S R Brunswick CEng, FICE, FCIOB

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Ref 2277 – R2

October 2022

Structural Report for the redevelopment of 26 Netherhall Gardens, NW3 Rear Garden Retaining wall

Introduction

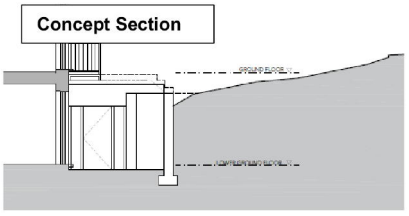
I am a Chartered Engineer with over 40 years' experience of structural design and review of residential and commercial properties. I am a fellow of both the Institution of Civil Engineers and the Institute of Building. I have been asked to report on the proposal to reconfigure the masonry retaining wall supporting the rear garden to give increased terrace space at Lower Ground level with access from the lower ground floor flat.

Description of works

The existing detached building is a substantial property built in the late 1800's with load bearing masonry walls and timber floors. The property comprises four floors including lower and upper ground floors. The Property has a significant number of trees to the front and side areas as outlined in the Assessment Feedback Plan produced by Crown Arboricultural Consultants which identifies the trees and associated Root protection areas, as attached to this report.

As part of the proposed works, it is intended that the open area accessible from the lower ground floor is extended and the existing masonry retaining wall is moved back into the rear garden. The new retaining wall will be taller than the existing retaining wall as the garden slopes upwards to the rear boundary.

The proposed wall will retain the sloping garden and so will be 3.5m high and designed to support a retained height of 4.5 to take account of the sloping garden with a live load allowance of 5KN/m^2 to allow for the garden to be used by other residents of the block.



The proposed structural solution will involve the construction of a reinforced concrete retaining wall with a varying wall thickness from 3oomm at the top to 500mm at the base to deal with the applied loads and to minimise deflection of the wall under

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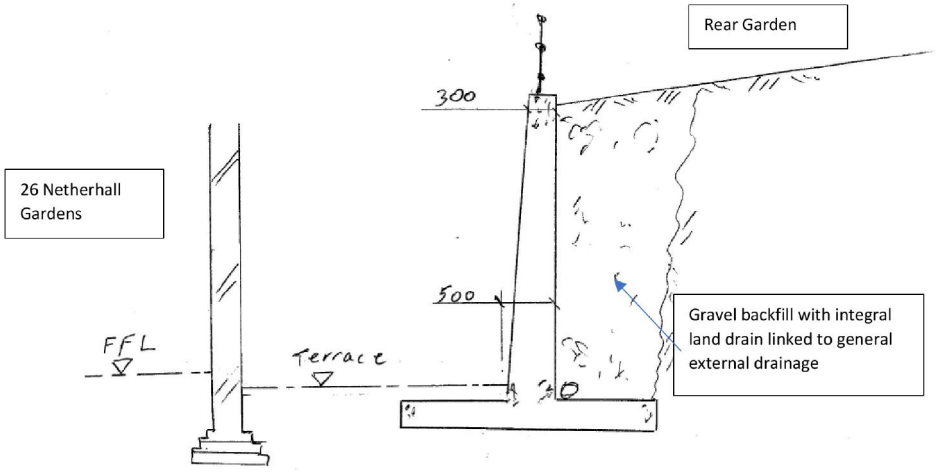
load. The wall will be designed with a heel for stability which will be backfilled with granular fill material to allow any ground water to drain away via the land drain at the base of the wall. Overall stability being achieved by the combined structure of the retaining wall incorporating a reinforced concrete slab forming the base of the Lower ground Floor Terrace, all as indicated below.



Proposed Section Through Rear Terrace Retaining Wall Showing line and profile of RC Retaining Wall

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