

STRUCTURAL REPORT ON RETAINED FAÇADE

at

Red Lion Street
Northern Quarter
Manchester



for

Vomoo Ltd
17 Church Street
Wellington
Telford
Shropshire
TF1 1DD

Contract No: 11748
Dated: February 2025

Prepared by	Signature	Date
Jane Entwistle BSc(Hons) CEng FStructE MICE Conservation Accredited Engineer Technical Director		04/02/2025
Verified		
Heather Mannings BEng (Hons) CEng MICE MStructE Director		05/02/2025

Issue	Description	Date	Originator	Approved
01	First issue	05/02/2025	JE	HM

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THOMASONS

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1.0 INTRODUCTION

- 1.1 Thomasons was instructed by Ben Bennett of Vomoo Ltd to undertake an inspection of the retained façade of 2 Union Street, Manchester. The remainder of the building, backing onto Red Lion Street, has previously been dismantled.
- 1.2 Thomasons had previously reported on this retained façade for a different client in April 2023 and October 2023.
- 1.3 Jane Entwistle, a Conservation Accredited Engineer visited the site on behalf of Thomasons on 28 January 2025 for inspection purposes. The weather at the time of the visit was dry and bright.

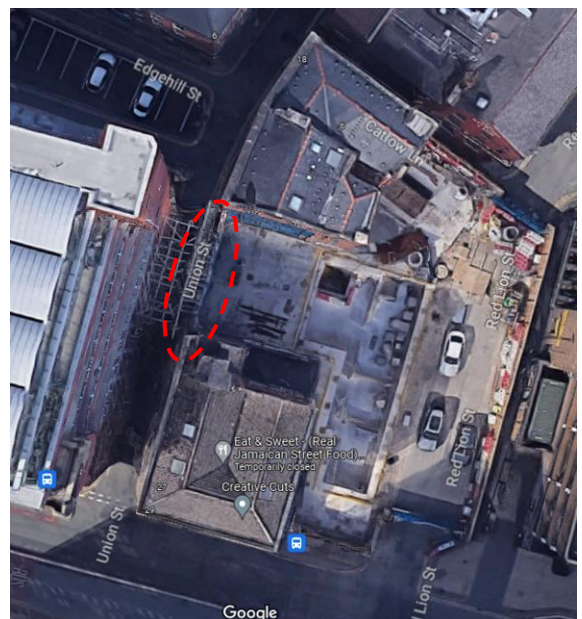
2.0 BACKGROUND

- 2.1 The property that had previously formed 2 Union Street formed part of the proposed Union Square / Red Lion Street redevelopment.
- 2.2 Whilst the property is not listed, it is set within the Smithfield Conservation Area of Manchester. The extent of this area can be seen from the following link.
https://www.manchester.gov.uk/download/downloads/id/12686/smithfield_conservation_area_map.pdf

2.3



Extract from Historic England map



Site location (Image taken from Google Maps)

- 2.4 We have been informed that in 2019 the rear of the building was demolished leaving only the front elevation wall. A façade retention scheme is reported to have been completed in September 2019.
- 2.5 Foundation works for the new building behind the retained façade were completed in late 2019. Drainage and basement works were undertaken in late 2020.
- 2.6 For various reasons no further works have been undertaken to develop the site and hence no works have been undertaken to the façade since the installation of the retention system in September 2019.
- 2.7 Vomoo Ltd took over the site in late 2023 and are seeking confirmation of the structural condition of the retained wall.

3.0 GENERAL DESCRIPTION

- 3.1 The wall comprises an approximately 330mm thick brick construction, the outer leaf of which is apparently laid in Flemish Bond and the inner leaf in an English Cross Bond with header courses generally at three course intervals. The nature of the internal bond indicates that the headers in the outer leaf are probably snap headers which do not tie the outer leaf back to the inner leaf of brickwork.
- 3.2 The façade retention system currently shrouds both sides of the wall to varying degrees. Views of the front elevation before it was scaffolded are available from Google Street View. These indicate that the eaves detail may have varied across the wall.
- 3.3 The front of the wall, facing onto Union Street, is fully supported by a scaffold structure which fills the full width of the street. Large containers of water provide kentledge to the scaffold structure. The ends of the scaffold are hoarded to prevent unauthorised access.

