

STRUCTURAL REPAIRS & METHODOLOGY

Project Ref: Silver Hill Farm, Rochdale

Date: 28 October 2025

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Appendix A – 5410 SK001 Schedule of Repairs

REVISION HISTORY

Issue	Date	Status	Prepared By	Signature	Checked By	Signature
-	28/10/2025	First Issue	Sherman Cheung MSc(Hons)		Adam Sedgwick BSc(Hons) CEng MIStructE	

1.0 INTRODUCTION

- 1.1 Edge Structural Design Limited was appointed by Grandstream Properties Ltd to undertake a structural inspection at Silver Hill Farm, Rochdale to determine the works required with regards to demolition and immediate structural repairs.
- 1.2 The site comprises of 3No. existing buildings. 1No. building is proposed to be demolished to allow for the construction of 2No. new residential dwellings, whilst the remaining 2No. existing buildings are to be refurbished to liveable standards. Refer to HNA Architect's drawing 1517/P-001 for Phasing details: Phase 1 which details the phase 1 works of the site and the associated demolition works.

2.0 SURVEY INFORMATION

- 2.1 A representative of Edge Structural Design Limited visited the property on 25th March 2025.
- 2.2 The weather at the time of our inspection was dry and sunny.
- 2.3 The survey comprised a non-intrusive internal/external visual inspection of all reasonably accessible areas.
- 2.4 Photographs were taken and are included throughout this report.

3.0 LOCATION AND SETTING

- 3.1 The building is located on Lower Lane, Rochdale.
- 3.2 The building is listed as Grade II on the National Heritage List (entry number 1068495). Any modification or alterations to the building will be subject to Listed Building Consent.

4.0 OBSERVATION

4.1 EXTERNAL OBSERVATIONS – DETACHED OUT-BUILDING

- 4.1.1 The building is constructed from a series of multiple structures. The buildings are typically constructed from a mixture of masonry external walls with duo-pitched slated roofs and corrugated sheet walls and roofs. Internal observations were not taken.



Photo 1 Out-building North-West Elevation



Photo 2 Out-building South-West Elevation

4.2 EXTERNAL OBSERVATIONS – BARN

- 4.3 The building comprises of two different construction types. A single storey and a two-storey building. To the East wing, the single storey building is constructed from cavity red brick masonry external walls with a duo-pitched timber roof with intermediate timber trusses, overlain with slate tiles. To the West wing, a single storey out-building is constructed from red brick masonry external walls with a mono-pitched slated roof. The two-storey building is constructed from solid stone masonry with a duo-pitched timber trussed roof with slate tiles.



Photo 3 Barn North Elevation Showing Two-storey Section



Photo 4 Barn North Elevation Showing Single Storey Section



Photo 5 Barn North Elevation Archway



Photo 6 Barn South Elevation



Photo 7 Barn South Elevation Archway



Photo 8 Barn South Elevation Between Single & Two Storey



Photo 9 Barn West Elevation on Gable End



Photo 10 Barn North Elevation

4.5 INTERNAL OBSERVATIONS - BARN

- 4.5.1 We were able to inspect the building internally, however, inspection to the single storey was limited due to personnel safety reasons.



Photo 11 Barn Two Storey Section Showing West Elevation Gable End



Photo 12 Barn Two Storey Section Showing Roof Structure



Photo 13 Barn Single Storey Roof Structure



Photo 14 Barn Single Storey Ceiling

4.6 EXTERNAL OBSERVATIONS – FARMHOUSE

- 4.7 The building is constructed from solid stone masonry walls with a duo-pitched slated roof. It comprises of two stories plus a basement. To the East Wing of the farmhouse is a small single storey out-building constructed from red brick masonry external walls and a lean-to slated roof.



Photo 15 Farmhouse North-East Elevation



Photo 16 Farmhouse East Elevation on Gable End



Photo 17 Farmhouse South East Elevation



Photo 18 Farmhouse West Elevation on Gable End



Photo 19 Angled View on Farmhouse North Elevation



Photo 20 Farmhouse South Elevation



Photo 21 Farmhouse (right) Barn (left) showing out-buildings

4.9 INTERNAL OBSERVATIONS – BARN

- 4.10 We were able to inspect the building internally. Note, close inspection of the roof space was not carried out due to limited access.



