

ENGINEERING REPORT 9622

**THE ENGINE SHED
ROWLANDS ROAD
SUMMERSEAT**

CLIENT: MR MIAH

02.07.2024 / 04.07.2024 MP/CH



1.0 INTRODUCTION

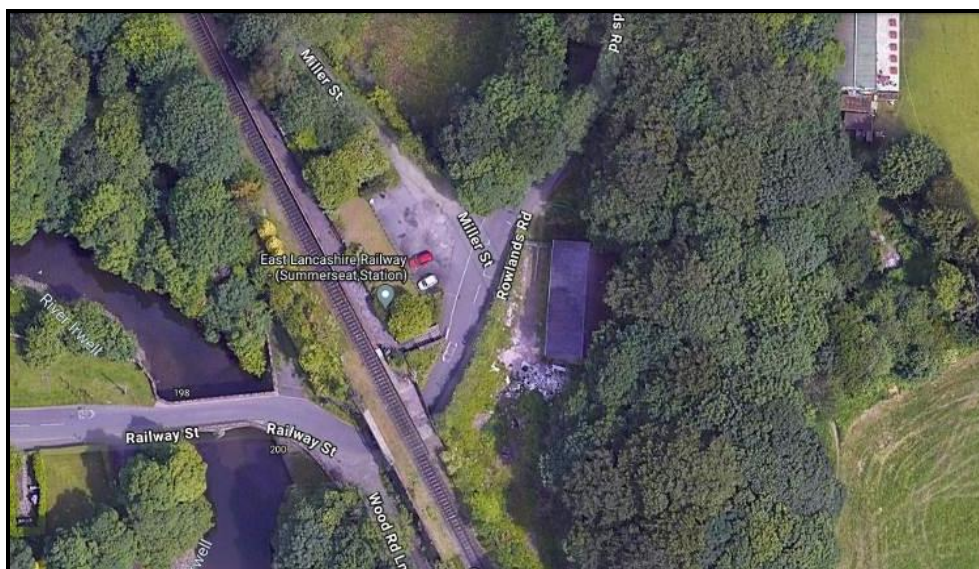
The purpose of this report is to comment on the existing structural condition of the above property with regards to change of use from an Engine Shed to Restaurant.

The report is based on a visual inspection only with no opening up of the fabric nor site investigation.

We have not inspected parts of the property or defects that are not relevant to the instructions unless noted in this report. Our visual inspection is subject to reasonable access being available. We shall only report upon structural defects that materially affect the stability of the property and provided that these defects are reasonably detectable at the time of our inspection.

We have not inspected any woodwork or other parts of the structure which are covered, unexposed or inaccessible and we are therefore unable to report that any such part of the property is free from defect. Such unexposed parts may contain problems and you would need to make special arrangements for these areas to be investigated if you require confirmation about their condition.

Unless specifically mentioned no inspection of the roof or damp issues has been carried out.



2.0 PREAMBLE

The property is a large single storey former Engine Shed constructed in the mid 1850's located on the Eastern side of the former Bury to Rawtenstall Railway (now East Lancs Railway) occupying an elevated level on a Western facing slope. A single storey solid wall construction in natural stone, the wall thickness is circa 450mm thick with a mixture of masonry arch, windows and doorways completed with a blue slated pitched roof.

The building occupies a level plateau originally accessed from the link from the permanent way, entering into the Southern gable of the property, and is obviously level with the current track of the East Lancs Railway, located some 50 metres to the West.

The Engine Shed is approximately 12 metres wide x 21 metres long, aligned on a North/South orientation with gables at the Northern and Southern elevations.



Photograph 014 Western flank and Southern gable

3.0 EASTERN FLANK WALL

- 3.1 The Eastern flank wall is constructed against a 5 metres high retaining wall on a Western facing slope incorporating the original flank wall and the return Northern gable to the Engine Shed, the gable approximately 3.5 metres wide x 4.5 metres high completed with a single natural stone archway of dressed stone in the order of 450mm deep. (Photographs 003, 004).



