

STRUCTURAL CALCULATIONS

57 HIGH STREET- ASHWELL

March 2025

DESCRIPTION

Conservation repairs to Grade II* listed terraced property with 2 storeys + cellar/ basement. The repairs are required to restore structural adequacy to the cellar clunch chimney stack base and loadbearing internal wall. Degradation has been caused by high humidity levels in the cellar following a single storey extension constructed to the rear of the property in 2002. This problem was resolved in the last few years with the provision of ventilation ducting. However, the clunch surfacing and mortar are exhibiting long term softening and deterioration to the point where intervention is necessary in order to avoid structural instability.

The property Listing Entry is noted below:

List Entry

1347311

ASHWELL HIGH STREET (South side) Ashwell Nos 57 and 59 (formerly listed as the Bakery)

[Formerly listed as Nos. 57, 59 and 61 (Day's Bakery). Previously listed as house occupied by Day's Bakery and tenants]

GV II*

House and shop in long uniform range, built as hall of the Brotherhood or Guild of St. John the Baptist in the Church of Blessed Mary of Ashwell, formed 1476. The building is c.1500, extended by an identical bay at left end in late C16. Timber frame; exposed close studding on jettied upper floor. Two storeys. First floor has seven mid C19 flush sash windows in moulded wood frames; ground floor with four canted casement bays, the right one a bracketed shop window. Two flush panel doors, the right one half glazed. On left centre is the blocked opening of the former cross passage. A three-bay hall was to right of this. Main stack on towards right is C17 or possibly late C16, an insertion in previously unheated hall.

Interior of left house (No. 57) shows heavy, wide-chamfered floor beam. Cellar with clunch and brick walls on left. Interior of No. 61 (Bakery) shows large clunch fireplace with timber lintel. Inside hall is the four-centred wooden arch of the cross passage door. Important group value in street. (RCHM Typescript).

Listing NGR: TL2673539644

57 HIGH STREET ASHWELL

Repairs and restoration to chimney base- in lower ground floor area

Project No: 3035

April 2025

Property Assessment

The property is Grade II* listed constructed from clunch stonework and brickwork to the basement cellar and ground floor and timber framing to the first floor. A number of repairs are evident within the cellar area including masonry packing with blockwork and brickwork and the addition of a steel beam to support floor and wall elements above.

The house has been extended to the rear within the last 25 years. It appears that the extension works have compromised the natural ventilation in the basement ventilation ducting has been added to reduce the humidity within the area. It is likely that a period of high humidity has caused degradation to the clunch stonework supporting the central chimney stack. The surface of the stonework exhibits softening to 5-10mm depth and the lime mortar joints to the stonework are soft and crumbling.

The steel beam supporting the ground floor above cantilevers over a precast concrete lintel over a patch of thin cob (soft clay mixed with straw/ twigs). The beam has been temporarily propped as the lintel is inadequately supported.

The repair proposals comprise the following:

- Replace the thin cob material with yellow stock bricks with lime putty mortar in order to offer adequate support to the steel beam
- De-frass the clunch surface and replace damaged stones
- Replace the degraded lime mortar with lime putty mixed with stone fill (for large voids)

The following are appended:

- Location plan
- Photographs showing the degraded stonework to chimney base
- Sketches indicating the extend of the repair work
- Floor plans for the area above and around the chimney stack

Specification Notes

All works to be carried out by experienced conservation specialists in accordance with best practice for conservation projects.

All existing pipes and services to be temporarily removed from wall face and reinstated on completion.

Repair Specification 1

Replace soft cob

Prop existing beam and lintel. Replace damaged/ soft cob infill with soft bricks (yellow stocks) dressed to match existing with lime putty mortar finished as noted below.

Repair Specification 2

De-frass clunch stone surface

Remove loose dust, softened and spalled stone with hand tools (light chiselling and wire brushes) to maximum 20% of the stone thickness. If softened stone encountered deeper than 20%, remove the stone in its entirety and replace with new clunch stone dressed to match existing.

Repair Specification 3

Replace existing softened mortar

Remove existing soft mortar with hand tools (light chiselling, wire and soft brushes) in maximum 450mm bays. Cut back the mortar to form a square edge with care taken to avoid damaging the stone. Thoroughly wet the mortar/ stone surface and allow time for water to soak into the stone (typically 8-12 hours) rewetting during this period.

Re-point with lime putty mortar. When filling joints, ensure that the mortar is thoroughly pressed home applying sufficient pressure to the tool forcing mortar into the whole of the joint. When placing the mortar, avoid filling large voids with mortar. Pack out with appropriately sized stones that act as aggregate thus reducing the mortar mass. Finish the pointing fully flush avoiding ledges to the stone.