3.4



A view of the front elevation taken from Google Street view shows that there was previously an eaves detail extending at least four courses of brickwork above the brick arch lintel at the northern (lefthand) end



Eaves detail at southern (righthand) end of elevation appears to be stone copings

3.5 On the rear face of the wall, vertical ladder beams tie the wall back to the external scaffold structure. The internal face of the retention structure has been shrouded in debris netting.

4.0 OBSERVATIONS

4.1 During our April 2023 visit a visual inspection was made of the wall from each level of the external scaffold and from ground level within the building footprint. The October 2023 inspection was undertaken from ground level only due to the scaffold not having been certified. During the most recent visit to site the inspection was undertaken from ground and first floor levels looking for significant variations in the condition of the wall.

4.2 The observations recorded below represent a combination of the points noted during the three visits. It should be noted that the condition of the upper levels of the wall can be expected to have deteriorated since our initial comprehensive inspection. The full extent of the deterioration may not be fully described in this report where safe access was not available to make a close up inspection during our latest visit.

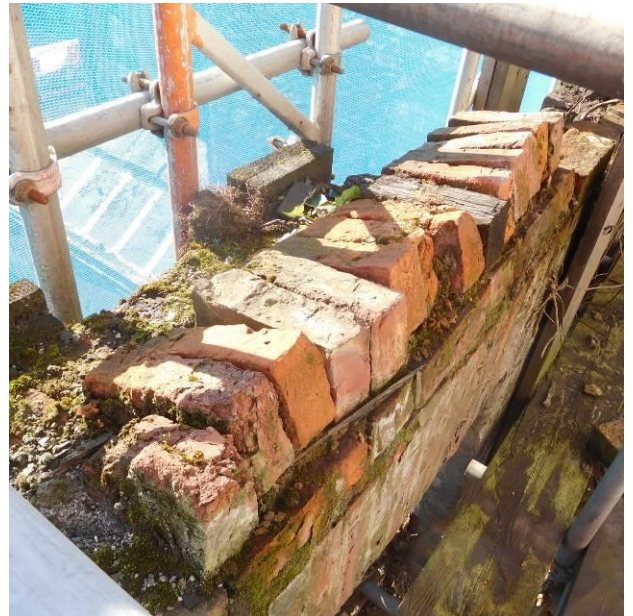
4.3 For the purpose of this report the terms left and right are used in the sense of viewing the wall from Union Street.

- 4.4 The vertical alignment of the wall did not match that of the neighbouring building to the lefthand side. The wall under consideration appeared to incline, or bulge, outwards (towards Union Street) between floor levels. A gap was noted between the wall and the adjacent building but this did not appear to be indicative of movement having occurred as the construction was tight in some locations.
- 4.5 At the top of the wall it was noted that a “brick on edge” course capped the outer 9” of the wall. It is likely that this was the top course of the wall below a timber eaves detail. The bricks were loose and not well bedded; this was leaving the top of the wall vulnerable to water ingress. A number of the “on edge” bricks were missing leaving those areas of the wall completely unprotected against water ingress.
- 4.6 Notwithstanding the “brick on edge” detail along the top of the wall this, where present, only covered the outer 9” of the wall leaving the inside third of the wall thickness unprotected.

4.7



Typical brick on edge detail where present (April 2023)



Distorted brick on edge detail over window opening (April 2023)

- 4.8 Towards the righthand end of the wall there was a panel of relatively modern rebuilt/infill brickwork. Over this length the wall was capped with a concrete lintel. It appeared that this did extend over the full thickness of the wall providing protection from water ingress.

- 4.9 At the far righthand end of the wall the brickwork extended approximately 1m higher than the concrete lintel noted above. The original configuration of this wall is not known.

4.10



Concrete capping lintel to righthand end of wall
(April 2023)

4.11



High section of wall at righthand end of façade (April 2023)



High section of wall at righthand end of façade (April 2023)

- 4.12 The next lift down of the scaffolding gave access to the reveals and heads of the second floor window openings. Some remnants of window frames remained but the brickwork of the reveals was damaged and where internal timber remained it was in a poor condition.

- 4.13 The stone cill of one window was missing, this did not appear to be causing a significant detriment to the wall as this location was reasonably protected by the scaffold structure. However, the remains of the timber window frame were rotten and collapsing; this was leaving the brickwork above unsupported. It could be seen that the inner and outer leaves of the wall were separating.

