



St Giles Circus  
26 Denmark Street  
Zone 2 works

Listed Building Consent  
2015/6937/L

Structural works to roof, gable wall and chimney Review

Rev 00  
9<sup>th</sup> February 2018

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## 1.00 Introduction:

This application seeks approval for the careful removal of the existing gable wall, roof tiles, roof joist and possibly the chimney stack to the roof area of number 26 Denmark Street under listed building consent 2015/6937/L.

This document has been prepared for the purpose of:

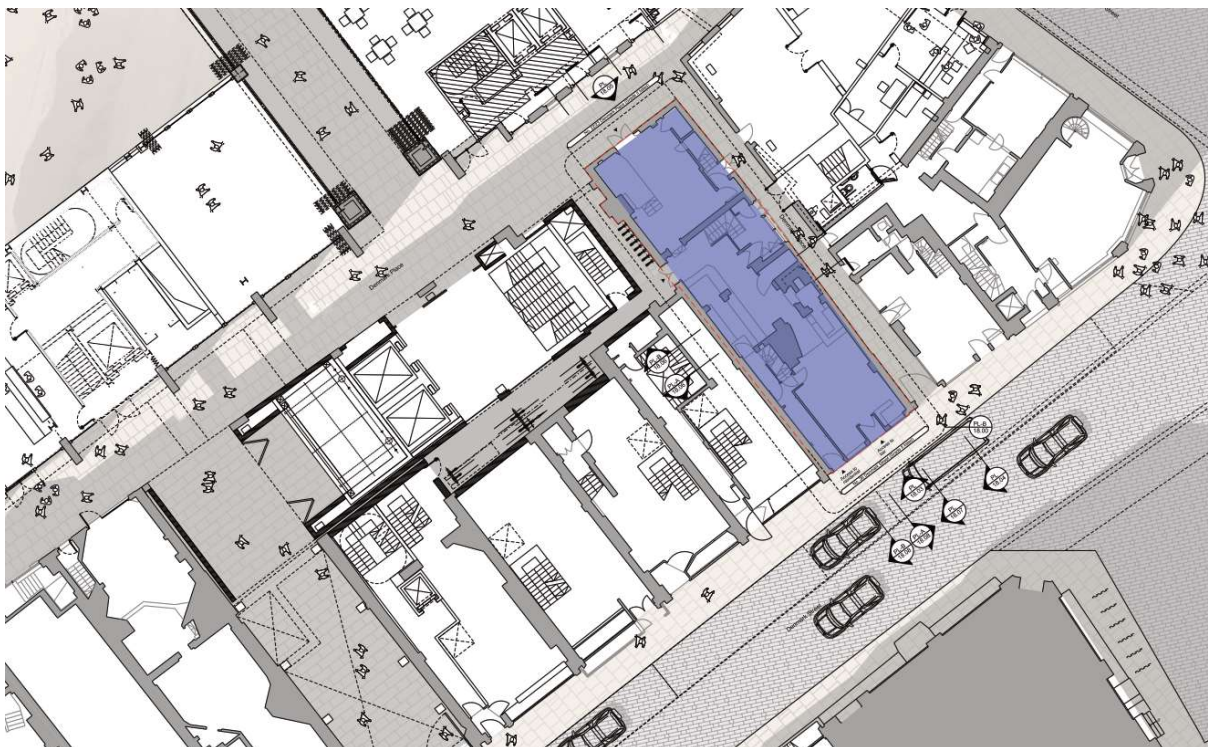
- Providing evidence as to why the aforementioned works are required.
- Providing a detailed methodology for undertaking the works
- Seeking approval for undertaking the works

In order to reduce the impact on the surrounding retained heritage fabric, the proposed removal of the brickwork, roof tiles and timber roof joist will be carefully dismantled, sympathetically cleaned and set aside for reuse within the final scheme where ever possible. Where materials cannot be salvaged and replacement is required, materials will be carefully selected to reinstate as close to that of the original construction. This will provide continuity within the building fabric and aesthetics whilst ensuring building regulation requirements are achieved. It is Skanska's intention to engage with the conservation officer on this matter and seek approval on proposed materials prior to installing.