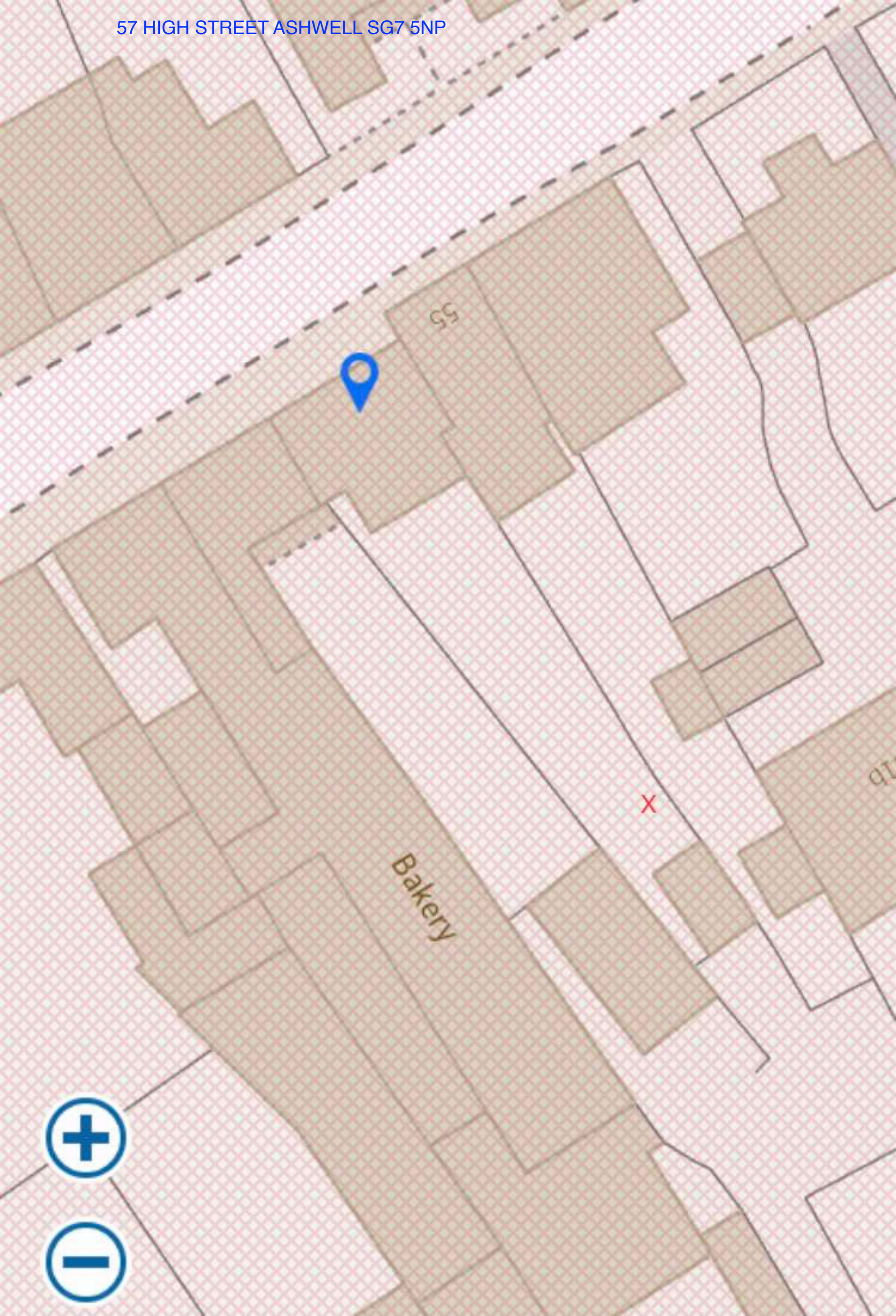
Finish with a churn brush to strike the mortar to compact it within the joint in a tamping action, throwing the brush square onto the mortar, to compact the mortar and close up any initial shrinkage that may have occurred, thus improving the contact between mortar and masonry. This tamping operation should be further repeated at an appropriate time (12 -48 hours) while the mortar is in a suitable state to receive such treatment.

