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Basement Impact Assessment
Stages 1 and 2
15 Park Village West
London

1.0 Introduction

The proposal is for alteration and adaption of 15 Park Village, West London and these are all shown on the project Architect, Charles Brice Drawings PL01- PL07 inclusive.

The main external structural works are in the creating two new lightwells to the front elevation and extending the garage to the west by 600mm. In the pre-application advice provided by Kristina Smith, Planning Officer for London Borough of Campden it is recommended that Stages 1 and 2 of a basement impact assessment are carried out.

The initial assessment has been carried out by Clive Haywood B.Eng(Hons) C.Eng. M.I.Struct.E

2.0 Stage 1 – Screening.

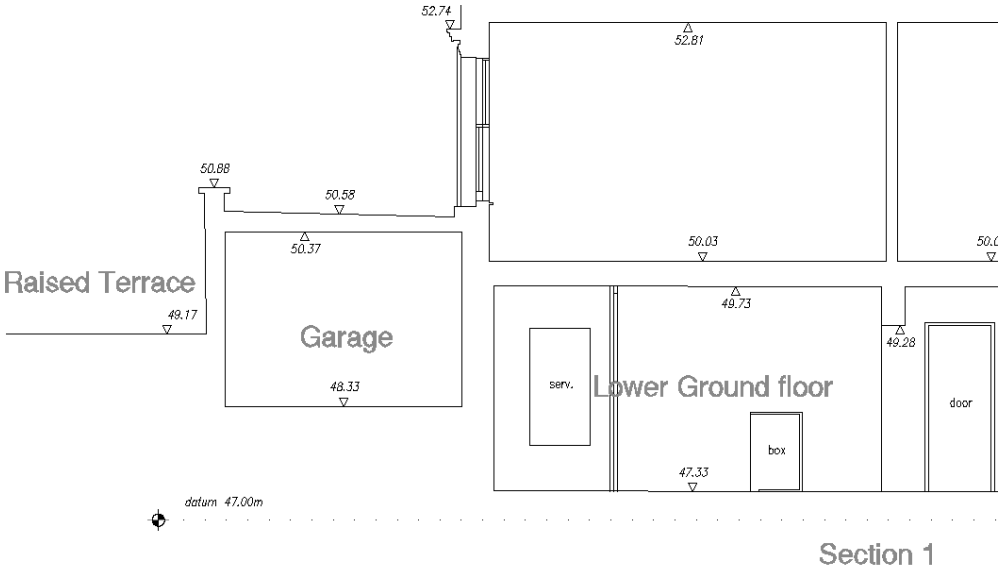
2.1 Existing Construction – Garage

The garage is situated on the western side of the property with the front access being off Park Village West with the garage slab level being 0.3m below the road level which results in a very gentle slope on the driveway as shown on photograph No.1

Photograph No.1

On the western side there is a raised terrace area where the level of the terrace is 0.84m above the garage floor level and at the rear southern side the terrace steps up so that it is 1.29m above. It should also be noted that the lower ground floor level of the main house is 1.0m below the garage floor and there is a set of internal steps to gain access. The cross section below, taken from the Cadplan survey drawing 8454-08, shows the relevant levels. A view of the raised terrace is shown on photograph No. 2

Photograph No.2



2.2 Existing Condition – Garage

The lower part of the wall on the western side is cast instiu reinforced concrete and then there is a masonry wall above on the no retaining section. There is clear evidence internally that there has been displacement at the junction between the two forms of construction. This can be seen from the step in the wall as shown in general on photograph no. 3, in detail on photograph 4 and the pulling of the flat roof joists in photograph No 5. Externally there is evidence of cracking at the junction with the front wall as shown on photograph No. 6

Photograph No.3

Photograph No.4

Photograph No.5

Photograph No. 6

2.3 Proposed Lightwells

These are to be located in the area outside the northern front windows as shown on photograph No. 7

Photograph No.7

2.4 Groundwater Flow

Questions 1-3 and 6

The proposed alterations are considered nominal and are not extending below the level of the lower ground floor of the existing property and therefore there is nominal risk that it will be below the level of the water table.

