

Tara Meehan  
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1 Fashion Street, Spitalfields  
London  
E1 6LY

24<sup>th</sup> September 2024

Dear Tara,

772: Leather Lane – Structural Inspection

We write following our visit with you and our mutual client to the upper apartment at 87 Leather Lane, Clerkenwell, EC1N 7TS on the 13<sup>th</sup> September this year to confirm our comments made during the visit.

- Scope of inspection and reporting

As you know we carried out a site visit to the upper apartment at 87 Leather Lane on the 13<sup>th</sup> September for a general structural inspection of the property. As agreed this was not intended to be an exhaustive building fabric or structural condition survey, but instead a visual inspection of the primary structural elements with a view to highlighting significant structural issues with the existing building likely to require substantial structural intervention / remedial works or existing structural constraints which may have implications for your proposed refurbishment works. Our inspection was visual only – with no samples taken for testing. At our request floorboards in several locations throughout the building were removed locally to allow us a view of the existing floor build-ups. This report was prepared for the attention of our client Karmen Jelincich only and no liability to any third party can be accepted for this report or any part of this report. This report starts with a description of the existing building and the condition of some of the key elements. Comments are also given on the implications of some of the proposed alterations and finally some key structural recommendations are given for consideration as the project moves forward.

- Existing building

The existing building is part of a grade II listed terrace of 4 houses believed to be early 18<sup>th</sup> century. The house is 5 storeys – basement, ground, first, second and a top level set within the mansard profile roof. The ground floor of the property is now in commercial use with the rest of the property subdivided into a separate ground floor apartment and the upper floor apartment which is the subject of this inspection and report. The upper level apartment is set over three floors – first, second and third floors with a small external rear terrace at first floor level extending out over the top of the ground floor apartment.

Prior to our visit we have been provided with a copy of a building survey report dated February 2024 completed by Martin Lewy. Having reviewed this report (which was presumably completed whilst the property was still fitted out and occupied) it does not appear to report any significant structural concerns although it does note evidence of woodworm to some of the loft level timberwork.

- Existing Structure

The building generally appears to be of the typical expected construction for a building of this period with loadbearing masonry external walls, timber joisted floors and loadbearing timber framed internal walls. As anticipated for a property of this configuration and age the floor joists span from the party walls onto substantial timber beams within the depth of the floor build-up which span from the front / back loadbearing masonry walls onto the central loadbearing timber stud wall. The roof construction comprises front and rear pitches with a central valley running along the head of the main internal spine wall.

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## - Internal floor structure

The local removal of floorboards allowed the inspection of the existing floor build-up at various points across the floors. As anticipated and typical for a property of this period the floor joists (which in the isolated locations where measured) were typically between 60mm wide x 190 - 200mm deep at approx. 380mm to 400mm c/c spanning onto intermediate timber beams. In the front half of the property these joists are supported centrally on a substantial timber beam measuring approx. 300mm wide x 200 deep running from the loadbearing front elevation wall onto the internal loadbearing timber framed spine wall (see fig. 1). In the rear half of the main house the joists appear to span from the party wall onto a substantial timber beam which frames along the side of the stair opening. The connection of the floor joists to the floor beam shows the original timber dowel joints in the top of the beam. In various locations there are indications of woodworm attack (see fig. 2) - however in the various isolated locations inspected the structural integrity of the primary timbers did not appear to be significantly impacted. The existing floors (particularly in the front of the building) show signs of sagging down from the party wall to the centre of the building - however this is within the range of deflection which might be expected in a historic floor. The timber stair similarly shows signs of sagging & inward defection away from the party wall - but this is again within what might normally be expected in a building of this age.

At the second floor level where the previous bathroom fit out had been removed there is evidence of notching to the existing floor joists (see fig. 3). Although the notching seen in this location is reasonably significant the span of the joists in this part of the building is reasonably small and the joists here were relatively substantial (measured in this location at 75 x 195mm at 360mm c/c.). The joists in this area did not show any significant signs of structural distress relating to this existing notching.