Repair Specification 4

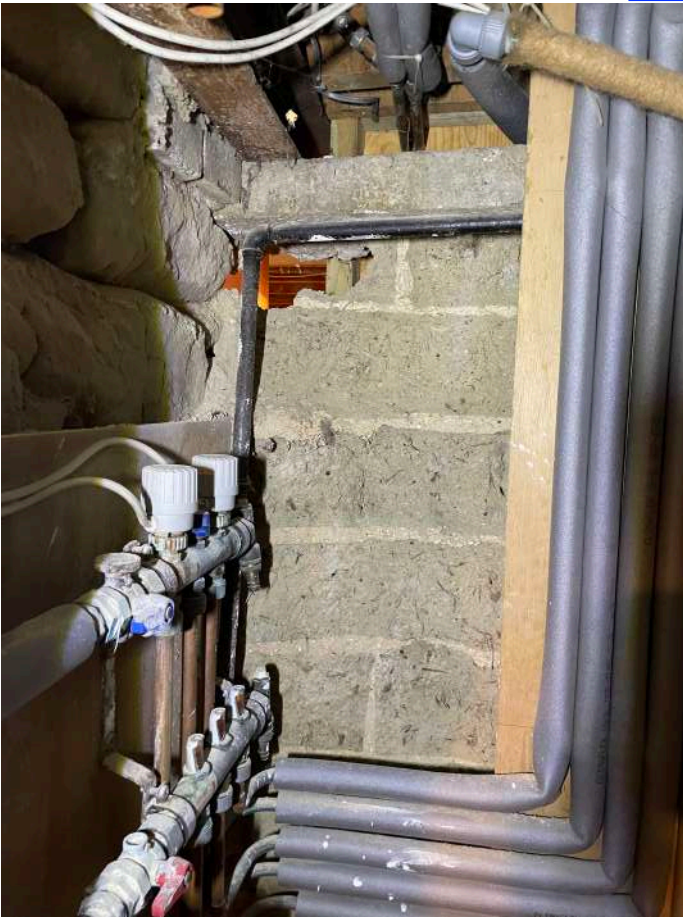
Remove board obscuring wall

Repair and repoint as noted above. Boarding to be reinstated on completion.

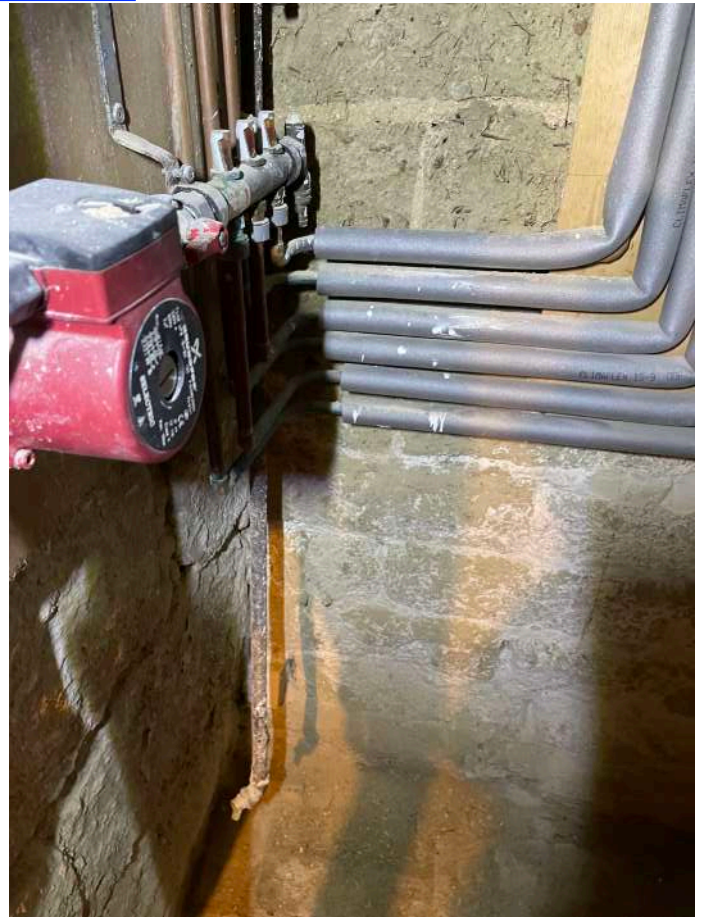
All services (pipework, cables and ventilation ducting) to be removed to allow access for the works, and fully reinstated on completion.



