plate on the top of the stonework walls. There is a purlin located close to the midspan on each slope. The ridge board is too small to act as a ridge beam and only forms a link to keep the rafters spaced correctly. The purlins are very undersized for the load they should be carrying and they are generally inadequately supported. The rafters therefore span from the ridge to the wall plate with minimal assistance from any other structure. The rafters are undersized for this span and there is no provision to prevent horizontal movement at the wall plate as there is no ceiling tie.

Therefore the roof is in danger of spreading at the eaves, the rafters significantly deflecting and perhaps failing where the purlins do not fit and are distant from their supports.

Significant work is therefore required in the loft to address these problems and the solution proposed is suitable to prevent future spread of the roof at the eaves, it also reduces the span of the rafters. These actions allow the existing timbers to be retained and the structure can be secured so that it performs as structurally required. The proposal is a minimal impact solution retaining all the existing elements and causing minimal disturbance to the existing inadequate structure. The proposed work to the loft would be required regardless of whether the loft space is used or not, as it is being installed to secure the external envelope not the internal space.



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For and on behalf of Varndell Engineering Ltd.