Photo 22 Farmhouse Roof Structure

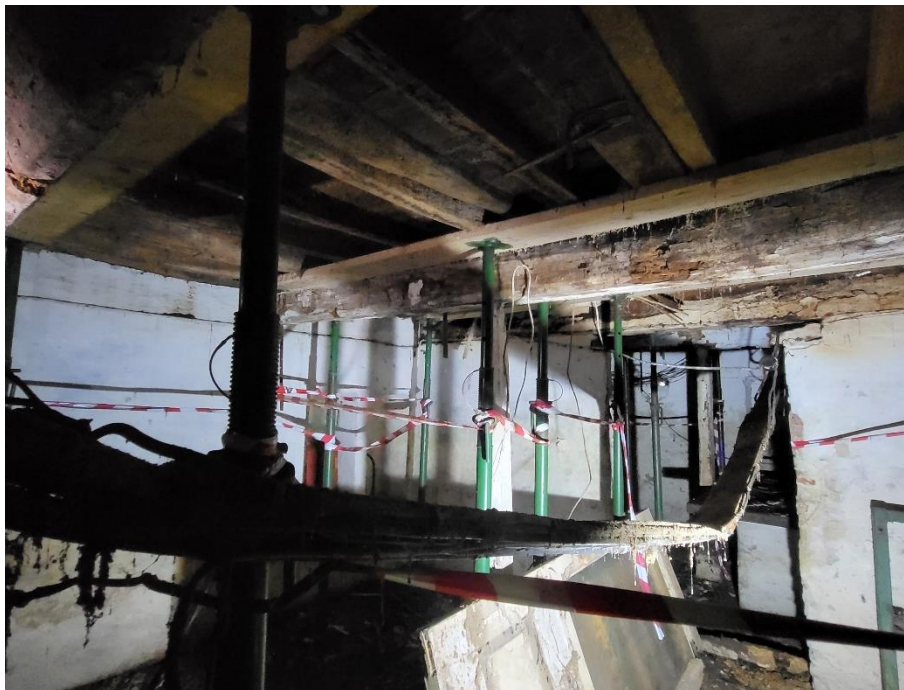


Photo 23 Farmhouse Basement

5.0 STRUCTURAL APPRAISAL

5.1 The areas inspected are itemised below and each item is referenced on Storah Architecture's drawing 21-088-021. Refer to Appendix A.

5.2 The following items marked up on the appended drawing are referenced back to the photos within this document. The items are as follows:

- Item 1 – Mortar repointed and masonry rebuilt as required. No further structural works required.
- Item 2 – Mortar repointed and masonry rebuilt as required. No further structural works required.
- Item 3 – Mortar repointed and masonry rebuilt as required. No further structural works required.
- Item 4 – Mortar repointed and masonry rebuilt as required. No further structural works required.
- Item 5 – Mortar repointed and masonry rebuilt as required. No further structural works required.
- Item 6 – Mortar repointed and masonry rebuilt as required. No further structural works required.
- Item 7 – Stone steps and associated masonry rebuilt. No further structural works required.
- Item 8 – Mortar repointed and masonry rebuilt as required. No further structural works required.
- Item 9 – Masonry rebuilt. No further structural works required.
- Item 10 – Mortar repointed. No further structural works required.
- Item 11 – Substantial lateral movement has occurred. Further structural works required.
- Item 12 – Timber ridgeboard collapsed. Further structural works required.
- Item 13 – Lateral movement has occurred. Further structural works required.
- Item 14 – Mortar repointed. No further structural works required.
- Item 15 – Mortar repointed and masonry rebuilt as required. No further structural works required.
- Item 16 – Mortar repointed and masonry rebuilt as required. No further structural works required.
- Item 17 – Mortar repointed and masonry rebuilt as required. No further structural works required.
- Item 18 – Mortar repointed and masonry rebuilt as required. No further structural works required.
- Item 19 – Mortar repointed and masonry rebuilt as required. No further structural works required.
- Item 20 – Mortar repointed and masonry rebuilt as required. No further structural works required.
- Item 21 – Mortar repointed and masonry rebuilt as required. No further structural works required.
- Item 22 – Mortar repointed and masonry rebuilt as required. No further structural works required.
- Item 23 – Stone steps and associated masonry rebuilt. No further structural works required.
- Item 24 – No visible signs of movement were noted internally. Outer skin of stone masonry to be rebuilt. Remedial wall ties to be installed in strict accordance with manufacturers specifications. Further structural works required.
- Item 25 – Mortar repointed and masonry rebuilt as required. No further structural works required.