57 High Street Ashwell
March 2025



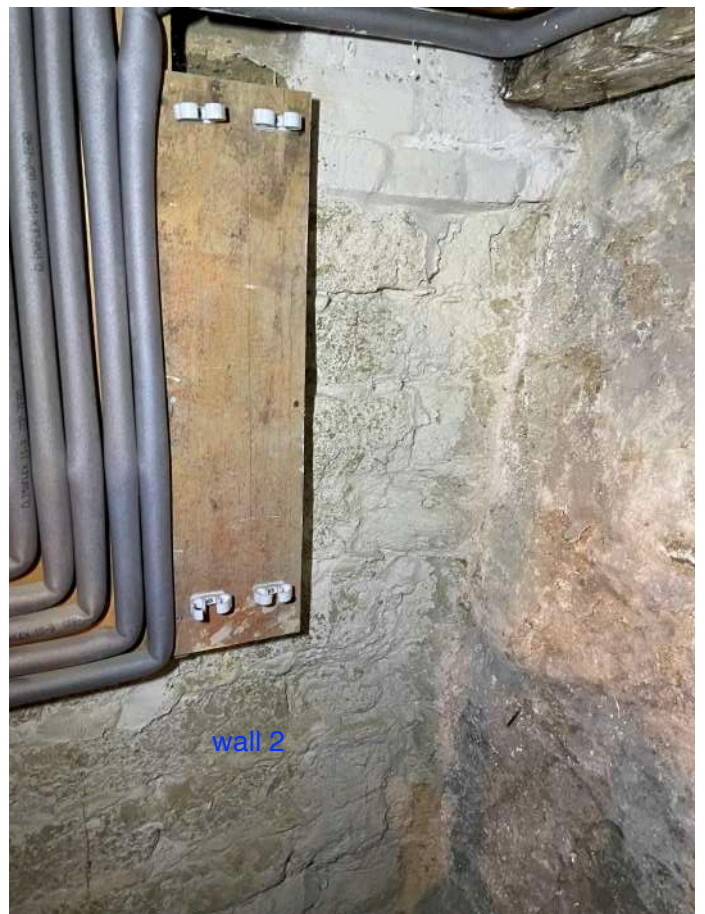
Wall 1
soft clay blocks to be replaced



Wall 1
clunch below soft clay blocks



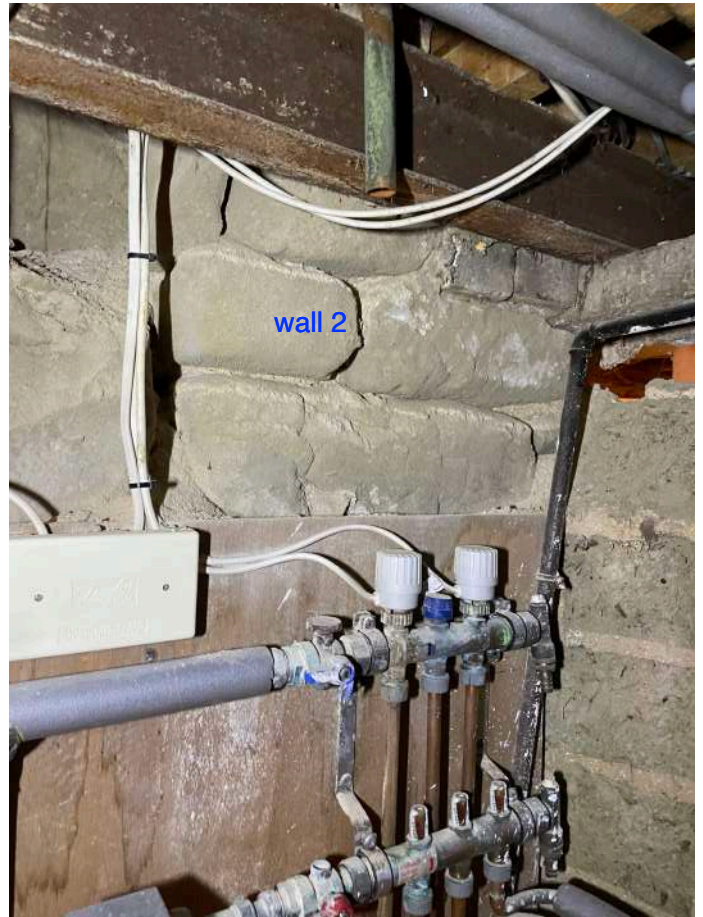
Wall 1/2 junction



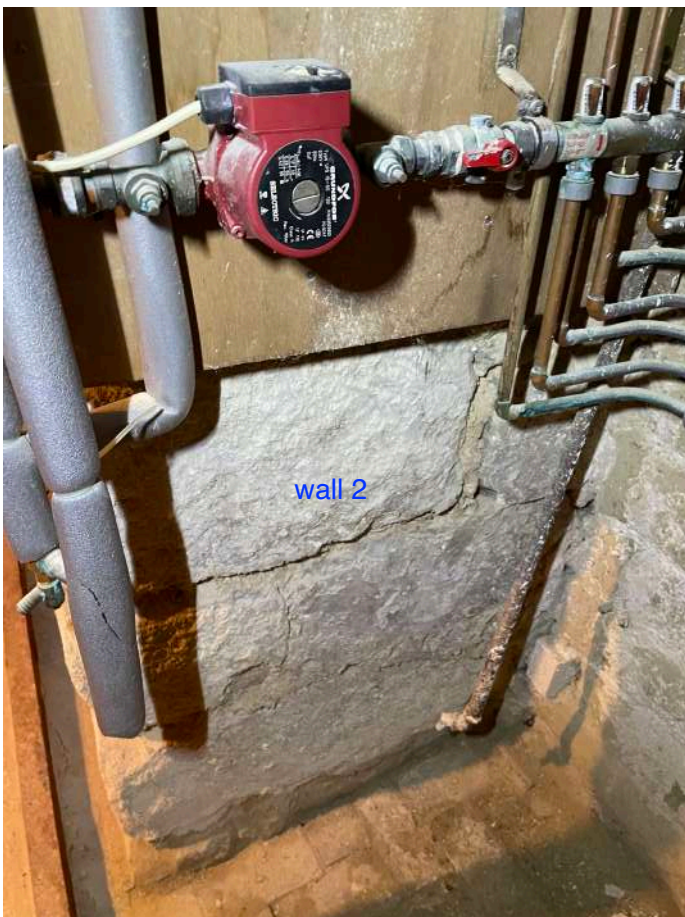
Wall 1/2 junction



[Void at top of Wall 1](#)