Photograph 004 North Eastern arch

- 3.2 Vegetation growth from the plinth retaining wall on the left hand Eastern side precludes a detailed inspection but the overall profile of the exposed wall appears reasonable. (Photograph 005).

4.0 NORTHERN GABLE

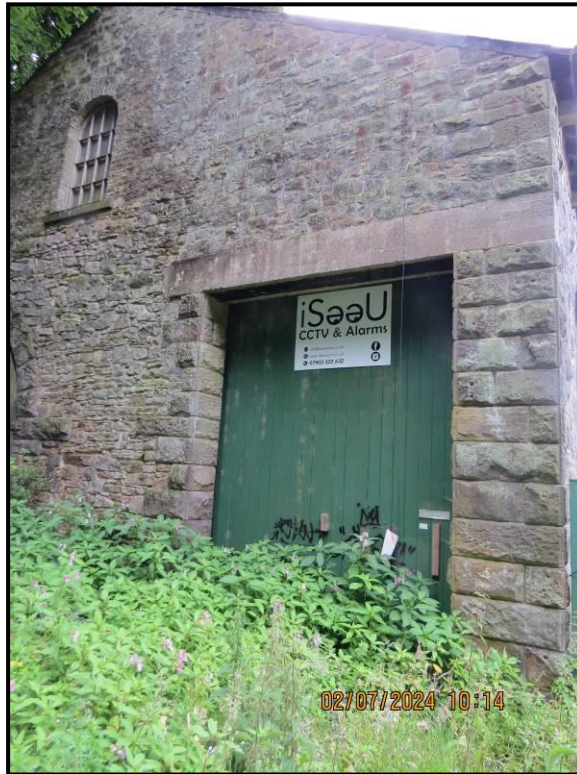
- 4.1 The Northern gable extends for a width in the order 14 metres, a height at eaves level circa 6 metres completed with a pitched roof laid to a 30° slope. (Photograph 003).



Photograph 003 Northern gable

- 4.2 The left hand gable corner (North East) incorporates a 8 metre wide opening completed with a 1.5 metre radial arch construction for the former Engine traffic, flanked on the right hand (North Western) section with a rectangular opening, 6 metres wide by a height in the order of 8 metres, completed with a probable concrete lintel.
- 4.3 The profile of the arch is good and the stonework and pointing are generally in a satisfactory condition. Localised patches of pointing show some weathering, there are no distorted profiles to the gable. (Photograph 004).
- 4.4 On the left hand (Eastern) boundary wall, approximately 1.5 metres high, heavy overgrowth is present to the wall preventing a detailed wall inspection. (Photograph 005).
- 4.5 There are no signs of any distortion to the exposed areas of wall on the upper gable. (Photographs 005, 006).

- 4.6 The right hand rectangular opening is completed with natural stone quoins to the door reveals. The door jambs and reveals follow a satisfactory vertical alignment, and the overall vertical profile to the Northern gable is good. (Photograph 007).



Photograph 007 North Western doorway

5.0 WESTERN FLANK WALL

- 5.1 The Western flank wall extends for a length in the order of 20 metres incorporating four number radial headed windows completed with stone lintels and semi-circular arch. The windows are located at approximate chainages 3, 8, 12 and 17 metres (North – South). (Photograph 012).



Photograph 012 Western flank, 0 – 20 metres

- 5.2 Minor variations are evident in the weathering to the stonework along the elevation probably occasioned by former Ivy growth or similar (not of any structural consequence). (Photographs 009, 010, 011, 012, 013).
- 5.3 The eaves gutters are supported on stone corbels at approximately 1.5 metre centres.
- 5.4 The random stonework coursing is well maintained and in good order, the profile of all four window openings is good, and the vertical alignment along the elevation is good. (Photographs 014, 015).

6.0 SOUTHERN GABLE

- 6.1 The Southern gable replicates the opposite Northern gable with a rectangular door opening on the left hand, South Western corner completed with large section stone quoins and a timber lintel. (Photograph 014).