- Item 26 - Mortar repointed and masonry rebuilt as required. No further structural works required.
- Item 27 - Mortar repointed and masonry rebuilt as required. No further structural works required.
- Item 28 - Large section of masonry wall has collapsed. Further structural works required.
- Item 29 - Lateral movement of masonry wall occurred. Further structural works required.
- Item 30 - Mortar repointed and masonry rebuilt as required. No further structural works required.

6.0 CONCLUSION

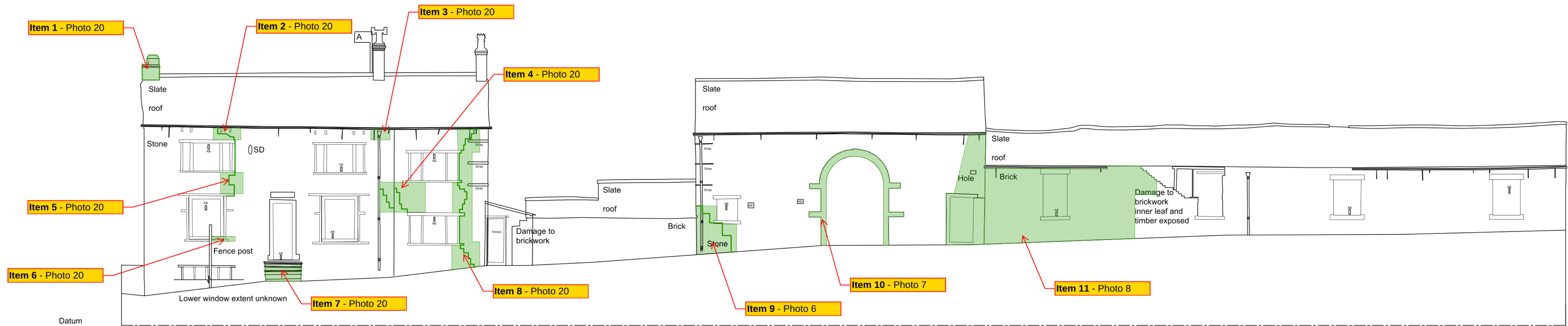
- 6.1 Edge Structural Design Limited was appointed by Grandstream Properties Ltd to undertake a structural inspection at Silver Hill Farm, Rochdale
- 6.2 We carried out a non-intrusive survey of the building on 25th March 2025.
- 6.3 The existing detached out-building is of typical construction. It is proposed to demolish this building in its entirety. Demolition works to be carried out in strict accordance with demolitions works contractor method statement and guidelines. Demolition of the detached out-building will have no impact to the 2No. listed buildings that are to remain.
- 6.4 The existing Barn comprises of three areas. An attached single storey out-building to the West wing which is proposed to be demolished in its entirety, and a single storey oblong extension to the East wing. The extension to the East wing is proposed to be part demolished.
- 6.5 The current condition of the East wing extension of the barn is in a poor state of disrepair. As referenced in section 5.0, items 11 and 13 shown the external masonry walls to the front and rear elevation are leaning outwards with large areas of missing facing bricks (Photo 3, Photo 4 & Photo 8) . This lateral movement is likely to be caused by damage the roof has sustained. The timber ridgeboard (item 12 in section 5.0) has failed (Photo 3 & Photo 13) along with the collapse of the ceiling (Photo 14) will have caused the roof to over deflect and generate a lateral thrust to the top of the masonry wall. This is noted to have occurred to both the front and rear elevation of the single storey East wing extension that is proposed to be retained. It is also noted that the external masonry walls do not have sufficient wall ties, which may have also contributed to the lateral movement.
- 6.6 The condition of the existing timber trusses (Photo 13 & Photo 14) could not be inspected close-up due to health and safety risks.
- 6.7 To the central area of the Barn is a two storey building. The existing roof structure typically looks to be in good condition. However, a number of areas to the external solid stone walls require attention. Item 29, as referenced in section 5.0, significant lateral movement has occurred. The likely cause of this may be due to the failed roof of the adjacent single storey. Item 28, as referenced in section 5.0, the upper section of the gable end wall has collapsed. This has resulted in 2No. timber purlins unsupported. To the lower section of the gable end wall is an attached single storey out-building. This out-building is proposed to be demolished.
- 6.8 The current condition of the existing farmhouse external stone walls are typically in a good state of repair. However, the East gable is experiencing bulging to the upper section of the wall (item 24 in section 5.0). Existing remedial ties have been installed previously to help prevent further movement (Photo 16). Internally, no visible signs of lateral movement related to the bulging was noticed.
- 6.9 To the lower section of the East gable end, a small single storey out-building is attached. This is proposed to be demolished.

