STRUCTURAL STABILTY REPORT

FOR

57 SOLENT ROAD NW6 1TY

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FOREWORD

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5. It should be recognised that new information, changed practices or new legislation may necessitate revised interpretation of the report after the date of its publication

1.0 BRIEF

1.1 Train and Kemp have been instructed to prepare a structural stability report for No 57 Solent Way. This is to support the planning application that has been submitted for the new basement to be constructed under the property. The report has been requested by London Borough of Camden.

2.0 SCOPE OF WORKS

2.1 The report is to provide evidence that the structural stability of adjoining or adjacent buildings will not be put at risk with the construction of the basement. Comment is also to be made on the effects the new basement will have on any groundwater flows under and around the property.

3.0 BRIEF DESCRIPTION OF PROPERTY

3.1 The house is a mid terrace Victorian property traditionally constructed for the period. It has solid loadbearing external walls with suspended timber floors. The roof space has been converted into habitable rooms and a dormer window constructed to the rear roof slope. To the front of the property there is a small front garden. There is a two storey outrigger and small urban garden to the rear of the property.

3.2 Solent Road runs North to South and the property is on the west side of the road.

3.3 The road slopes down from North to South but is generally level front to back.

4.0 PROPOSED WORKS

4.1 The extent and depth of the proposed basement and front lightwell are shown on TGN Architects drawing 1027/P/1. The new basement will extend to the full width of the property and from the front and rear walls of the main body of the house. The basement will not extend under the rear outrigger or any part of the rear garden.

4.2 The lightwell will be excavated in the front garden.

5.0 STRUCUTURAL METHOD STATEMENT

5.1 To ensure stability of the house and the neighbouring properties it is proposed to underpin the party walls before any other works are undertaken. The underpinning will be carried out in sequence to ensure that the walls remain stable and are not undermined in accordance with accepted engineering practice.

5.2 The underpinning will be reinforced so that when each pin has been cast it will act as a cantilever retaining wall and will not require any horizontal propping.

5.3 When the party walls are stable the front and rear walls will be underpinned using similar technique.

5.4 Temporary propping to the spine wall will also have to be integrated into the scheme.

5.5 Trench sheeting will have to be installed within the front garden to enable the lightwell to be safely excavated and to protect the footpath and neighbouring properties.

5.6 When all the underpinning has been installed the basement can then be excavated.

5.7 The basement slab will be concrete and tied into the reinforced underpinning using dowel bars.

5.8 The walls to the basement will be non structural and are likely to be blockwork to allow a drained cavity system to be used to control any perched water that may be present.

5.9 The ground floor will be reinstated as a timber floor to ensure that no additional loads are added to the foundations. The floor will provide additional propping to the retaining walls but will not be critical to their stability.

6.0 SUBSIDENCE

6.1 The properties within Solent Road and the surrounding areas are founded on London Clay. This type of soil is susceptible to shrinking and swelling due to the changing moisture content within the soil. Subsidence of the soil is often caused by root action from trees which abstract water from the soil beneath the shallow foundations of the Victorian properties.

6.2 The new basement construction will deepen the foundations of the property with the foundations being founded approximately 2.5m below ground level. There are no significant trees close to the house and therefore the foundations will be significantly deeper than is required by the NHBC guidelines when building near to trees.

7.0 PARTY WALLS.

7.1 As with all works of this type, Party Wall Awards will have to be in place before any work to the basement is undertaken.

7.2 We would anticipate that a condition survey of both party walls will have to be carried out prior to the works commencing and then revisited after the basement works have been completed. Also the method of constructing the basement together with the design of the underpinning and retaining walls will also have to be agreed with the Party Wall surveyors and their engineers.

8.0 HYDROLOGY

8.1 The basement will be relatively shallow. The water table will be of sufficient depth below the basement and will not be affected the excavation.

8.2 The geological maps for the area were studied and the sub soil below the property is described as London Clay. This type of soil is impervious and there will be minimal ground water flow through the sub soil. The construction of the basement will therefore not cause any significant disturbance to or redirection of any ground water below or around the property.

8.3 Before work commences trial pits will be dug to confirm the ground conditions.

9.0 NEIGBOURING PROPERTIES

9.1 The proposed underpinning of the party walls is a traditional method of deepening foundations. It is used when properties have suffered from subsidence or to avoid undermining existing foundations when the ground is excavated below the founding level of the footings.

9.2 If carried out with an agreed sequence of construction by an experienced contractor, no significant structural damage to neighbouring properties will occur. Minor movement is always possible and therefore a condition survey is always carried out before and after the work. This forms part of the Party Wall awards and any damage that can be attributed to the works is then repaired by the contractor.

9.3 The construction of the basement will result in the property being less susceptible to the seasonal movements as the clay sub soil shrinks and swells than the neighbouring properties. The London stock brick with lime mortar is relatively flexible and will be able to absorb minor movements. We would expect any cracking that results from this minor differential movement to only require local re pointing as a remedial repair.

10.0 SUMMARY

10.1 The design and construction of the basement will use established and proven techniques that have been employed on many thousands of basements across London.
Before works can start on site, both Building Control and the Party Wall surveyors will have to be satisfied the works will not have a detrimental effect on the neighbouring properties.
Due to the impervious clay sub soil the new basement will not adversely effect any ground water movement.