Photograph 014 Western flank and Southern gable

- 6.2 Very mature Ivy growth extending from the Eastern hillside onto the upper and lower faces of the right hand gable section. (Photograph 016).
- 6.3 No access was available to the back-to-earth retaining wall on the Eastern flank. (Photograph 016).

7.0 INTERNAL INSPECTION

- 7.1 Internally the building retains a natural stone plinth platform occupying a footprint in the order of 90 square metres with a lifting derrick located towards the Northern aspect. (Photographs 027, 028, 030).



Photograph 027 Typical plinth construction



Photograph 030 Crane and loading platform

- 7.2 The pitch roof is supported on three number trusses with three purlins to each roof slope, spanning North to South. The Northern gable, Truss 1, Truss 2, Truss 3 and Southern gable.
- 7.3 The purlins are sized in the order of 200mm (exposed) x 150mm inclined, spanning a distance circa 5 metres, seated internally on the Southern gable with a stone pier circa 350mm x 150mm giving satisfactory bearing to the purlin seatings. (Photographs 028, 029, 031, 032).
- 7.4 There are no signs of any separation where the inner gable wall adjoins the plastered ceiling lines. General arrangement shown in photographs 019, 022.
- 7.5 Longitudinal bracing is provided in the form of a 'Y' shaped brace incorporating the main tie circa 225mm square with similar sized struts spanning either side of the upper gable window. The seating of the brace is satisfactory. (Photographs 018, 019, 020).



Photograph 018 Longitudinal timber brace

- 7.6 The sliding rectangular timber door has a metal runway beam fixed to the inside face of the Southern gable. (Photograph 022).

- 7.7 The timber roof construction follows a satisfactory line and level with no deviation to any of the members in either trusses nor the purlin constructions on either roof slope.
- 7.8 There are no signs of any distress or irregular seating where the trusses bear into the external walls. (Photographs 057, 058, 059, 060, 061).
- 7.9 The walls have been modified with a plaster finish, and the original roof is supported on three King Post trusses spanning the full width of the building, bottom tie sized in the order of 300mm x 100mm, with a 100mm central tie rod from the ridge down to the bottom tie with inclined struts circa 250mm x 75mm, incorporating a longitudinal tie beam with restraints to the both gables. (Photographs 028, 029, 031).



Photograph 031 North Eastern Trusses 1 - 2

- 7.10 The roof incorporates three exposed purlins, sized in the order of 200mm x 150mm, purlins following a satisfactory line and level. (Photographs 031, 032).
- 7.11 All the timberwork, trusses, purlins and longitudinal tie are in good order.

- 7.12 The Northern end bay has been partially infilled with steel framework to accommodate the additional accommodation levels 1 and 2 as per the approved Plans. (Photographs 032, 038, 039, 040).
- 7.13 The entry to the first floor level on the Eastern side is via a staircase on the North Eastern side of the unit giving access to the main first floor Dining Room extending for a length in the order of 17 metres to the Southern gable and width of 10 metres from East to West. (Photographs 044, 045).



Photograph 045 Stairs to first floor

- 7.14 The North Western corner has a new suspended timber floor, midway between the first floor and the second floor located on the Northern gable with an original window on the Western flank wall. (Photographs 051, 052).
- 7.15 A further stairway gives access to the upper second floor gable, the floor level with the cill of the original radial headed gable window. (Photographs 054, 055).
- 7.16 The interior arch profile is good and the seating of the purlins from Truss No. 1 is satisfactory.

- 7.17 Viewing from the second floor level, confirms good overall horizontal alignment to the main purlins and a satisfactory vertical profile to the trusses. (Photographs 056, 057, 058).



Photograph 056 Western elevation, windows 4 - 2

- 7.18 On the second floor of the Eastern flank wall the seating of the trusses on the stone corbels is good. (Photographs 059, 060).