## - Loft and roof build-ups

At loft level we were able to carry out an inspection of both the front and rear sections of lofts through the loft hatches. Part of the underside of the loft build-up to the rear section of the main house is currently propped (see fig. 4).

The loft floor structure appears to comprise a series of timber support beams (spaced approx. 1.3 - 1.6m apart) spanning from the head of the spine wall onto the side face of a timber beam set just inside the eaves spanning party wall to party wall (see fig. 5 for general view of rear section of loft). This eaves beam spanning party wall to party wall measured at approximately 140-170mm wide by 150-170mm deep. The short spanning loft floor joists (which span parallel to the front / rear elevations) comprised variable and irregularly sized timbers with approximate sizes of 70mm wide x 90 mm deep at approx. 360 - 400mm c/c. These timbers were in poor condition and showed significant woodworm. In the rear half of the loft (where the propping is currently installed to the underside of the loft) one of the front / back support beams appears to have split and in the front half of the loft space one of the front to back beams has been crudely re-strapped off the rafters where the end of the beam appears to be badly decayed at the junction with the valley beam running along the head of the spine wall (refer to fig. 6).

The roof structure comprised pitched timber rafters measuring approx. 50 x 100mm at approx. 340mm c/c. These rafters generally appear to be in a better condition than the existing loft floor structure - although there are some local signs of decay to the feet of some of the rafters where they pocket down onto the head of the substantial beam which runs along the head of the central spine wall build-up.

## - Front / Rear loadbearing masonry

The rear elevation brickwork was viewed from the rear terrace at first floor level. The rear brickwork up to around second floor level is rendered with exposed brickwork above. There are clear signs of rebuilt brickwork across the face of the rear elevation from mid-way between 2<sup>nd</sup> and 3<sup>rd</sup> floor up to parapet level. This rebuilt brickwork extends across the face of the rear elevation. There are clear signs of historic rear elevation movement - most particularly in a noticeable bulge on the face of the projecting rear chimney which has partially been repaired with rebuilt brickwork. However there are no indications that there is currently any significant ongoing structural movement. The lintels over the two second floor windows are an unusual brick on flat arched lintel detail (which we understand will be replaced with new gauged brick arch lintels). The rear elevation of the high level timber framed mansard build-up seems to curved outwards towards the centre of the roof - but this is assumed to be historic.

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The front elevation brickwork was viewed from street level. The brickwork over the first and second floor windows is supported on traditional brick arch lintels which appear to be in relatively good condition given the age of the property with no significant signs of distortion or movement. There is some indication of some outward bowing of the brickwork at the upper level but this is considered to likely be historic and not a significant structural issue. At various points across the façade there are areas of mortar patching which may be in locations where there has been historic cracking, however this appears limited and not a significant structural concern. To the right hand side of the first floor front elevation window (when viewed from the front elevation) there are some locations of vertical brickwork cracking. Some of this cracking may relate to locations where previous signs have been fixed back into the brickwork. Again this cracking is not a significant structural issue but if works are being carried out to the front elevation then it may be sensible to carry out helibar remedials across these cracks.

On the front elevation there is a large projecting metal bar set between the two first floor level window. We understand that this was the support bracket for a historic gas street light. As noted in the survey report this should be periodically inspected for signs of corrosion – particularly at the base where it pockets into the existing front elevation brickwork.

#### - Proposed works

We understand that as part of the proposed refurbishment works some minor structural alterations are proposed – some comments on these are given below:

##### - Reinstatement of historic Georgian brick arch lintels

On the rear elevation we understand that it is proposed to remove the existing render at low level and replace the brick arch lintels to the rear windows with new Georgian style brick arches. This work should not have any significant implications as the existing openings will not be widened.

