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CONSTRUCTION METHOD STATEMENT

For

Proposed basement works at

26 Lyndhurst Road
London
NW3 5PB

16th September 2015

Prepared by Martin Redston Associates
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1. Introduction

1.1 Martin Redston Associates has been asked by Mr John Fitzpatrick, to consider the construction aspects of the proposed development in support of a planning application.

1.2 The report is to be read in conjunction with all other relevant information

CARDEN & GODFREY Architects

4339 / SK P1001	As Existing - Floor Plan
4339 / SK P1002	As Existing - Elevations
4339 / SK P8001 E	As Proposed - Floor Plan
4339 / SK P8002 E	As Proposed – Proposed Elevations
4339 / SK P1000	Site Plan

Martin Redston Association (Structural Engineers):
Preliminary Planning Drawings:

Drg No. 15.390 - 1
Drg No. 15.390 - 2
Drg No. 15.390 - 3

Drg No. 15.390 TP-01 to TP-03

Site Analytical Services Ltd
Factual Report on a Ground Investigation Ref 15/23902
Basement Impact Assessment Ref 15/23902 (Draft Unchecked Version)

From Soil report
The underlying soils consist of made ground up to 4.10m in thickness resting on deposits of the Claygate Member with the London Clay formation at depth.

2. Existing Conditions

2.1 The site is located to the south of Lyndhurst Road in Hampstead, North London, NW3 5PB and comprises of five storey residential property including an existing lower ground level with front and rear garden areas.

2.2 The footprint of the property is approximately 10,000m2.

2.3 The site is essentially level.

2.4 Localised investigations indicated that the ground, first and second floors and roof are generally of timber construction with joists spanning onto load bearing masonry walls or internal steel beams. The lower ground floor consists of predominantly ground bearing concrete slab.

2.5 The existing foundations are mass concrete strip footings below ground level.

2.6 Below ground drainage is assumed to runs below the property. This will need to be adjusted around the swimming pool & lightwell and boxed out on completion of the structural works.

3. Structural Proposals

3.1 The proposed structural works consist of the following.

a) Removal of load bearing wall at lower ground floor with a new lift access.

b) New single and two storey building to the rear and side of the main house.

c) A front lightwell.

d) A new swimming pool at the lower ground Floor (basement) staring from inside the building to the external rear.

3.2 The proposed swimming pool and lightwell's perimeter retaining walls are generally to be formed by reinforced concrete retaining wall constructed in numbered sequence depending on the soil. The construction are to be 'L – shaped' and installed in a consecutive sequence as the excavation proceeds through the required area. All the sequence construction are to be linked by dowel bar reinforcement.

3.3 The new swimming pool floor will be 450mm reinforced concrete base slab onto concrete blinding and the lightwell floor slab 350mm reinforced concrete on to concrete blinding . In terms of potential ground heave the slab is to span onto and connect to the perimeter retaining wall. The existing ground floor will be supported by steel beams that span party wall to party wall where appropriate.

3.4 Solutions for waterproofing of the basement slabs and retaining walls will take the form of proprietary drained cavities with a sump and pump within the basement area.

3.5 Existing and new drainage may be collected beneath the basement slab and run via gravity to the front boundary where it may be pumped from a sump chamber to a high level. A new manhole may be required. Where possible all above ground drainage ie the existing drainage, from the main house will be taken out by gravity, diverted above the basement level to run out into the new or existing manhole at the front.

3.6 We confirm these works will not detrimentally affect the surrounding structures.

4. Impact on Drainage and Surface Water

4.1 We understand that there is no statutory drainage within the area of influence of the proposed basement works. With regards to surface water the majority of the proposed basement is below the existing extension and concrete paving. We do not foresee significant impact on the surface water courses.

5. Slope Instability

5.1 The ground is essentially constructed directly below the existing footprint of the property downwards. All other foundation are to be on firm ground below ground floor. This work will be completed in stages using sequence underpinning techniques that have been established over many years. The proposed contractor is a specialist basement contractor and is very experienced in this type of work.

