

Civil & Structural Engineering Consultancy

Prepared by:	Issue Date:
Mike Wyatt BEng (Hons) CEng MIStructE	22/09/2021

INDEX

1.0	Introduction
2.0	Description of the Property
3.0	Observations - Externally
4.0	Observations - Internally
5.0	Conclusions & Recommendations
Appendix -	Photographs
Appendix -	Mark-up of Architects Plan

1.0 Introduction

- 1.1 MW Consult Ltd has been instructed by Elin Walters to undertake a structural inspection of the external walls to the storage room at 100 Commercial Road, Rhydyfro, SA8 4SS, and to subsequently prepare a written structural appraisal.
- 1.2 We understand that the client is proposing to refurbish the property, remove the existing storage room to the north-western end of the building and replace it with a new single-storey extension with a smaller footprint. A set of proposed architectural drawings has been prepared by DR Design, which should be referred to in conjunction with this report. We further understand that a planning application has been made for the proposed works.
- 1.3 The north-western wall of the storage room and the walls adjacent to the stores northern and western corners are currently acting retaining walls. We understand that before being able to consider the planning application any further, the planning authority requires a structural appraisal to be submitted in relation to the condition of the existing walls, and whether the proposed works will have any adverse effects on the adjacent public highway.
- 1.4 Our appraisal is based on a visual inspection of the walls to the storage room and contains our considered opinion in relation to their current structural condition. We will outline our recommendations for any necessary remedial works to the walls, and advise on how the proposed works can be undertaken without affecting the adjacent highway.
- 1.5 As is typical, we have not undertaken any excavations to examine ground conditions or foundations and have not investigated any parts of the structures which were covered, unexposed or inaccessible at the time of our visit, other than those referred to in the report. We are therefore unable to report that any such parts of the structures are free from defect. Additionally, we did not inspect drains, services or finishes; or remove any vegetation, masonry or timbers, but we may make reference to such elements in the report.
- 1.6 Any recommendations which may be made in this report should not be considered as a detailed schedule of defects to allow any proposed remedial works to be accurately quantified and priced. The contractors will need to visit the property and make their own assessment as to how much material and labour is needed to carry out the required works.
- 1.7 A visual inspection of the property was undertaken at 8.30am on 16th September 2021.
- 1.8 The premises are situated north of the village of Rhydyfro, just off the A474 highway.
- 1.9 The building is a two-storey stone cottage with a roughly rectangular footprint. Having reviewed historic maps from the area the property appears to have been constructed prior to 1879. This would make the property including the masonry walls over 140 years old.
- 1.10 The following report sections should be read in conjunction with the appendices.
- 1.11 For the purposes of this report, the front of the property is that which faces south-west and the rear of the property is that which faces north-east. The north-western wall which is the retaining wall running parallel with the highway is considered to be the side wall.
- 1.12 This report has been prepared for the client, their contractors and the planning authority. It is not intended for, and should not be relied upon, by any third party. No responsibility is accepted to any third party who may choose to rely upon it for their own purposes.

2.0 Observations - Externally

- 2.1 It is apparent that the side wall of the storage room is currently acting as a retaining structure. Whilst it was difficult to take exact measurements due to the dense vegetation present to the side and rear of the building, we would estimate that the wall is retaining roughly 1.5m height of ground, although the height of retained earth does appear to vary.
- 2.2 The retaining wall is constructed from solid stone masonry. The front and rear walls of the storage room are approximately 600mm thick and on this basis we would envisage that the side wall, which is the main retaining structure is also at least 600mm thick.
- 2.3 The retaining wall returns for approximately 1m distance along the front wall from the western corner of the building. At this location an additional stone wall is built outbound from the face of the buildings main front wall. As such that the combined thickness of the stonework retaining wall here is over 1 metre. In our opinion it is considered likely that this thickness of stonework continues for the full length of the side wall of the store.
- 2.4 From as far as can be seen, the retaining walls are in reasonably good condition given their age. There are no signs of any significant structural defects and the walls appear to have supported the retained earth pressures without any issues up until the present time.
- 2.5 The front wall of the storage room is plumb and in a reasonable condition without any signs of any issues such as crack damage etc. The rear and side walls were more difficult to inspect due to lack of access coupled with the severe vegetation which was present. However, as far as we could see there were no major structural issues with these walls.
- 2.6 The storage room has a mono-pitch roof which slopes downwards from front to rear.

3.0 Observations - Internally

- 3.1 Similarly to when viewed from the outside, the inside faces of the storage rooms walls were found to be plumb and free from any significant defects. The walls are considered to be well built and in good condition, especially for a stone building of this age.
- 3.2 The roof comprises a series of timber joists which span from side-to-side onto the side wall. The joists appear free from defect and support corrugated fibre cement roof sheets.

4.0 Conclusions & Recommendations

- 4.1 We are of the opinion that the storage rooms walls are in a reasonably good condition. There are no significant defects with any parts of the visible structures and at the present there is no need for any remedial works to be undertaken to these walls.
- 4.2 The client's proposals are to remove the storage room and replace it with a new masonry cavity walled single-storey structure which will have a smaller footprint than the original store. Naturally, the existing retaining walls must remain in place as they are supporting the ground levels to their north-western sides. The extent of existing walls which will need to remain are shown coloured red on our mark-up of the architects plan drawing which we have appended to this report. Whilst it is essential that these walls are not removed, they may be reduced in height to coincide with the upper/retained ground levels.

- 4.3 The foundations to the replacement building will need to be carefully constructed without adversely affecting the foundations of the stone retaining walls which are to remain. From the proposed architectural drawings, we consider the new foundations will be far enough away from the existing wall to avoid adversely affecting the existing structures.
- 4.4 So long as the proposed works are undertaken by a competent contractor on the basis of what we have described above then we see no reason why the proposed works would adversely affect the existing retaining walls adequacy in continuing to support the ground which it currently retains and also the adjacent public highway located at the upper level.

We trust that our report is to your understanding and is fit for your purposes. However, should you have any queries and/or wish to discuss matters further please do not hesitate to contact us.

Yours sincerely,



Mike Wyatt BEng (Hons) CEng MStructE
Chartered Structural Engineer
MW Consult Ltd
Email: mikewyatt.mw@outlook.com Tel: 07802 502 785

Appendix – Photographs



Photograph 1 – Front Elevation (viewed from front garden).



Photograph 2 – Front Elevation (viewed from public footway).



Photograph 3 – Rear elevation facing retaining wall.



Photograph 4 – Internal view facing side and front wall.

Appendix – Mark-up of Architectural Plan

