

Dear Mr Beattie

Elms Farm
Berners Roding
Ongar
CM5 0TE

We refer to your request for a brief description of the existing property structure, the proposed loft conversion and structural strengthening of the existing construction.

Original Building:

- The original property is a two-storey structure, constructed with timber frame with brickwork infill and a pitched cut timber roof with rafters, ceiling joists (loft space), timber ties and beam wall plates running on the edge of the roof.
- The ground floor structure is a mixture of timber floor joists bearing on sleeper walls and mass concrete slab with a sand and cement screed
- The first-floor structure is timber floor joists bearing on load bearing walls and/or timber floor trimmers and edge beam.
- The load bearing walls (both perimeter and internal) were constructed on stepped brick footings.

Proposed Alterations:

- The proposal includes a loft conversion which requires new floor joists/floor trimmer structure to support residential loads and the forming of a void for the new staircase. New roof structure in order to replace the existing rafters which are not adequate to support new insulation and ceiling plasterboard and installing a new ridge beam and purlins.

Proposed structural strengthening:

- At the ground floor in the kitchen area we have noticed that an existing load bearing floor trimmer has deflected by around 80 mm (beam span of 2650 mm). We recommend replacing it with an adequate beam as our design shows.
- At the ground and first floor the external timber frame walls are distorted due to a lack of horizontal bracing at first floor structure and at roof eaves levels.
- In order to establish the correct horizontal bracing, we recommend installing a system of floor and roof restraints as our design shows.

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For and on behalf of
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