8.0 CONCLUSION

- 8.1 The Engine Shed is a substantial solid wall unit consistent with the robust construction of the Victorian Railway era with good vertical and horizontal profiles to the external walls.
- 8.2 The roof construction is a traditional purlin/rafter, with no evidence of deflection or deviation, and satisfactory seating for the purlin members, and longitudinal bracing on the North and Southern gables.
- 8.3 The works are currently being carried out to the Approved Building Regulation Plans in a satisfactory manner, and there are no structural irregularities on the original Engine Shed requiring significant rebuilding.
- 8.4 Any minor works carried out to the existing stonework should be carried out in accordance with good current practice consistent with the age of the construction.
- 8.5 The property was first inspected by this practice around 2018 prior to commencement of any works. Significant upgrading has been carried out in a satisfactory manner and there are no issues of a significant structural nature with regard to the original building or the works carried out to date.
- 8.6 Should you have any queries in respect of this report do not hesitate to contact the writer.

Michael Pooler M. Sc. C. Eng. M.I.C.E. F. Cons. E.

July 2024

PHOTOGRAPH LIST

- 001 Location
- 002 Northern gable
- 003 Northern gable
- 004 North Eastern arch
- 005 Eastern boundary wall (vegetation)
- 006 Upper pike
- 007 North Western doorway
- 008 Western flank, 0 – 5 metres
- 009 Western flank, 0 – 9 metres
- 010 Western flank, 0 – 9 metres
- 011 Western flank, 7 – 20 metres
- 012 Western flank, 0 – 20 metres
- 013 Western flank, 7 – 20 metres
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- 017 Internal, Southern gable
- 018 Longitudinal timber brace
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- 022 Upper pike, South West gable
- 023 Southern gable and Western flank
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- 026 Head detail
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- 029 Truss 3 (South East)
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- 034 Western flank, trusses 2 and 1
- 035 South West corner, Trusses 2 and 1
- 036 Western flank
- 037 Western flank, 20 – 6 metres
- 038 Ground floor, Northern gable
- 039 Northern end bay
- 040 Northern end bay
- 041 North West corner
- 042 Truss lintel
- 043 Eastern flank and Southern gable

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- 044 Stairs to first floor
 - 045 Stairs to first floor
 - 046 North Eastern arch
 - 047 Stairs to upper floor
 - 048 North Eastern arch internal profile
 - 049 Not used
 - 050 Not used
 - 051 Mid floor level, North West corner
 - 052 Wall thickness, Western flank
 - 053 Mid floor (North West) looking West - East
 - 054 Not used
 - 055 Upper floor, North Western gable
 - 056 Western elevation, windows 4 – 2
 - 057 Western roof slope
 - 058 Satisfactory truss bearing
 - 059 Satisfactory truss bearing
 - 060 Satisfactory truss bearing
 - 061 Loading plinth and first floor level, South East aspect
 - 062 Location