In terms of nearby watercourses, Regents Canal is 500m away and considering the distance and the nature of the water feature then this is not considered an issue. Hampstead Heath is approximately 3km away and therefore with the nominal excavations that are proposed these will not be influenced by the pond chains.

Questions 4-5

The garage is proposed to be extended into an area of hard paving and therefore the resultant increase is nominal. The only section where there is an increase is in the lightwells as these will be excavated through existing planting. The increase in area is only 7.7m^2 which is a nominal percentage increase (approximately 2%) across the whole site where there is approximately 170m^2 of roof and 150m^2 of hard landscaping.

2.5 Slope Stability

Questions 1-4

The site and surrounding area is relatively level with the gradient on the road outside the property being 1 in 75. The only localised area of slope on the site is on the front entrance to the garage and this is at 1 in 11.

Question 5 and 9

The excavations are all immediately adjacent to the property and are not being taken lower than the existing building. Therefore the new sections will be excavated through disturbed ground which will be backfill from when the original lower ground floor was excavated and constructed. With the garage, the building is only being extended by 600mm and this is in the zone of a land drain where the ground is already excavated as shown on photograph No.8. The level of the London Clay is not known but this is not considered relevant due to the site conditions and the proposed levels of the new works.

Photograph No.8

Question 6
A full Arboricultural Report has been carried out by Ian Keen Ltd which is included as part of the planning permission and this concludes the works will not cause material harm to the trees.

Question 7
An inspection has been made of the existing building and this shows no indication of any subsidence movement. This is therefore indicative that the levels at which the building and the alterations are to be founded are adequate so as not to be affected by subsidence and seasonal movements of the subsoil.

Question 8, 10 and 11
Reference is made to this in section 2.4

Question 12
The front northern elevation with the proposed lightwells is 2.5m from the highway and the proposed garage extension is 4m from the highway. As the excavations are only 0.32m below highway level on the western side and 1.5m on the lightwells and considering a 45 degree line of influence, the construction will not have an adverse structural influence on the highway

Question 13
The excavations are not below the level of the existing and adjoining properties and therefore these will have no detrimental structural influence on the existing or neighbouring property

Question 14
The site is not over any tunnels ie tube lines and will not impact on critical infrastructure.

2.6 Surface Flow and Flooding

Question 1
The site is not within the catchment area of the pond chains on Hampstead Heath

Question 2
The proposed alterations do not result in any increased waste water flow therefore this is not applicable.

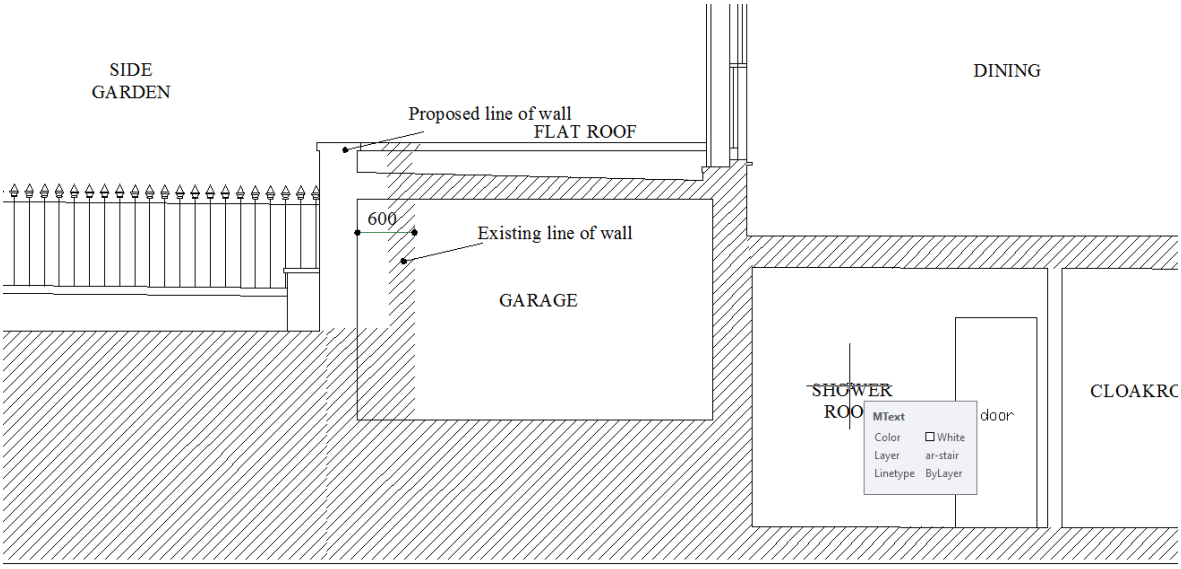
Question 3-5
The increase in hard surfaces, which is as the result of the construction of the lightwells, only provides an increase in the hard surfaces of 2% which is considered nominal and can be dealt with by localised SUDS by design of a small soakaway or compensatory reduction in hard landscaping around the property. The nominal increase in the area of hard surfaces is not considered to be of sufficient size to impact on the existing drainage.

