



Ty'n Yr Heol

Tonna

Neath

Structural Survey
Addendum 2 – updated.
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Content/Quality Assurance

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1.0 Introduction

- 1.1 Ty'n Yr Heol, was a symmetrical five bay house of two storeys and attic, with a roughcast front with quoins; the tall, hipped roof with bracketed eaves has been lost. The building is in a ruinous state due to a fire and years of being left open to the elements. There was an attached two storey red brick extension to the south west corner. The rear, south elevation has a gable-ended rubble cross range to the centre with collapsed roof and first floor structure and a basement.
- 1.2 The building is in a serious state of disrepair and degrading quickly. It is unsafe to enter the structure due to the poor conditions of the walls, bearings to steel beams and the loss of ground floor structures including decayed suspended floors and partially collapsed barrel vaults.
- 1.3 Mann Williams were employed by Emily Byrne of Cadence Interiors to inspect the property and report on its condition and the likelihood that the remaining structures could be saved.
- 1.4 A survey took place on 11th July 2019 in reasonable weather. Access into the building was restricted because of its condition and the inspections were visual only from the ground.
- 1.5 The survey found that some walls could be saved, principally the brick sections to the south east and some of the rear range to the original house, whilst others are lost or in poor condition and would be lost during any repairs. All walls would need to be taken down by around a meter as the wall heads appear to have been degraded by the weather.
- 1.6 The process of repair would need to be seriously considered in view of health and safety. It is likely the process would require initial vegetation clearance around the outside and the installation of a free-standing external scaffold from which high level, loose material can be safely pushed to the ground. Droppers from the scaffold would then provide decks, to make safe the higher levels and provide crash deck protection to lower levels. We would anticipate suspended ground decks to allow rubble from the ground floor and basements to be removed due to the unknown voids to basements and below floors.
- 1.7 Whilst not in our remit, in view of the health and safety issues and the likely cost involved in repairing these structures, we would advise the cost benefit in relation to historic fabric is looked at.

2.0 Observations

- 2.1 The initial observations are that the remaining structures are in poor condition. The original sections of the house, are formed with solid, coursed, rubble stone walls which are covered in what appears to be a cement based, rough cast render. This harsh, impermeable render has had the effect of trapping moisture within the walls causing the lime mortars to break down. This breakdown has been accelerated by the loss of protection to the heads of the walls.

- 2.2 The principal, north elevation has all been lost. The upper storey and central section at ground floor has collapsed and the two remaining sections are fractured and free to fall. The harsh render is keeping the rubble walling together but will allow it to collapse as one large section. The wall heads of the remaining structure to this front section of the building are in poor condition and have been affected not just by weathering, but also through the growth of woody vegetation.



- 2.3 It is likely that at least the top meter of the walls will be in poor condition and will need to be removed and rebuilt.

- 2.4 18th century buildings of this type would have had timber, internal lintels which at Ty'n Yr Hoel have almost all been lost resulting in large collapsed sections of walls over the original apertures.

- 2.5 We were able to look into the heart of the wall to view the core work and found the walls to be well layered with stone of flat aspect ratio. The stone appeared stable but mortar was missing in areas, leaving stone on stone conditions. Water has washed out the binder within the mortars in areas where stormwater has had concentrated run off. This would suggest that vulnerable areas at roof level, alongside valleys, chimneys and exposed beam bearings are likely to be affected by the loss of mortars.



- 2.6 The rear section of the original stone building has a basement, the brick barrel vault of which has collapsed. There are no intact floors within the structure. Steel principal floor beams remain in place at suspended floor levels but these are corroded and unlikely to be re-usable.

- 2.7 A section of rubble wall on the east side of the rear section of the building shows evidence of bulging, where it appears the masonry may be cleaving, or detaching from the inner section of the wall. This is likely due to storm water ingress and the proliferation of woody vegetation that is growing out of the wall and jacking the mortar joints.