4.14



Rotting timber frame leaving unsupported brickwork (April 2023)



Unsupported window head separating from outer leaf of brickwork (April 2023)

4.15

The panel of brickwork to the left of the infill panel at the righthand side of the elevation was in a poor condition. Extensive washing out of the mortar joints had occurred as the result of a missing rainwater pipe (since at least 2014).

4.16



Very poor condition brickwork from missing rainwater pipe (April 2023)

4.17 Moving down the scaffolding to first floor level severe damage to the inner leaf was apparent where window frames had been removed. Inner lintels were missing leaving the brickwork above unsupported.

4.18



Damaged brickwork reveal (April 2023)



Unsupported brickwork of inner leaf above former window opening (April 2023)

4.19 A rotten and collapsing timber lintel was noted above one of the ground floor window openings. The brickwork above this was in a poor condition and starting to suffer from localised collapse. It could be seen that the outer leaf of the wall had collapsed due to failure of a timber lintel and that pockets were now visible in the wall which would have served to support timber first floor joists. A single skin of brickwork remained and appeared to be precarious above this opening.

4.20



Distressed brickwork above rotten lintel (April 2023)



Joist pockets in wall (April 2023)

4.21

No major structural defects were noted to the external face of this wall at ground floor level.

4.22

An inspection of the internal face of the wall was made from ground level. A detailed inspection was restricted by the presence of the debris netting around the façade restraint structure. However, a reasonable assessment was made as noted below.

4.23



Internal elevation of façade (April 2023)



Internal elevation of façade (January 2025)

- 4.24 A panel of relatively recent brickwork was noted at high level at the righthand (southern) end of the elevation. This panel had been noted externally to be an infilled opening. When viewed from inside the building the panel appeared to be supported on what appeared to be a roughly cast insitu concrete lintel. The details of this lintel were not apparent, but there appeared to be brick cast in, or against, the concrete. At the righthand end of the lintel there was an end of a steel beam embedded in the wall; this was roughly encased by concrete and the surrounding brickwork was significantly disturbed.

4.25



Brick infill on in situ concrete lintel (April 2023)



Detail of southern end of lintel (April 223)

- 4.26 In the centre of the elevation the former main doorway was evident at ground floor level with a large window opening at first floor level above. The lintel above the first floor window had failed and a section of the inner leaf of the brickwork had fallen. Cracking above the panel of missing brickwork indicated that a further failure is likely to occur when the current restraint measures are released.

4.27



Cracking above missing brickwork

Panel of brickwork missing

Significantly disturbed panels of brickwork

First floor window above main entrance door (April 2023)

4.28

The brickwork immediately above the main entrance door appeared to be disturbed and the presence of header bricks indicated that there may have been walls bonded into the front elevation prior to the demolition. A timber lintel was noted above the arch of the doorway, the brickwork above this was disturbed. No significant deterioration had occurred since our 2023 inspections.

4.29

A number of timber inserts were present in the inside of the wall, it is likely that these will have been timber grounds for the connection of panelling or other finishes.

4.30



Brickwork around head of main entrance door (April 2023)



Brickwork around head of main entrance door (January 2025)

4.31 At the lefthand (northern) end of the elevation a shallow timber beam spanned over a side entrance doorway. It appeared that this beam had previously formed a bulkhead and supported the inner 9" leaf of the wall. In addition, it could be seen that the beam had also supported the timber joists of the first floor. The timber lintel was deflected in shape and cracking in the plaster of the wall above confirmed that movement was affecting the brickwork behind.

4.32 A series of joist pockets at first floor level had been left open when the building behind was demolished. It appears that great care was not exercised when the joists were removed which resulted in significant damage to the brickwork around the pockets.

4.33



Cracking in panel above side entrance doorway
(April 2023)



Cracking in panel above side entrance doorway
(January 2025)

4.34



Damaged brickwork around first floor joist pockets (April 2023)



Damaged brickwork around first floor joist pockets
(January 2025)

4.35 Joist pockets were also apparent at ground floor level; these were generally in a better condition than those at first floor level.