Question 6
As the proposed alterations are only nominal and not increasing the depth of previous excavations, then it is not considered that they will increase the flood risk. No habitable rooms are being created by the works and the existing garage shows no evidence of previous flooding.

3.0 Stage 2 – Scoping

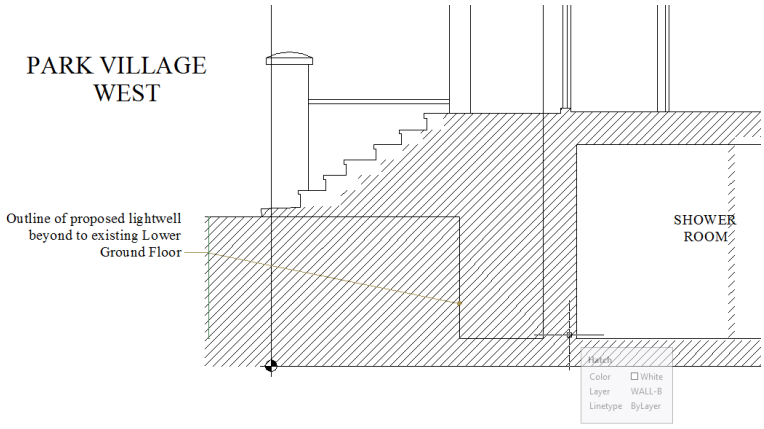
The proposed works are considered to have negligible impact on the site, existing building, neighbouring properties or highways.

The garage works involve taking down the existing western wall, which has evidence of previous structural movement, and rebuilding it 0.6m to the west. The proposal is shown below on an extract from the architects drawing PL07 Section AA



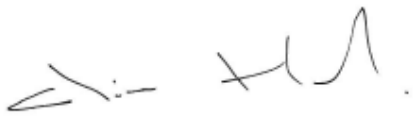
Trial holes have shown that this extension is within the zone of previously excavated material for both the original construction and a later land drain. The level of the garage floor slab is not being altered and is 1.0m above the lower ground floor of the existing house and therefore will have no influence on the existing foundations. The level of the garage is only 0.3m below the road level and it is considered the terrace to the west has been built up and therefore the garage is not a significant subterranean structure.

The light wells are immediately adjacent to the existing property and do not extend below the existing level of the lower ground floor as shown below on the extract from the architects proposed section.



The construction will be through previously disturbed ground due to the fact that it will have been excavated and backfilled to construct the original building. As the level of the existing building is not being altered then there will no impact on the existing and neighbouring structures. The increase in hard surfacing is only 2% which will have no significant impact on the existing drainage system and can accommodated by use of a local soakaway or a small reduction in the existing hard landscaping to provide compensation

Overall the works have no significant effect on the existing property and can be constructed without the need for any remedial works to the existing foundations. The areas of new work are negligible and through previously disturbed ground and therefore a full BIA is not considered necessary.



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