7.0 RECOMMENDATIONS

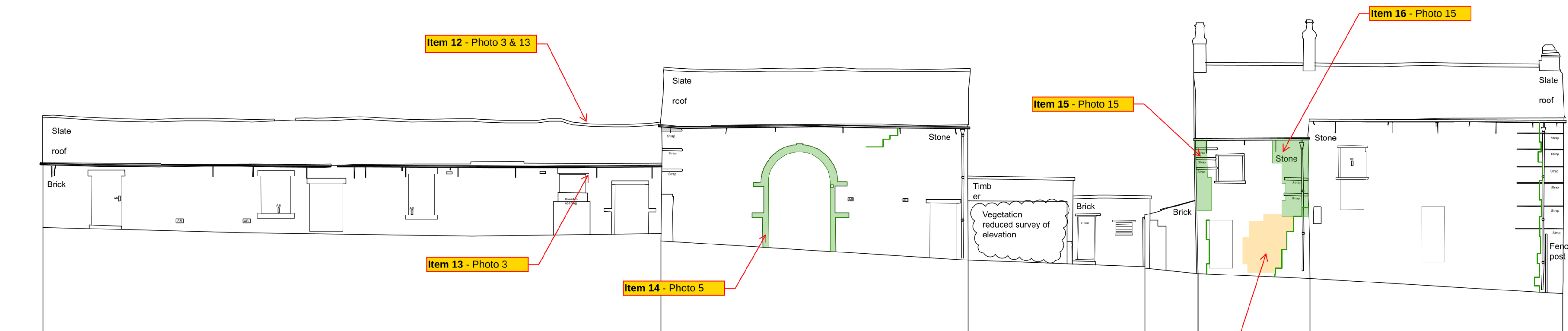
- 7.1 A number of areas to the Farmhouse and Barn will require temporary structural supports and remedial works. These will be in reference to ESD drawing 5410 SK001 (refer to Appendix A) and section 5.0.
- 7.2 Items 11, 12 & 13. A large portion of the single storey structure is to be demolished, however, due to the compromised structural integrity of the existing structure that is to remain, this will render it unstable. If demolition works are to be carried out, the gable end will require building immediately after to prevent further lateral movement of the existing front and rear elevation walls. Please note, the large amount of repair works to the remaining single storey structure comprises of over 50% of the area of the building. The temporary works and repair works required are likely to be uneconomically feasible and the likelihood of the structure to collapse is of high risk. Therefore, we recommend that the single storey structure to the East wing of the Barn is to be demolished in it's entirety and rebuilt with modern construction methods. This will require confirmation from the conservation officer.
- 7.3 Item 28. It is anticipated that the entire gable end wall will require rebuilding due to the severity of the damage. Prior to commencement of rebuilding the gable end wall, it is recommended that the existing timber roof purlins are temporarily supported. Following this, careful removal of the gable end wall may be taken down in it's entirety along with the demolition of the attached out-building, ready to rebuild the gable end wall.
- 7.4 Item 29. A portion of the East gable end wall requires rebuilding due to excessive lateral movement. It is recommended that the existing roof structure is temporarily propped at this end prior to commencement of rebuilding.
- 7.5 Item 24. The outer skin of stone to the upper section of the gable end looks to have separated from the inner skin. No temporary works are required, however, the outer skin of stone masonry is to be carefully removed and rebuilt. During rebuild, remedial wall ties are to be installed.
- 7.6 All other items in section 5.0 do not require any structural support and are considered to be minor remedial works. However, if at any time during the minor remedial works further concerns arise, it is to be promptly reported to the main contractor and ESD to be notified.
- 7.7 This concludes our recommendations. We will provide further information for the remedial works requiring structural input upon agreement of the above items.