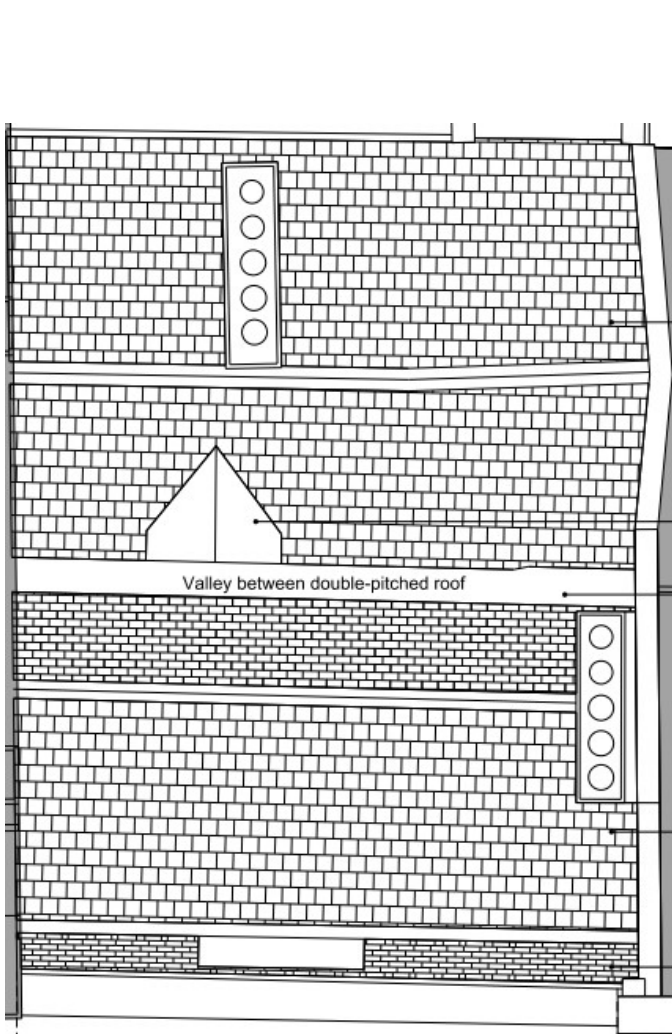
Only hand tools will be permitted when carrying out these works (no mechanical power tools will be permitted without seeking the relevant approval from the planning / conservation officer in the first instance)

The removal and rebuild of the works will be carried out by one of our recognised competent contractor who have a proven portfolio of working on Grade II listed buildings.

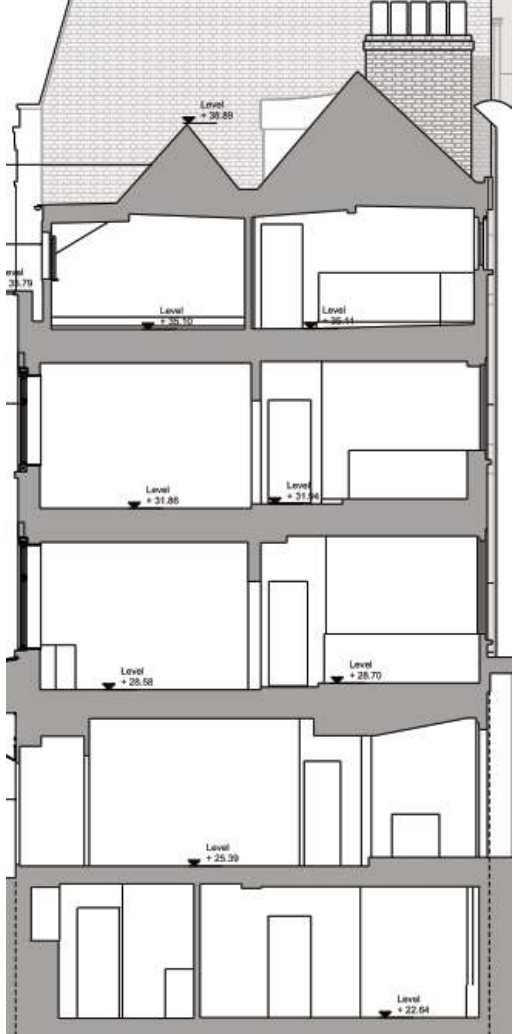
### Site/Location Plan



Roof Plan



Section



## 1.01 Existing structure / condition:

The front façade of number 26 Demark Street is of masonry construction with three windows at each floor. The original masonry structure at ground floor has been removed to form the façade to the bar.

At the rear of the building there is a three storey masonry extension that houses bathrooms for flats. The party walls are of masonry construction, with the wall to number 27 in the front room retaining a chimney breast, with a further Chimney breast behind the timber staircase which runs the full height of the building.