6 Structural Stability of the Existing Buildings

6.1 The proposed refurbishment is be to be constructed within the existing footprint of the property. This work will be completed in stages. The proposed contractor is a specialist basement contractor and is very experienced in this type of work.

6.2 New foundations will bear on strata that will provide a safe bearing with a capacity greater of that found at the existing depth. The reinforced walls are designed to resist the lateral earth pressures. The existing building does not show signs of differential movement and these works will not create any significant differential settlement or have a detrimental effect on the structural stability of the adjoining or adjacent buildings.

7 Impact on Trees

7.1 There is an existing small trees in the front and two at the rear garden of the main house. We believe the proposed basement is not within the zone of influence of the existing trees.

8 Assumed Sequence of Construction

8.1 Site set up:

8.1.1 Deliveries, removals and access for operatives will most likely take place from Lyndhurst and through the main front entrance. This entrance will be manned throughout operational hours by a banksman to ensure construction deliveries do not post a potential risk to pedestrians.

8.1.2 Construct site hording and entrance gates to provide protection to passers-by from site activities. It is assumed site accommodation and welfare facilities will be provided within the main house building throughout the duration of construction. Materials may be removed or delivered over the temporary pavement tunnel.

8.1.3 Terminate/protect services, temporarily divert all active drainage.

8.2 Sequence and excavation

8.2.1 For sequencing, excavate holes in agreed sequencing, a maximum of 1.2m wide x 2m off wall face to proposed depth of swimming pool, lightwell (approximately 3.0m overall depth). Use proprietary side shutters to provide protection to operatives working at depth and to retain sides of excavations.

8.2.2 Push reinforcing bars into the side and base of the excavation to form dowels to tie the pins together at 450mm vertical centres. Install reinforcement for the 300mm thick toe and the vertical section of the underpins. Install formwork and pour concrete to form the underpins.

8.2.3 Dry-pack tight between pin and underside of existing wall at least 24 hours after casting pin and back fill hole to top of underpin level, ensuring this is properly compacted. Remove projecting existing footing corbel as necessary – this could be carried out at a later date when the underpinning and subsequent excavation is complete.

8.2.4 All pins cast in sequence such that no two adjacent pins are constructed consecutively within 48 hours of completing and starting an adjacent pin. Leave a central bund of soil as high as possible to allow propping off as required. As the excavation progresses steel beams shall be installed to support the ground floor at approximately 1.0m spacing together with precast concrete lintels in-between.

8.2.5 Once the sequencing is complete install temporary propping to existing wall around stair to allow beam below wall to be installed at ground floor level.

8.2.6 Lay down concrete blinding upon completion of the excavation to protect bearing ground.

8.2.7 Install below-ground drainage where necessary, including any manholes and sumps.

8.2.8 Install any necessary below-slab insulation, tanking/damp proof membrane as required.

8.2.9 Fix reinforcement and cast slab throughout with steps and wall and column starter bar where required.

8.3 Temporary Works

8.3.1 The temporary works will be designed to suit the soil conditions and contractor's method of working. A central bund will be left in the middle of the basement to allow the underpinning to be propped off as the construction proceeds through the property. When the contractor is appointed, he will be fully responsible for the temporary works including the design and erection.

8.4 Install New Steel Beams Beneath Existing Main House Walls:

8.4.1 Provided temporary propping and needling to existing internal and external wall, as necessary. Temporary concrete footings will likely be required beneath props or support off new basement structure.

8.4.2 Install new pad footings, strip footings and ground slabs where specified and removing existing foundations and coincides with these.

8.4.3 Install steel beams, steel columns as required, supported on new basement structure or new foundations. Install padstones where required.

8.4.4 Dry pack tight between new beams and existing walls.

8.4.5 Repair and make good existing structure as required.

8.5 Follow on Trades

8.5.1 The structural works are now complete and the work can concentrate on making the building weather-tight. The finishing trades can then commence through to completion.

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