- 2.8 Further along the east elevation, where the rear section of the original house meets the front section, the large window rumoured to be part of the staircase envelope, is likely to be lost. The small section of masonry that was left arching over the window is in a vulnerable state and would likely be removed to be rebuilt in any repair scenario.
- 2.9 Despite the poor appearance, there are walls that remain that could be repaired and re-used. These are mainly to the rear and to the west. However, included within these walls are chimney structures that would need closer assessment and the steel beams would need to be removed and their bearing pockets improved.
- 2.10 The conservation of these walls would need a skilled mason. It is likely as noted above that large sections of wall would need to be removed where mortars have degraded, some deep pack pointing carried out before final pointing and we assume a lime base rough cast render is applied.
- 2.11 The brick vaults are lost. The small remaining sections will need to be removed in order to allow a new full basement arch to be constructed.
- 2.12 These sections of the building should be considered dangerous due to the risk of falling debris, the risk of collapse of the remaining section of vault and due to the uneven ground surfaces as voids below the ground floor are being exposed.



- 2.13 The later brick extension to the south east corner appears to be in better condition to the rubble masonry section. It is possible that these brick walls could be restrained by new scaffold whilst repairs are carried out.

- 2.14 The brick appears to be in relatively good condition with many of the flat brick arches over windows performing adequately.



- 2.15 The rear wall section of the brick extension is in less good condition as the north east elevation. The internal timber lintels are unreliable but the brick is arching over the openings. Woody growth has caused local disturbances to the brick but this could be readily repaired.



- 2.16 The steel beams at higher levels should be considered as dangerous as they are decayed and the bearings will have been broken down through weathering.



3.0 Conclusion

- 3.1 The building overall should be considered a dangerous structure. The ground floors are uneven and unreliable as the timber suspended sections are lost and sub floor voids are open. The basement vaults have been lost in most areas.
- 3.2 The first floor and roof structures were likely lost in the fire with the remaining sections pulled in and now decaying at ground floor.
- 3.3 Timber internal lintels are nearly all decayed and would need changing.
- 3.4 Steel beams used as primary beams to support the floors have corroded and are unlikely to be re-usable and their bearings have been considered as unreliable.
- 3.5 The brick walls to the later extension could be restrained and re-used, the north east elevation is in better condition than the south east rear wall which has suffered greater loss.
- 3.6 The older, rubble stone walls could be saved but are likely to require the upper meter to be taken down and rebuilt all round. Some areas will require remedial ties as the vertical planes in the wall are dividing and detaching in saturated areas. Sections of rubble walls between openings have lost lintels are likely to need rebuilding.
- 3.7 Should it be considered there is value in conserving and re building the old structures a sequence of operations would need to be drawn up that would include the erection of a scaffold designed to give initial restraint to the walls and allow platforms to be dropped in to make safe.

Addendum No1 – 2023 Updated Survey

- 4.1 The building was re-surveyed on 27th July 2023. The weather was poor with consistent rain. Once again, surveys could only take place from the ground with access to most areas restricted by vegetation or by areas of risk to health and safety.
- 4.2 The overall view is that the building has degraded with main areas of loss being:
1. To the front elevation where further fractures has appeared in the render and woody vegetation has taken hold on the ground floor and in some of the walls
 2. The West elevation appears to be bowing slightly. This could be due to detachment of the cementitious render, but we note this is a wall with flues with only a 100mm brick as the external face.
 3. The west wall is holed in the lower level of the flue.
 4. All timber elements are decaying at an increased rate including timber lintels and floors. Some areas of brick are now arching where lintels have been lost.
 5. The heads of the rubble walls have degraded further due to weathering and growth. The tops of the walls cannot now be seen due to the growth.



July 2019



July 2023



July 2019



July 2023



July 2019



July 2023



West elevation - July 2023



July 2023



July 2019



July 2023



July 2023



July 2023

Addendum No2 – 2024 Update



Photo from Drone footage showing the head of the west wall. The photo shows the heads of the wall to open to the elements and to be breaking down. There is a fracture seen in this picture that suggests the inner leaf is laminating away.



Drone footage showing damage caused by fallen trees to the east wall.



Drone footage showing slenderness at the head of the north, brick wall and steel beams in place

The overall observation, gleaned from drone footage, is the continued break down of the wall heads due to ever more vegetation and some damage caused by felled trees. It is likely the random rubble walls are unreliable and may need grouting to stabilise their fabric.

On the evidence seen in 2023 and 2024, it's more likely now that should the walls be saved they may have to be taken down between 1.5 and 2.0m before solid undisturbed fabric is found suitable to build back off.

It's difficult to tell how much damage may be caused to the masonry on removal of the established vegetation. This applies to both the heads of the walls, the remaining sleeper walls to the ground floors and the basement structures.