001 Location



002 Northern gable



003 Northern gable



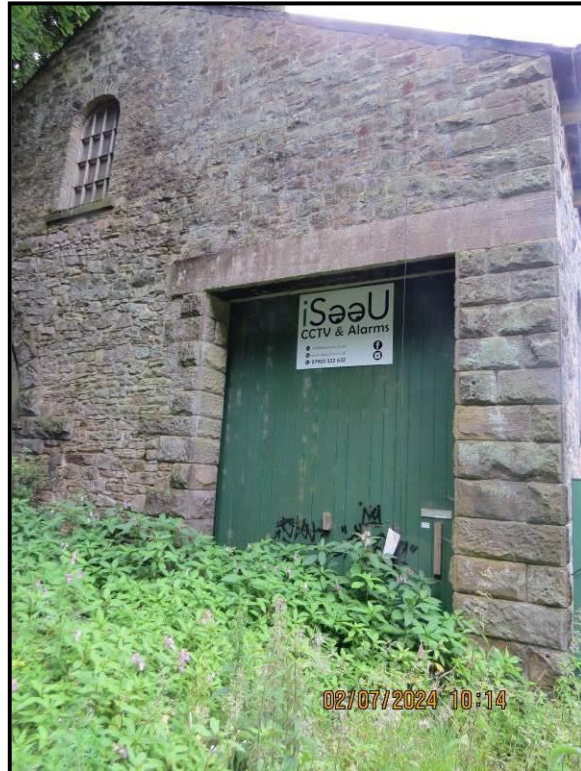
004 North Eastern arch



005 Eastern boundary wall (vegetation)



006 Upper pike



007 North Western doorway



008 Western flank, 0 – 5 metres



009 Western flank, 0 – 9 metres



010 Western flank, 0 – 9 metres



011 Western flank, 7 – 20 metres



012 Western flank, 0 – 20 metres



013 Western flank, 7 – 20 metres



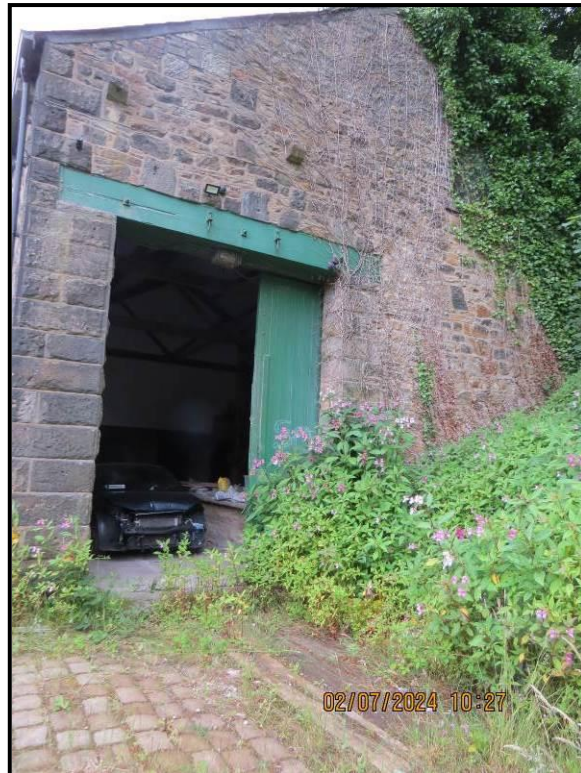
013 Western flank, 7 – 20 metres



014 Western flank and Southern gable



015 Good vertical alignment to Western flank



016 Southern gable



017 Internal, Southern gable



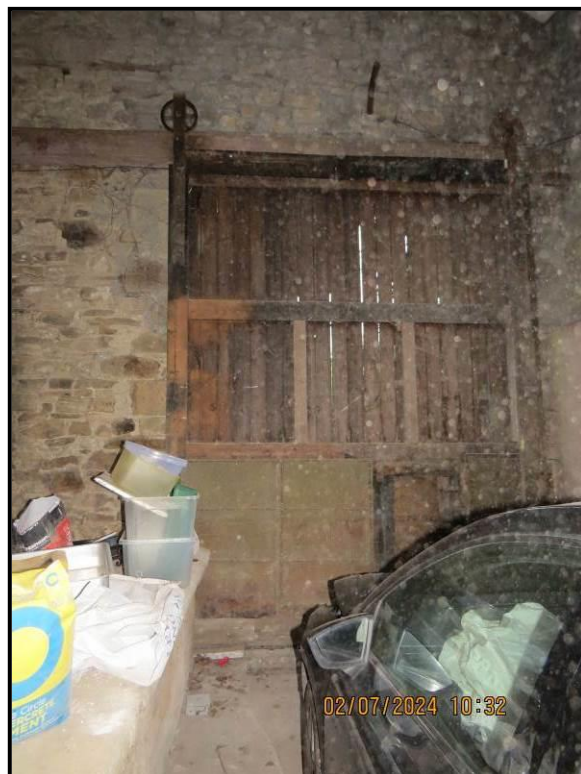
018 Longitudinal timber brace



019 Southern gable (South East)



020 Southern gable



021 Sliding door (South West corner)



022 Upper pike, South West gable



023 Southern gable and Western flank



024 Eastern flank, chainage 5 – 10 metres



025 Hoist general arrangement, chainage 10 – 13 metres



026 Head detail



027 Typical plinth construction



028 Southern gable (South East)



029 Truss 3 (South East)



030 Crane and loading platform



031 North Eastern truss 1 – 2



032 Truss 1, chainage 5 metres



