

## PARSONS BARN FARM, SIBFORD GOWER

### STRUCTURAL SURVEY ON TRACTOR SHED / WORKSHOP



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## **Parsons Barn Farm, Sibford Gower, Banbury OX15 5AD**

### **Structural Survey on Tractor Shed / Workshop**

I have been asked by Mr S White, the owner of Parsons Barn Farm to assess the structural condition and load capacity of the structure of the former tractor shed.

#### **Description**

The Tractor Shed is an open fronted L shaped structure approximately 45 ft x 20 ft. It is constructed in galvanised corrugated steel sheeting on a timber frame. The roof is fibre cement sheeting supported on timber purlins bearing on steel section. It is not known when the structure was built but it is likely that most of the materials used were second hand.

Considering the structural members, the columns are re-used telegraph poles to which the main steel rafters, with a clear span of approximately 8m, are attached with a bolted connection. Timber purlins simply supported on the rafter carry the roof sheeting. The structure has no wind bracing.

The foundations are not visible and could not be inspected.

#### **Condition**

The overall condition of the structure is generally poor with no paint protection to the steel. There are signs of water ingress throughout the structure leading to some concern about the integrity of the steel to telegraph pole connections; particularly at the low end of the roof.

The purlins are in poor condition with signs of wet rot and damp on much of the timber. It would also appear that the purlins are undersized leading to midspan sagging.

The wall cladding is starting to corrode badly in places and has holes from its former life that let in water. The roof has obvious signs of leakage contributing to the failure of the purlins.

There is no redundancy in the columns and if one of the columns was damaged or removed it could lead to total collapse.

#### **Conclusions**

Given the condition of the structure and the small section of the main steel members it is obvious that the present structure is incapable of taking wind and snow loading without considerable strengthening work.

Its continued use presents a safety hazard to users as there is potential for structural collapse under adverse conditions such as heavy snow or strong winds. My recommendation would be to replace the existing structure with a new structure designed to current standards.



Roof purlins showing sag at midspan



Connection between steel rafter and timber column



Water damage to purlins