[Beam supported on Wall 1 lintel](#)



[Wall 2](#)



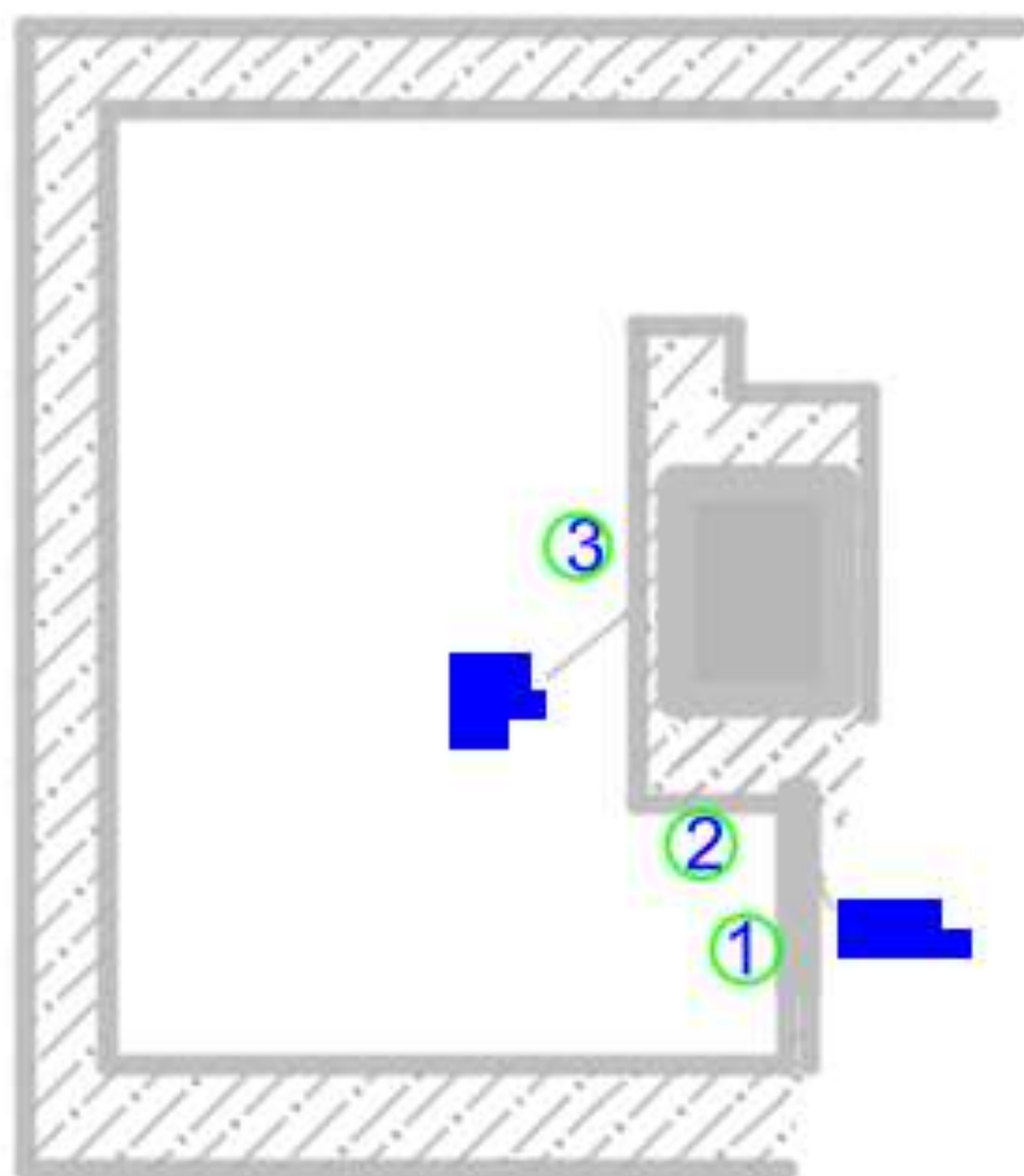
[Wall 3](#)



[Wall 3](#)



[Wall 2 loose mortar](#)