Appendix A

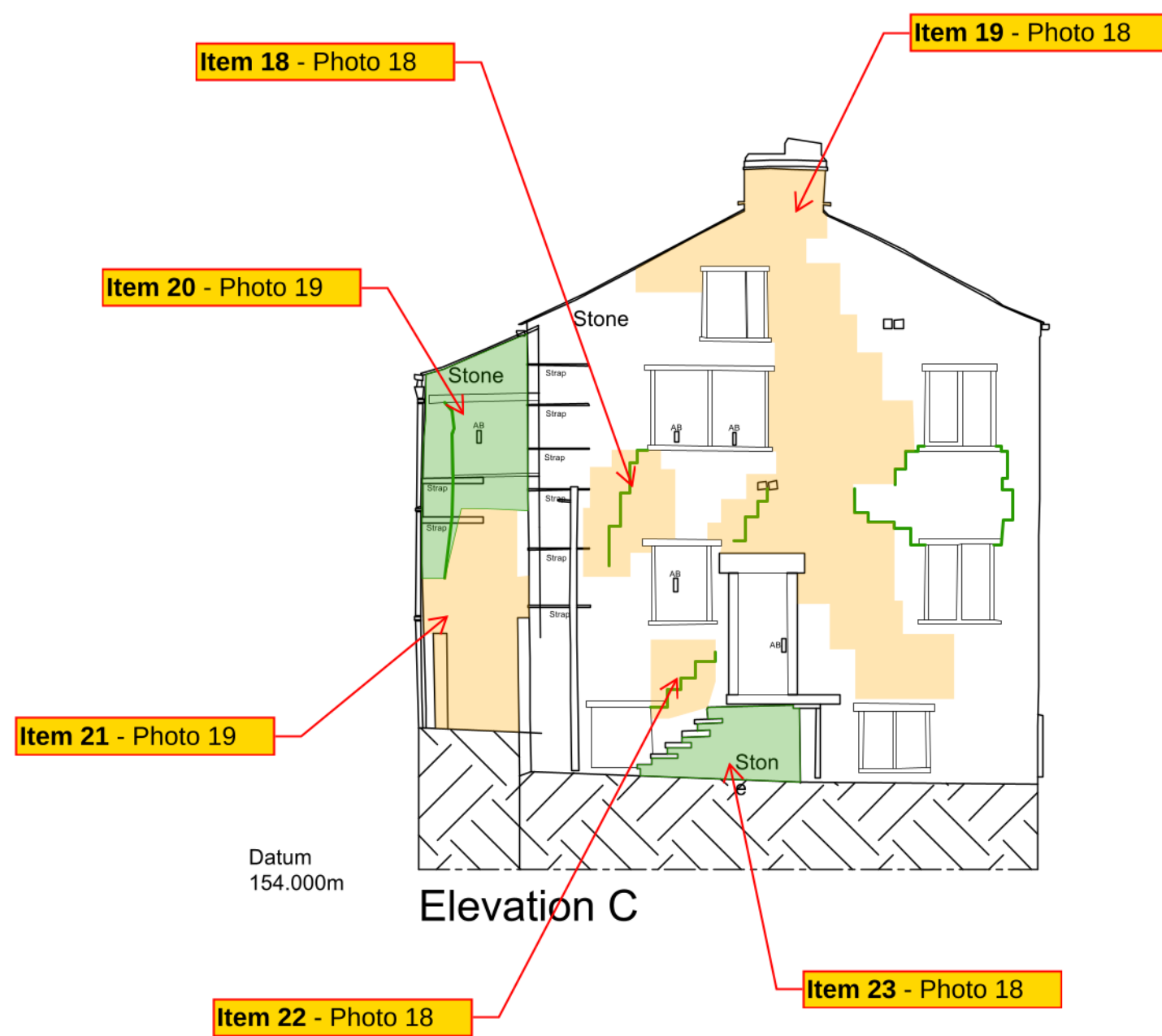
Ref: 5410 SK001 Schedule