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35 Great James Street

Structural Methodology Report

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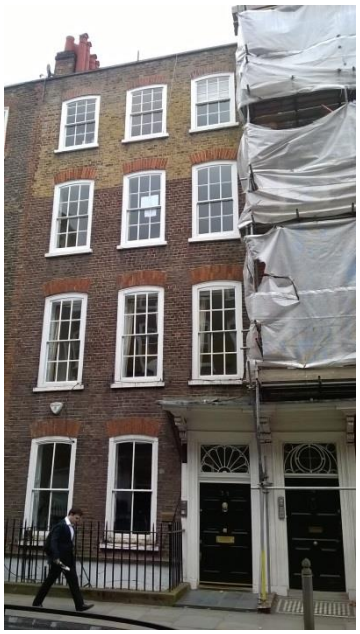

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Contents

1.0 Introduction; Existing building

The existing building at 35 Great James Street is a grade II* listed, terraced, Edwardian property in the London Borough of Camden.

The building is four storeys high including a lower ground floor level, with a flat roof which is believed to be a post war addition due to World War II bomb damage. Much of the front façade at top level appears to have been replaced at this time. There is a single storey extension to the rear of the property at ground level and a three storey closet wing, both of which are likely to have been constructed in the late 20th century.

The original building is traditionally constructed with solid brick external walls and party walls, and timber stud internal walls. The floors are typically timber joists spanning across the property. Opening up works have revealed that the original timber floors are supported, in some locations, by baulk timber beams in the original part of the building.

Trial pits undertaken inside the property show that the lower ground floor construction typically consists of a concrete ground bearing slab 150mm thick with 50mm screed.

The modern closet wing is believed to be formed of cavity wall construction with brickwork to the exterior leaf. Opening up works reveal that the construction to the single storey rear extension is concrete slab bearing onto steel at ground floor level and timber bearing onto steel at 1st floor (roof level of the extension). The original vaults (front and rear) are formed of load bearing masonry arches and have “benched slabs”. Trial pits undertaken in the vaults indicate that the foundations are the same as

Geological records for the area confirm that the site ground conditions consist of sands and gravels over London Clay (BGS Borehole TQ38SW157).

2.0 Proposed works

The proposed works involve the refurbishment of the existing building, a modification to the rear extension to change the structural layout. The existing flat roof spaces (at 1st floor and roof level) will be replaced with new flat roofs which will also serve as roof terraces. The modern closet wing will also house a hydraulic lift. In addition, the Chimney, which forms part of the party wall with no 35 Great James Street, will be raised to match the chimney at number 34.

There are no new basement levels to be constructed at the site, however the existing lower ground floor level in the rear half of the house, outside the footprint of the original building and the vaults to the front of the house will be lowered by approximately 1.3 metres to improve headroom. The levels within the footprint of the original building will remain unchanged. The proposed works to reduce the lower ground floor levels will require underpinning to the existing foundations. Structural proposals to the basement reduce-dig are shown in Sk-001.

3.0 Methodology

The following represents a preliminary, assumed sequence which is not suitable for construction. Construction sequencing is the responsibility of the contractor and to be approved by the Structural Engineer.

Assumed Sequence:

Substructure;

1) Protection of historic fabric in the original part of the building is to be adequately protected to prevent accidental damage while works are performed.
2) Demolition, where applicable, should be performed in a top down sequence, only removing an element if it is not supporting any other element(s) to prevent disproportionate collapse.
3) Underpinning should be carried out in a "hit and miss underpinning sequence" to avoid undermining any localised areas. Following completion of an underpin, the pit excavated to form it should be backfilled with well compacted soil to provide lateral support while other underpins in the sequence are commenced.
4) Where further excavation is to occur, lateral props for the walls should be erected. The reduce dig should only be completed once all of the underpins have been completed and temporary propping has been erected.
5) Where columns and beams are to be replaced, they should be adequately propped, prior to construction, using masonry needling or similar techniques, to be decided by the contractor's temporary works designer.
6) Replacement of Structural members to support masonry above should be completed in a timely fashion, not leaving the props as the only form of support for longer than is necessary.
7) Once new supporting structure is in place and is capable of taking its design loading, temporary props may be removed gradually, such as to load the permanent structure.
8) Once replacement structural beams have been loaded, superstructure works may commence.

Superstructure;

1) Superstructure should be erected onto supporting elements as per Structural Engineer's designs and specifications by a competent contractor.
2) Contractor's temporary works proposals should be submitted to the Structural Engineer for approval.

4.0 Risks

This is a preliminary list of construction risks. At construction stage, the main contractor should take note any hazards on construction drawings as these will be more detailed and exhaustive. The contractor should also record any hazards encountered on site and notify the Structural Engineer in a timely manner.

1) The original floors should not be overloaded with construction materials. They are of Edwardian construction and have sagged considerably with time. Storage of materials and plant should be done in other areas, to avoid structural damage.
2) It should be noted that while opening up works have been undertaken, the full extent of the building's condition is unknown, therefore there may be localised areas of poor quality construction. More extensive opening up works should be undertaken prior to detailed design to gain a more detailed understanding of the construction of areas which may impact the proposed works. Further opening up works will be subject to approval by the Conservation Officer.

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