53 Platt's Lane

Structural Methodology Report

Brief

This document is the structural methodology report carried out for the purposes of the Planning Application for the proposals at no. 53 Platt's Lane. It should be noted that this report outlines and suggests the assumed construction at this stage. It should also be noted that, as is standard for works of this type, the main contractor will be fully responsible for the design and erection of all temporary works.
The purpose of the report, with the Basement Impact Assessment prepared by LBH Wembley, is to demonstrate that a subterranean development can be constructed on the particular site having regard to the sites existing structural conditions and geology.
The Basement Impact Assessment prepared by LBH Wembley references to the stages set out in the CPG4 Basement & Lightwells planning document.

Richard Tant Associates

Richard Tant Associates are consulting Civil and Structural Engineers comprising a number of chartered engineers. We have experience in post basement construction and have successfully carried out a number of basements in the Borough Camden from the Basement Impact Assessment stage through to construction on site.

Description of Proposed Basement and Internal Works

53 Platt's Lane is a terraced brick, Victorian, two storey house (excluding the existing basement) comprising timber floors and load bearing masonry walls. There is a basement under the property approximately 2.5m deep. There are no signs of significant differential movement and the property appears to be in sound structural condition.

The proposal is to extend the basement slightly to create a lightwell at the front of the property and to form new openings for windows / doors into the lightwell.

Please refer to the drawings prepared by the Architect, ROH Architects: 16019 P-100 P2 and P-101 P2.

New Lightwell

The proposal is to form a small lightwell to the same depth as the existing basement at the front of the property.

Please refer to the Architects drawings for the proposed layout and existing survey plans.

A geotechnical and hydrological report has been carried out by LBH Wembley; the bore hole shows 1m of made ground underlain by 2.5m Downwash Deposits underlain by the Claygare Member. Water seepages were not encountered however subsequent monitoring indicated perched ground water seepage at a 3.5m depth. Trial holes have also been undertaken and recorded. Based on this geotechnical information, the new lightwell wall construction is to comprise a reinforced concrete strip footing then underpinned to form a reinforced retaining wall carried out in a hit and miss sequence. This will be described in more detail throughout this report. Please refer to our drawings 4591-SM01, SM02 and SM03.

Structural Stability of the Existing buildings

The proposed lightwell is adjacent to a small projection of the party wall. Transitional mass concrete underpinning is proposed to safeguard this section of wall by transferring loads down below the lightwell level. The light well wall will be constructed using reinforced concrete and constructed in a hit and miss sequence and will be designed to retain the ground pressures and possible accidental water pressures and distribute the vertical load down. The design height of the retaining wall to maintain the existing floor to ceiling of the existing basement is designed to be 3m. Refer to calculation sheets for justification of the retaining wall: 4591-P1 et seq. Refer to the damage assessment section of the LBH Wembley report confirming these works are not expected to create any significant differential settlement or have a detrimental effect on the structural stability of the existing building or neighbouring buildings with a Burland damage category of 0 'negligible'.

Supporting the Proposed Loads

The vertical loads from the proposed lightwell will be supported via reinforced concrete underpinning into a reinforced concrete slab. Refer to the calculation sheets for justification of the retaining walls: 4591-P1 et seq.

Structural Integrity of Surrounding Structures and Utilities

A clay pipe has been identified in the proposed excavation area. It is understood this pipe will be permanently diverted. We do not expect there to be any public utilities, tunnels or infrastructure within the area of influence of the proposed lightwell works and therefore we do not expect any impact regarding the structural integrity to these items.

Slope Instability

The proposal is to construct the walls in stages that will be temporarily propped until the final base is constructed and cured. No battering back is proposed. We refer to the LBH Wembley Basement Impact Assessment where the risk of slope instability is addressed and discharged.

Impact on Drainage and Surface Water

With regards to surface water the lightwell is below existing hard standing. Refer to the Surface Flow Assessment in the LBH Wembley Basement Impact Assessment.

Geological & Hydrological Concerns

The application is informed and supplemented by the hydrological section and geological section of the LBH Wembley Basement Impact Assessment.

Impact on Trees

There are no significant trees in the area of influence of the proposed lightwell, however there is a hedge that will be removed.

Temporary Works

Please refer to the proposed drawings: 4591-SM01, 02 and 03 enclosed, for details of the temporary works. When the contractor is appointed he will be fully responsible for the temporary works including the design and erection.

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