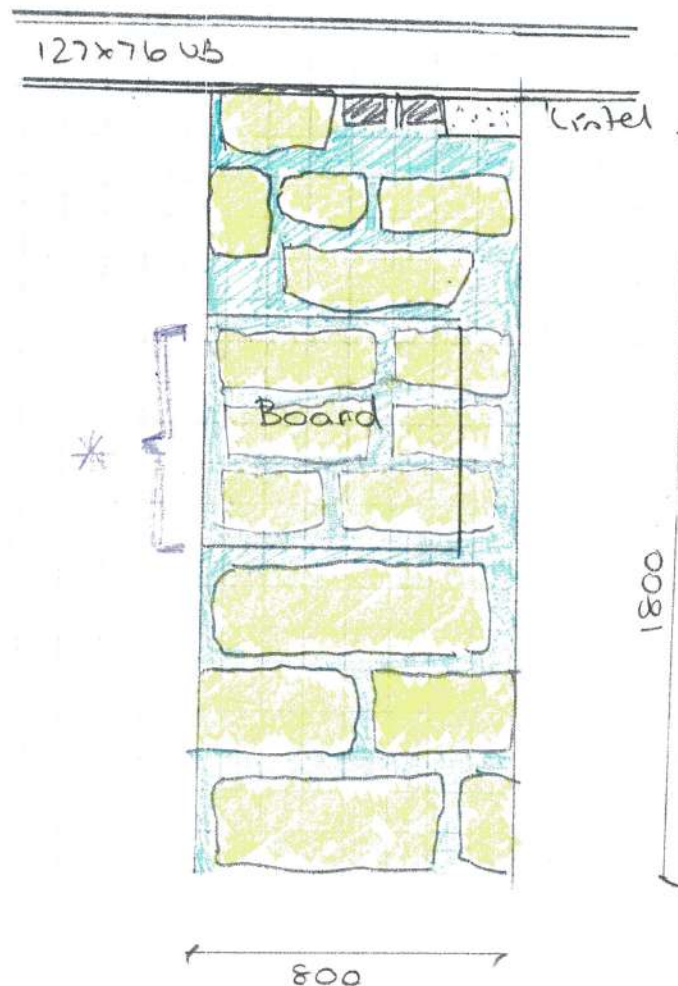
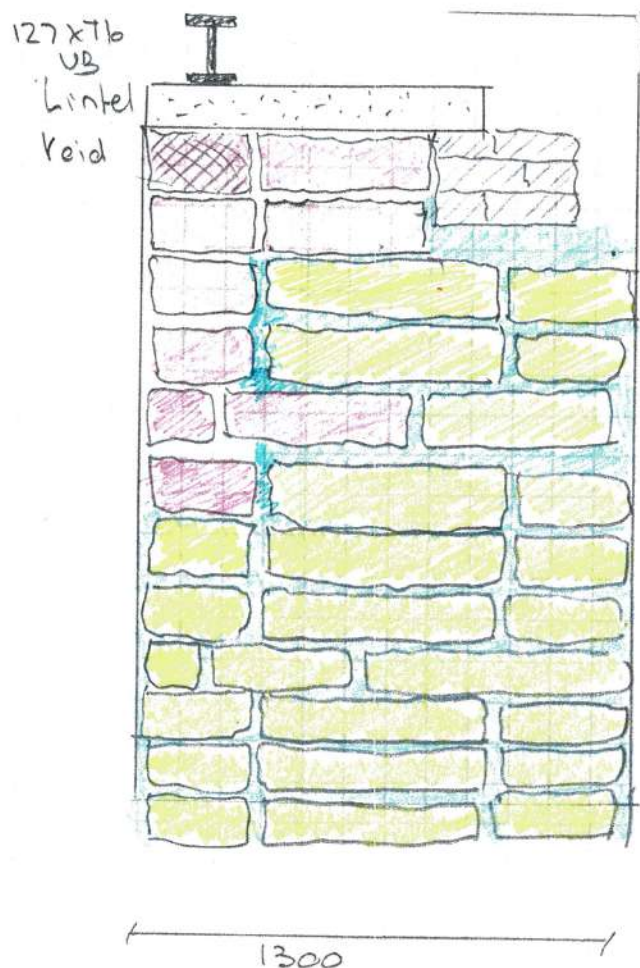


LOWER GROUND
WALL REPAIR PLAN
ref specification notes

Project Title 57 High St Ashwell	Project No 3035
Date March 2025	Sheet No S001

Wall ①

Wall ②



[Repair Specification 3](#)



[Repair Specification 1](#)