The 3<sup>rd</sup> floor is housed within a timber mansard roof which has a valley gutter which runs parallel to the front façade. The valley is supported on the internal stud wall that separate the front and rear rooms and extends from ground floor to roof level with a masonry wall at lower ground floor level.

The condition of the listed building at 26 Denmark Street has been identified as a cause of concern and the building has been placed on the Historic England's at risk register of listed buildings.

It is apparent that the structure has experienced significant differential settlement and that the ongoing cracking within the building was reported by the facility's manager back in 2012. Movement monitoring has been installed in this area since May 2014 and there has been little sign of further movement.

The external masonry walls of the 18<sup>th</sup> century house have experienced considerable movement with the front façade having settled considerably on the side adjacent to number 27. This has resulted in some windows and ledges settling as observed in the 2<sup>nd</sup> floor flat.

At present there are some temporary work systems and physical control measures in place that support the concerns being raised in relation to both the roof and gable wall stability. These include:

- The scaffold propping to the gable end
- Internal propping to the structural elements
- Restricted access to areas within the building.

## 2.00 Heritage Engineer (Engenuiti) supporting statement

### 26 DMS Roof / Gable End- Structural Engineers Assessment Summary

**From Zone 2 – Structural Design Criteria Report - 24/06/2015** (029-S-Z2-REP-002 rev T1)

4.8.15 The condition of the listed building at 26 Denmark Street has been identified as a cause for concern and the building has been placed on the English Heritage at risk register of listed buildings.

4.8.33 At roof level the movement has resulted in the gable on the No. 27 side leaning over to the extent that its stability is a cause for concern. The gable has been propped by means of a scaffold built on the roof of No. 27 Denmark Street.



**Figure 4.8.9 Gable End to No.26**

**St Giles Circus**  
Structural Engineering Zone 2 Design Criteria

- 4.8.34 The valley gutter has an internal downpipe that is prone to blocking and is of inadequate size. The condition of the mansard roof is generally poor with missing flashings.



Figure 4.8.10 Valley in Roof to No. 26



Figure 4.8.11 Rot inside No.26 Roof Space

14. Location: **Roof**

Description: Existing opening up works has revealed most of roof structure is in poor condition and is to be fully replaced as part of the permanent works.

Recommendation: SKA to consider blocking access to 26 DMS roof via the internal loft hatch to the top of the stairs to prevent roof being unnecessarily loaded.

15. Location: **Roof**

Description: Gable wall supporting roof has temporary works propping off the roof of 27 DMS to prevent further movement east away from 26DMS structure. Note: this is to be rebuilt with the roof for the permanent works.

Recommendation: SKA to ensure they are satisfied with support provided by existing temporary propping and investigate if there is a safe means of accessing the temporary works for inspection and maintenance given the condition of the roof structure to 26 DMS. Potential access may include; MEWP/scaffold tower up to 27 DMS roof, or access via 28 DMS rooftop maintenance stair down onto 27 DMS roof.

### 3.00 Methodology Statement

The works will be undertaken by an experienced contractor with a portfolio of working on Grade II listed buildings.

A full inspection with the architect and conservation officer will take place with a full photographic record being taken of the entire roof area (roof tiles, Chimney and gable wall) so as to ensure a fully detailed like for like rebuild can mirror image the existing structure.

The high level sequence of works will be as follows:

- Erect scaffold to provide safe access to all areas of the roof, chimney and gable wall and also temporary weathering strategy to the building
- Survey and record the construction and condition of the roof, chimneys and gable wall
- Carry out any works required to the chimney and chimney pots.
- Carry out the removal/careful dismantle of the roof
- Carry out the careful dismantle of the gable end wall
- Carry out the re-build of the gable end wall
- Carry out the re-build of the roof.

#### The Scaffold

An independent scaffold will be erected in front and to the and rear of 26 Denmark Street with a temporary scaffold roof above to protect the internal fabric of the Grade II listed building and to gain safe access whilst the works are undertaken.

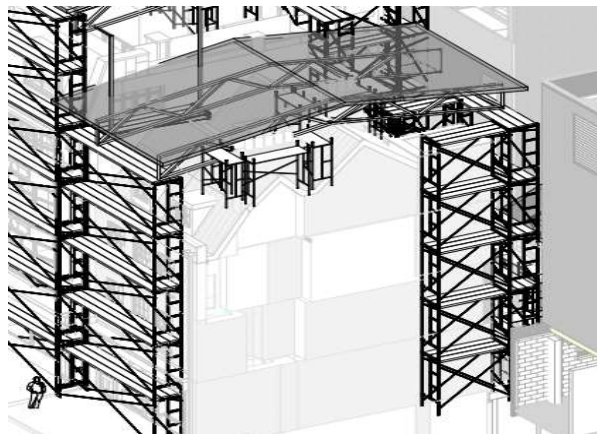


Figure 1.