of Repairs



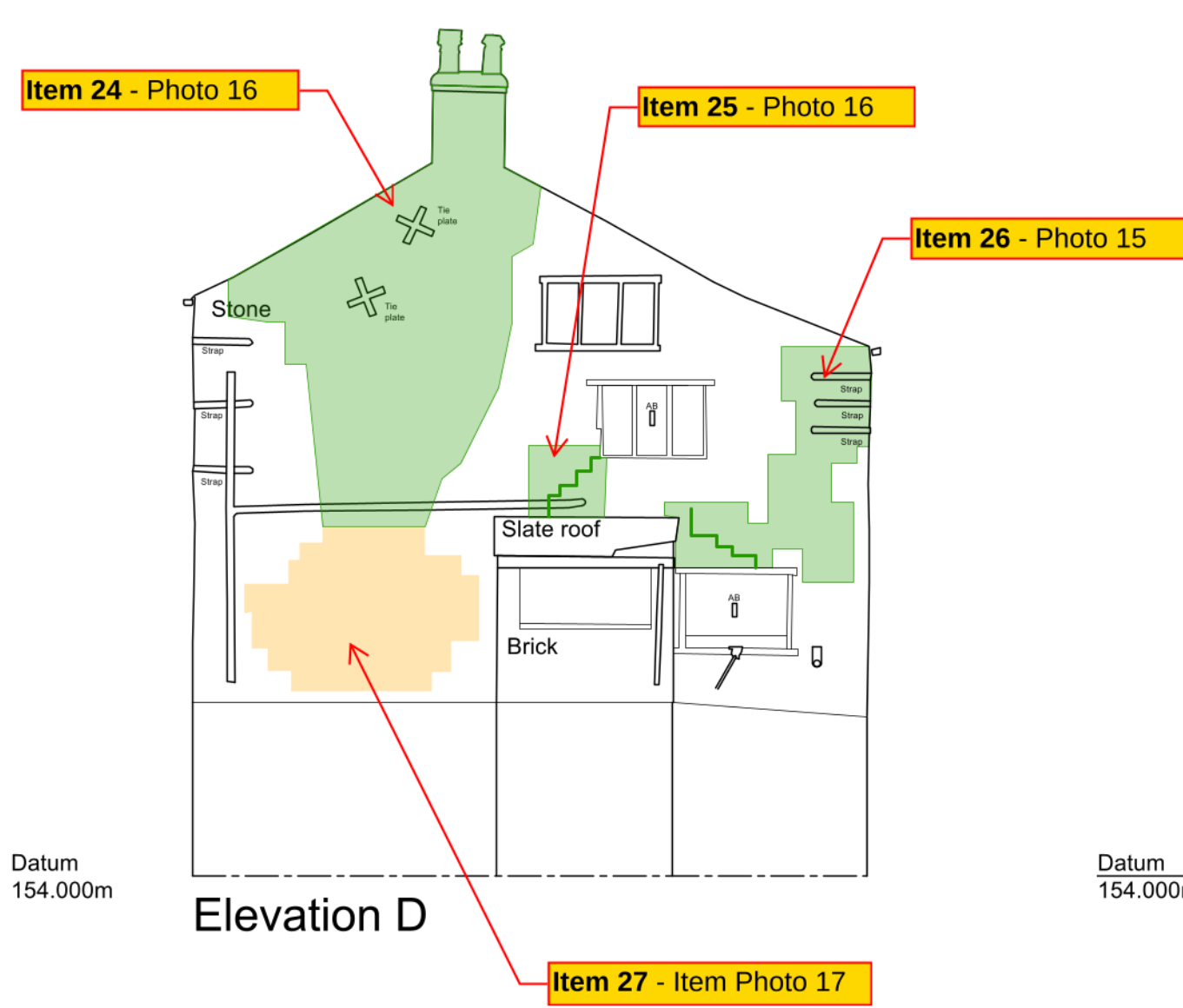
Elevation A