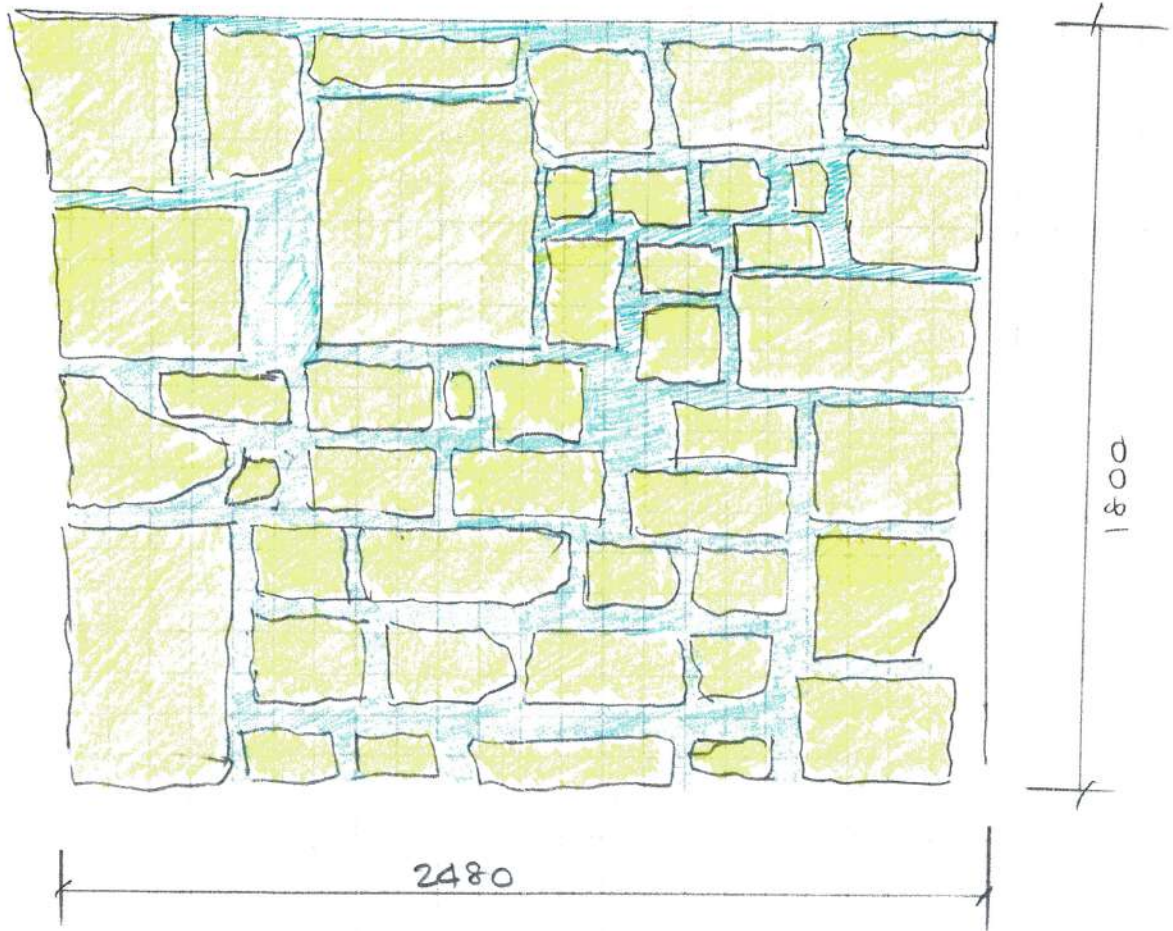
[Repair Specification 2](#)



[Repair Specification 4](#)

Project Title 57 High St Arncliffe	Project No 3035
Date March 2025	Sheet No Sk 02