The roof will be accessed in two ways, one via a fixed scaffold from Demark Street and the other from the designed propping and working platform which will be installed from within the building.

Whilst independent of the structure, there will be a requirement to mechanically tie the scaffold to the structure in places to provide stability. The hierarchy of proposals in this instance will be to:

- Tie into the adjacent structures of no 25 & no. 27 DMS which are not listed structures.



Where this is not possible we will:

- Use a non-intrusive tie through windows that will brace the scaffold by clamping tubes to the front and back face of the building facade. Foam protection will be put in place to ensure there is no damage to the building fabric when using this method.

Where this is not possible we will:

- Use a mechanical tie (no chemical resin required) into the perp or bed joints of the brickwork (no holes into brickwork required) with a view to making good with like for like lime mortar/colour match to the 15mm diameter holes once the ties are removed.

See example of tie to be used below:



Figure 2.

## The Chimney

The chimney will have a scaffold erected around its perimeter and once the scaffold and access is in place the chimney will be fully surveyed to determine the full scope of works required.

If necessary the sand and cement flaunching will be carefully removed using hand tools and the debris will be bagged up, the chimney pots will be carefully removed by hand, catalogued and taken down to the sample room storage area within the basement of number 23 DMS for inspection by the architect and conservation officer to determine if the pots can be reused. We do **not** envisage at this stage that the chimney stake its self will need to be taken down and rebuilt, we think that the stake will require repointing only which will be carried out using hand tools only (this will be confirmed during the onsite survey)

## The Roof structure

The roof tiles will have been photographed and the existing setting out recorded with the architect. The tiles will be carefully removed by using hand tools, the tiles where possible will be cleaned and stored locally for reuse at a later date (the roof tiles look to be of slate, if any slate tiles are found to be unsuitable for reuse we will replace the said unusable tile with either reclaimed slate tiles or new slate tiles depending on the Architects and conservation officers preference)

The timber roof joists are in an unknown condition and will require further examination once safe access has been established and the necessary structural stability works to the lower parts of the building have been completed. This examination will be carried out with the architect and the conservation officer and will establish the timber roof joists that can be saved and reused, these will be carefully removed, and stored within the basement of number 23 DMS where they will be treated

before they are reinstated back into the roof works, any timber replacement will match the existing size for size as required.

A further in-depth and detailed method statement will be produced by the specialist grade 2 listed building restoration contractor before works commence on site.

## The Gable wall

The type of bond, the size of the gable, and the angle of the sloping brickwork will all be recorded with the architect before works commence.

The bricks within the gable wall will be numbered using a wax crayon and reflected on a recorded drawing, the bricks will then be removed by using hand tools top down brick by brick down to the top level of the existing roof (the works will be undertaken by standing on the flat roof of number 27 DMS) the bricks will be catalogued and taken down to the basement area of number 23 DMS where they will have their final clean and set aside for reuse at a later date, (please note we have a storage of reclaimed London stock bricks from the demolition phase of the project that can be used if any existing bricks are found to be unsuitable for reuse in the rebuild)

**4.00 Conclusion**

As stated previously due to number 26 Demark Street being on Historic England’s Risk register of historic buildings, the reports and recommendations we have received from the structural engineers (Engenuiti) and the obvious signs of historic movement and dilapidation, we believe it will be necessary to carefully remove and rebuild the gable wall, carefully strip and remove the roof tiles and roof joints and rebuild these in their entirety like for like. We would also recommend further investigation to the stability of the existing chimneys together with the flaunching and chimney pots with the view to take down and rebuilding as necessary. Once these works have been completed it is our belief that the historic 18<sup>th</sup> century listed house at number 26 Denmark Street will be fully stabilised and reinstated to its original glory which in turn will allow the building to be removed from Historic England’s Risk register.

1)



2)



3)



4)



5)



6)



7)



8)



Photo shows: **1)** the movement of the front Façade to number 26 Denmark Street coming away (untied) from the party wall of number 27 Denmark Street **2)** internal roof joist damp and rot **3)** Internal view of gable wall **4,5 & 8)** external view of gable wall (with scaffold buttress support installed) **6&7)** External view of roof