033 South Western corner and Western flank



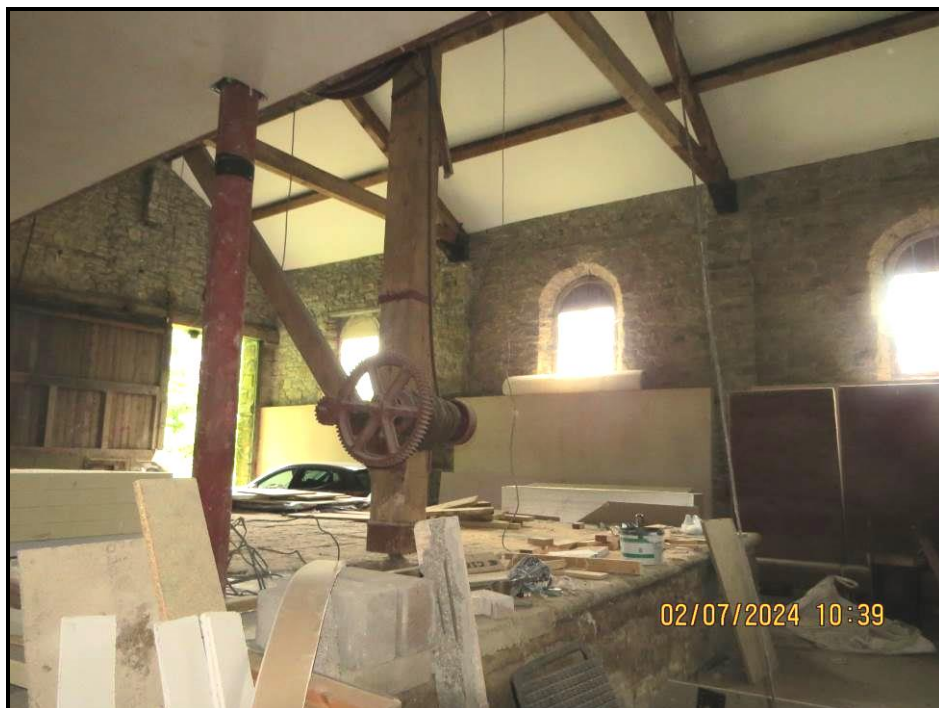
034 Western flank, trusses 2 and 1



035 South West corner, Trusses 2 and 1



036 Western flank



037 Western flank, 20 – 6 metres



038 Ground floor, Northern gable



039 Northern end bay



040 Northern end bay



041 North West corner



042 Truss lintel



043 Eastern flank and Southern gable



044 Stairs to first floor



045 Stairs to first floor



046 North Eastern arch



047 Stairs to upper floor



048 North Eastern arch internal profile



051 Mid floor level, North West corner



052 Wall thickness, Western flank



053 Mid floor (North West) look West - East



055 Upper floor, North Western gable



056 Western elevation, windows 4 – 2



057 Western roof slope



058 Satisfactory truss bearing



059 Satisfactory truss bearing



060 Satisfactory truss bearing



061 Loading plinth and first floor level, South East aspect



062 Location

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DATE OF INSPECTION: 2nd & 4th July 2024

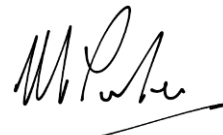
REPORT NUMBER: 9622

ENGINEERING REPORT: The Engine Shed
Rowlands Road
Summerseat

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