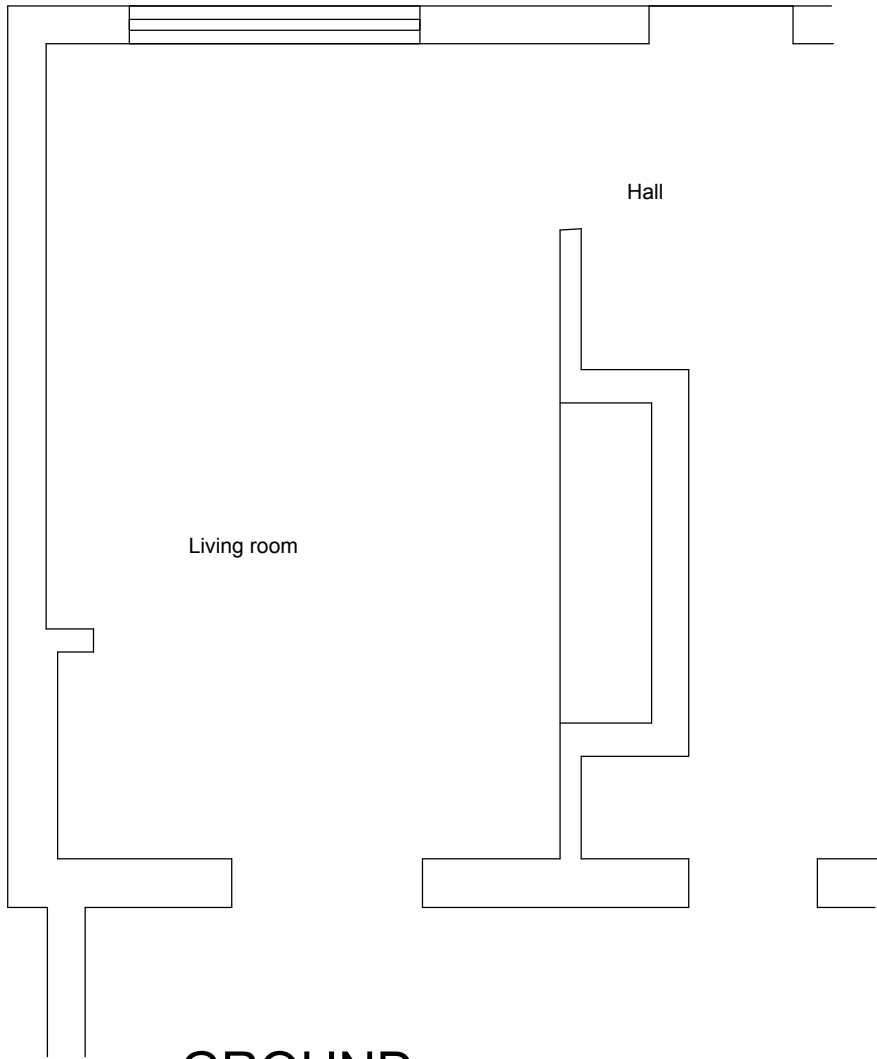
Wall 3



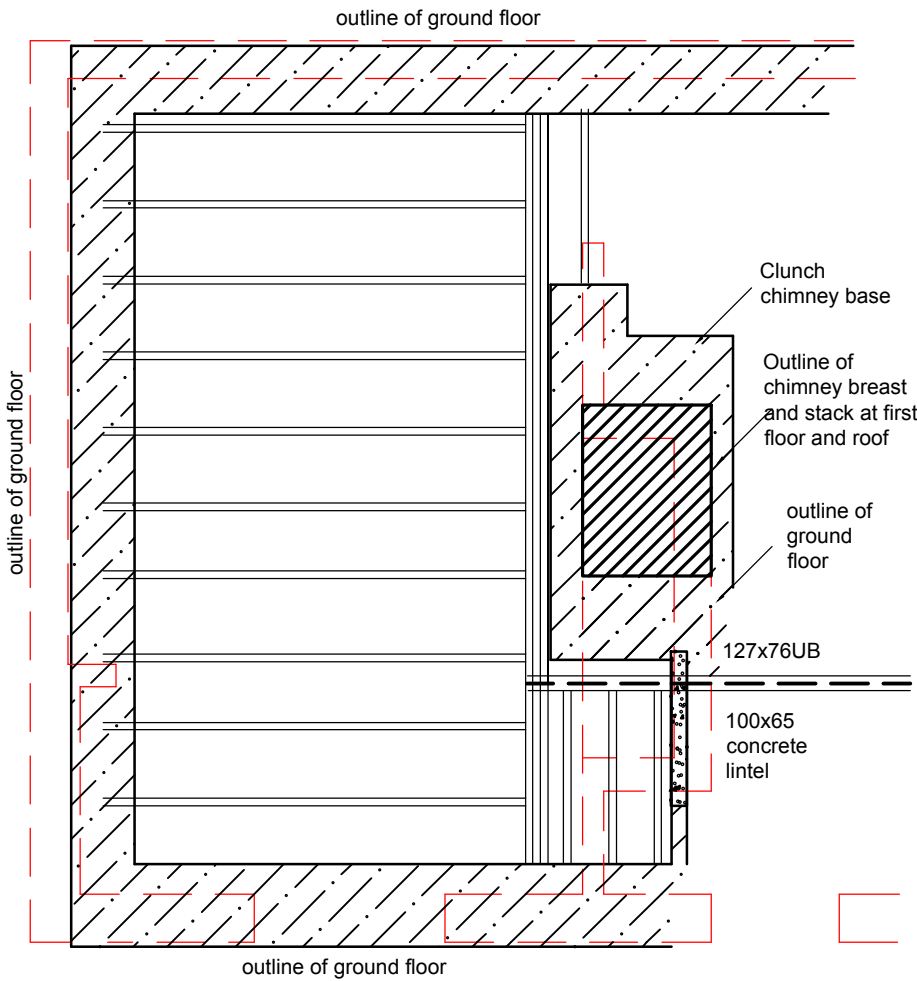
[Repair Specification 3](#)



[Repair Specification 2](#)



GROUND
FLOOR PLAN



LOWER GROUND
FLOOR PLAN

DATE	DESCRIPTION	BY
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DRG STATUS	LISTED BUILDING CONSENT	
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CLIENT	
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PROJECT TITLE	57 HIGH STREET ASHWELL
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DRG TITLE	LOWER GROUND FLOOR REPAIRS FLOOR PLANS
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CORNERSTONE consulting engineers ltd	59 OLD FORT ROAD BN43 5RL TEL: 01462 379380
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JOB NO 3035	DRG NO 1000	REV —	SCALE 1:50@A1 UNO MARCH 2025
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