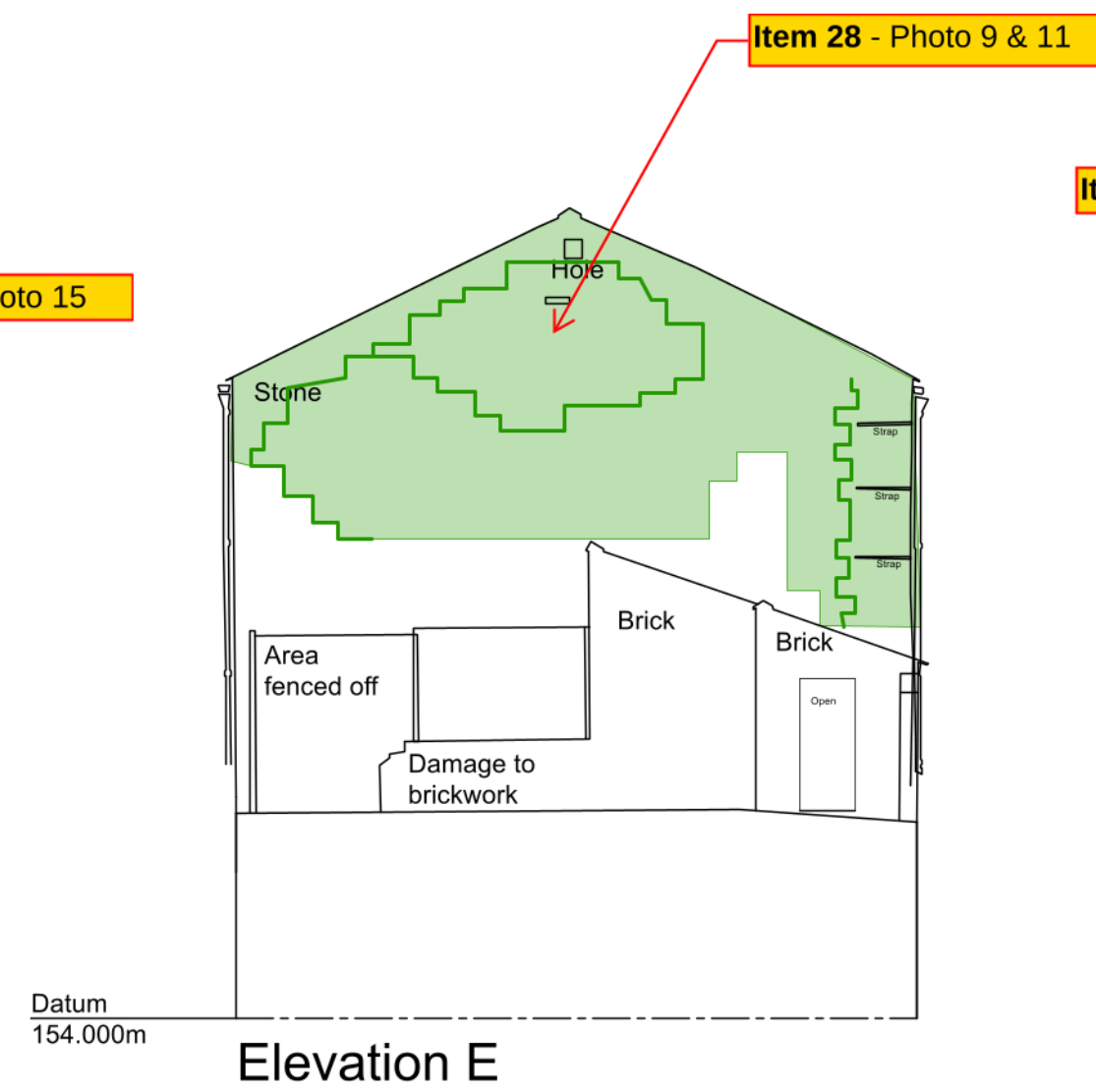
Elevation B



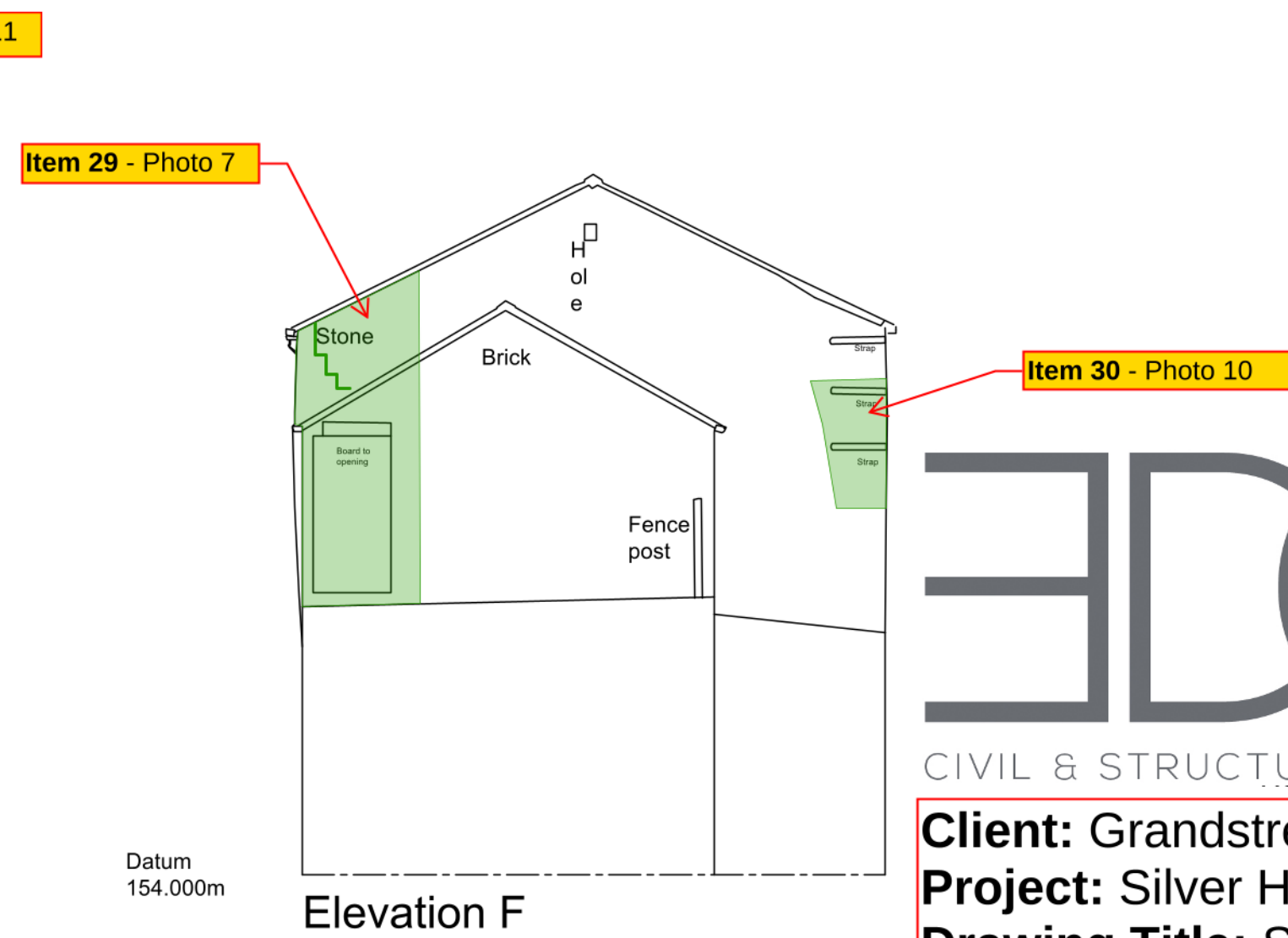
Elevation C



Elevation D



Elevation E



Elevation F