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Zorca Bloomsbury
86 – 88 Clerkenwell Road
London, EC1M 5RJ
Attention: Mr Robert Batrick

25th November 2024

Dear Mr Batrick,

RE: Substantiation of Structural Design Proposals – Pre-Commencement Condition 6

Further to the pre-commencement conditions included by the local authority with relation to Planning Permission – (LPA ref: 2023/1831/P) and subsequent requests from the planning consultant (Iceni) for further explanation as to how the structural designs prepared suitably address the concerns of the local authority, GHA Trees with assistance from HLS have prepared the following explanation.

Pre-Commencement Condition

Prior to the commencement of any construction works on site, details demonstrating how trees to be retained shall be protected during construction work shall be submitted to and approved by the local planning authority in writing. Such details shall follow guidelines and standards set out in BS5837:2012 "Trees in Relation to Construction". All trees on the site, or parts of trees growing from adjoining sites, unless shown on the permitted drawings as being removed, shall be retained and protected from damage in accordance with the approved protection details.

Reason: To ensure that the development will not have an adverse effect on existing trees and in order to maintain the character and amenity of the area in accordance with the requirements of Policies A2 and A3 of the London Borough of Camden Local Plan 2017.

Structural Designs

HLS have proposed the use of screw pile foundations for the proposed structures within the root protection areas ("RPA") of the site.

These areas have been informed from the Arboriculturist Impact Assessment and are considered appropriate.

Along with the proposed screw piles a block and beam floor arrangement has been proposed for the new Orangery to provide an air void beneath the floor slab.

These foundation types are supported by BS 5837 : 2012, with the following clauses cited in italics, with subsequent explanation provided against each.

BS 5837 (2012) Trees in relation to design, demolition and construction – Recommendations: Clauses 7.5 (Special engineering for foundations within the RPA) and 7.6 (Subterranean construction within the RPA) recommend:

- *7.5.1 Traditional strip footings can result in extensive root loss and should be avoided, but specially engineered structures may be justified if this allows good quality trees to be retained. Foundation designs should consider existing levels, proposed finished levels, and cross-sectional details. Site-specific and specialist advice regarding foundation design should be sought from the project arboriculturist and an engineer.*

Traditional strip footings have not been proposed within RPA's. Low level garden walls which are being formed on areas where existing hardstanding is to be removed have been demonstrated only, with screw piles utilised for all larger structures.

- *7.5.2 Root damage can be minimised by using piles supporting beams, laid at or above ground level, with site investigation down to a minimum depth of 60cm to determine their optimal location. Alternatively, structures can be cantilevered to avoid roots identified by site investigation.*

Screw piles have been specified with ground beams cast between the piles, at or above ground level, to support the larger structures.

- *7.5.3 Slabs for minor structure should bear on existing ground level, and should not exceed an area greater than 20% of the existing unsurfaced ground.*

The plant room slab is cast on existing ground level supported by screw piles and does not exceed an area greater than 20% of the existing unsurfaced ground.

- *7.5.4 Slabs for larger structures should be designed with an irrigation system and a ventilated air space between the underside of the slab and the existing soil surface. The design should take account of any effect on the load-bearing properties of underlying soil from the redirected roof run-off and prior approval should be sought from the building control authority.*

The original conservatory foundations have been retained to minimise the impact on surrounding RPA's and the Orangery extension slab has been designed with ventilated air space below the proposed beam and block floor.

- *7.5.5 The smallest practical pile diameter should be used to reduce the possibility of striking major tree roots. Small piles also reduce the size of the rig required and can reduce the need for access facilitation pruning. The pile type should be selected to protect RPAs from the potentially toxic effects of uncured concrete, e.g. sleeved bored pile or screw pile.*

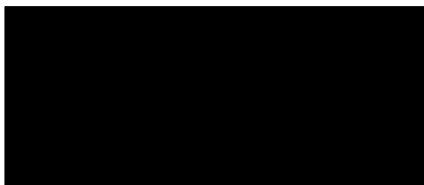
HLS have designed the smallest practical pile diameter available to reduce the risk of striking major tree roots.

Summary

We hope the above explanation is sufficient to provide comfort to the local authority that adequate consideration has been provided during the structural design and reviewed with the arboriculturist.

If you have any queries please do not hesitate to contact me.

Best regards



Glen Harding MICFor, MSc (Forestry), MArborA
For and on behalf of GHA Trees

