R.W.Mitchell. I.Eng .Eng Tech.
Architectural & Engineering Technician

Avonford , Ball Haye Green , Leek , Staffordshire. ST13 6AY.
Tel : 01538 384239 e-mail : mitchell.robert@live.co.uk
Mob : 0777 3566 842

Your Ref: Chatsworth Farm Date: 16/11/2017

My ref: 0853 Structural Survey.

Structural Survey.

Location : Chatsworth Farm, Lask Edge, Staffordshire, ST13 8QJ.

Building : Detached Stone Barn, adjacent to farm house.

Date of survey : 08/11/2017 . Weather fine. Page 1 of 3

Description: Traditional – coursed gritstone walls, Staffs Blue tiled roof – 2 storey main portion, with single storey extension to the South, main barn has 2 windows and a central door to the West and a hayloft pitching hole above, also a door on the East side on the ground floor, with a hayloft window in the North gable.

The single storey section has a door and window to the West side and 2 windows to the East side.

No visual evidence of any damp course exists – the walls are level and plumb with no signs of movement.

A steel framed agricultural shed / workshop exists on the rear / East side – not physically connected to the stone barn.

The roofs of the barn and extension are both clad with Staffs Blue clay tiles, with no broken or missing tiles – the North half of the barn has a slight dip along the ridge.

Internally the ground floors of both sections are concrete, with various drainage contours. Concrete stall dividers are present in the main barn, with metal tying points for livestock.

The hayloft floor of the barn has substantial floor joists (7” x 3”) , which have been removed and lowered by approx. 8” from the original position, the joists run E-W.

The hayloft floor has been re-laid using flooring grade high density boarding, access is made by a basic stair.

The walls have been well pointed and lime washed – the pitching hole opening has a slender timber lintel, which is providing support to the roof oversail masonry.

Roof: the roof has been re-roofed recently, retaining the original rafters (3”x 3”) and weather sealed using bituminous type 1 F roofing felt, the roof purlins (8” x 8” approx.) are supported by a central King post truss, the tie beam of which has decay evident along the upper side of the beam caused by woodworm.

The King post truss seems to have originally had light struts removed from the base of the king post up to the principal rafters, without any deleterious effect.

Extension roof: is of similar construction, with no truss support – the pitch of both roof sections is approximately 38 degrees.

All oversail masonry (except that over the pitching hole in the main barn) appears to be in good condition and well bedded.

Conclusions / Recommendations.

When excavating any ground floor sections, care should be taken not to disturb the integrity of the walls. An initial trial hole adjacent to the walls will enable an inspection of the condition and stability of the footings / foundations.

Cement based “strap” pointing on the external walls would be better removed and either flush / bucket handle re-pointed, with a suitable lime mortar mix used to prolong the life of the stonework and prevent weather damage.

Woodworm damage to the roof truss should be closely examined to check the depth of decay, cleaned up and treated with a proprietary timber treatment (e.g. Borax/Boron based).

As a precautionary measure only, the Loft pitching-hole timber lintel should be replaced with a stone lintel and fully bedded under the oversail masonry. This would avoid any potential problems in future of timber decay that could be caused by interstitial condensation.

In designing the future layout of the main barn accommodation, it would be sympathetic to retain the roof truss (if conditions allow) and provide first floor access to both the left and the right of the tie beam, to overcome the height constraint presented by the truss (in relation to Building Regulations).