##### - New glazed rooflight to roof of rear single storey 'lean-to'

At the moment the roof over the first floor level entrance hallway is a slate covered pitched roof. We understand that it is proposed to introduce a new pitched glass rooflight into this roof. The existing roof build-up is not known, but is assumed to be traditional pitched timber rafters spanning from the party wall onto the head of the side elevation brick wall. It is assumed that new timber trimmers will need to be installed to support the new rooflight – the requirements will be confirmed when the roof finishes are removed and the existing structure exposed.

##### - New ASHP within roof valley

It is proposed to install a new ASHP within the valley of the existing pitched roof. Ideally the new support framing for this would span directly back between the party walls rather than relying on any fixings down from the roof finishes into the roof timberwork.

##### - Floor decking within loft

We understand that it is proposed to install new floor decking within the loft space to allow it to accommodate storage. As noted in the survey report the existing ceiling structure has a limited capacity for loads – to accommodate any storage loading new strengthening will be required across the loft.

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Summary:

Following our inspection some of the key aspects which should be considered as the work proceed are:

- Timber inspection:

A survey of the existing timber should be commissioned by a timber specialist to check for signs of wet / dry rot or insect attack and provide recommendations for appropriate treatment. There are clear signs of woodworm attack at various points in the building – but most significantly at loft level.

- Loft level remedials:

It is clear that there are areas where the existing loft level structure is in poor condition – with temporary propping to the underside of the loft floor build-up at the rear of the building and evidence of previous crude repairs in the front half of the loft. We recommend that the existing mineral wool insulation and ceiling finishes are removed to allow a full inspection of the existing loft level timberwork. As a minimum it is anticipated that the existing short span loft joists should be removed and replaced however some of the primary beams may also need to be replaced.

The loft structure does not currently have any capacity to support any storage loads and would need to be upgraded to support even relatively small storage loads.

- Front elevation projecting bracket:

Before any loading is added to the existing front elevation projecting bar an inspection should be completed of the condition of both the bracket and the bearing back into the front elevation brickwork.

- Minor cracking to front elevation brickwork:

There are areas of minor cracking to the existing front elevation brickwork. These are not sufficiently significant to merit remedial works on their own – but if other works were being completed to the front elevation it would be worth considering carrying out local helibar remedial repairs in these areas.

- Defection / sagging to existing stair:

There are sign of inward sagging and downwards deflection of the existing stair – whilst this is probably largely historic & not a significant structural issue it would be worth considering reinforcing the fixings of the treads to the stringer and of the stringers to the perimeter walls.

We trust these comments are clear – if there are any queries you would like to discuss then please email.

Best Regards,



Stephen Foster CEng MICE MEng MA

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Record Photos



Fig. 1 : View of main floor beam / joists



Fig. 2 : Woodworm to existing joists



Fig. 3 : Notching to existing floor joists

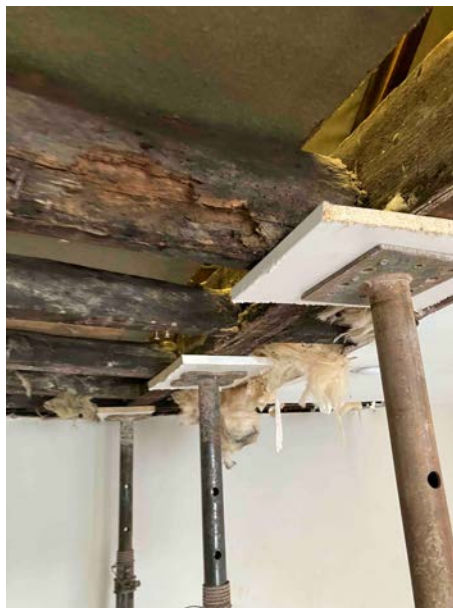


Fig. 4 : Propping to existing loft build-up





Fig. 5 : General view of rear loft space



Fig. 6 : Strapped & re-supported loft beam



Fig. 7 : General rear elevation view



Fig. 8 : General front elevation view