4.36



Joist pockets at ground floor level (April 2023)



Joist pockets at ground floor level (January 2025)

5.0 DISCUSSIONS AND CONCLUSIONS

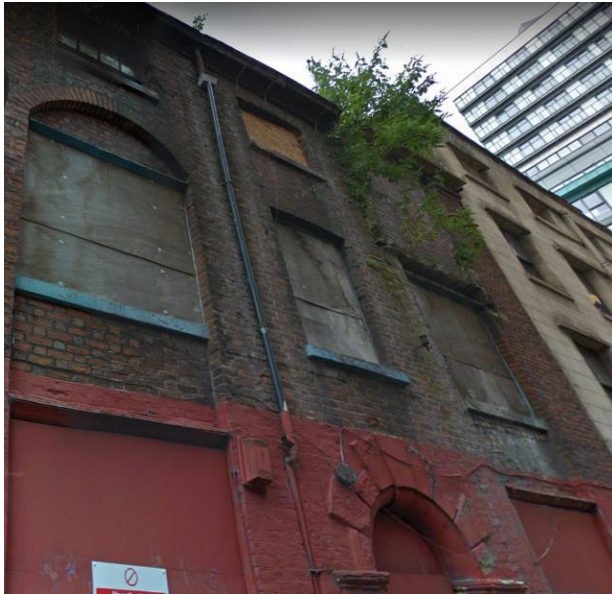
5.1 The front elevation wall of this building has suffered three main factors:

- Water ingress prior to demolition of the main part of the building
- The manner of the demolition work
- Water ingress since demolition

5.2 Google Street view from 2014 shows significant growth of Buddleia on the front elevation where a rainwater pipe was missing. It could also be seen that the gutters towards the righthand (southern) end of the elevation may have been missing or ineffective, especially over the infilled second floor opening at that end of the elevation. Other areas of the front elevation also showed evidence of significant water damage to have been present in 2014.

5.3 The lack of effective rainwater goods had allowed water to penetrate the wall which, in turn, had exacerbated the vegetation growth on the elevation. The combination of water ingress and root activity will have disrupted the masonry and weakened its effectiveness as a structural unit.

5.4



2014 view of building taken from Google Streetview

- 5.5 The demolition appears to have been undertaken in a rough manner which has resulted in significant damage around joist pockets at first floor level and also around window openings. There are a number of missing or severely deteriorated timber lintels some of which have failed causing the brickwork above and to their sides to collapse and / or become loose and dislodged.
- 5.6 The ongoing water ingress especially through the unprotected top of the wall will be continuing to have a detrimental effect on the masonry. The high level brickwork is loose and in places distorted.
- 5.7 It was noted that the wall was distorted at its lefthand (northern) end relative to the adjacent building. The nature of the brickwork bonding indicates that the construction of the wall is vulnerable as the inner 9" leaf and the outer 4" leaf do not appear to be adequately bonded. The Flemish bond of the external leaf shows alternating headers and stretchers in every course. This should indicate that the two leaves of the wall are bonded together by the header bricks. However, examination of the brickwork bonding of the inner leaf clearly shows that the external headers do not extend through into the inner leaf. Thus it is apparent the external headers comprise generally, if not entirely, snap headers.

- 5.8 The inner leaf is in a poor condition generally above ground floor window head level. This less durable face of the wall has lost its protective plaster and has essentially been left exposed to the elements since the building was demolished in 2019. Its condition is generally beyond reasonable repair and we would advocate taking this leaf down to ground floor window head level.
- 5.9 Whilst the outer leaf of the wall does appear to be in a condition that one would expect to be able to satisfactorily retain and repair this would, in fact, be precarious to attempt if the inner leaf is taken down. At present separation can be seen between the two leaves of the wall and we do not consider that there is sufficient integrity to make tying the two leaves using remedial ties a viable option above the level of the ground floor window heads.
- 5.10 During the most recent inspection a detailed inspection of the upper reaches of the wall was not undertaken. However, it was noted that the level of deterioration of the lower reaches was not significant and the recommendations set out in our previous reports remain appropriate.

6.0 RECOMMENDATIONS

- 6.1 In view of the condition of the wall we consider that the safest and best long term solution will be to carefully dismantle the remaining wall by hand down to the level of the ground floor window heads. The bricks of the outer leaf should be retained and cleaned prior to reuse in the reconstruction of the wall.
- 6.2 The joist pockets at ground floor should be infilled.
- 6.3 The inner and outer leaves of the remaining wall should be stitched together using remedial ties inserted from the inner face of the wall before it is replastered.
- 6.4 Any timber inserts remaining in the retained wall should be removed and the slots infilled with brickwork.
- 6.5 The construction of the new wall above the ground floor window head level will need to be designed to comply with modern building regulation requirements.