1. The Council’s main contention in BAS 05/14 is that the gardens above basements are at risk of being containerised leading to potential rooting or drainage constraints. Notwithstanding that this perceived problem could be overcome by design we provide evidence below that large, mature trees can be successfully grown in restricted conditions.

2. We had shown this condition previously, see Basement Force submission responses Ref 14, page 10, Fig 8 but this was ignored. We include this picture again below but with estimated dimension added this time.

Fig 8: Mature tree growth in planters

Minimum height of tree = 1.7 metres x 7
= 11.9 metres

Depth of soil < 1 metre
Volume of soil < 16 m³
3. We also include two further examples of large trees successfully grown in limited soil volumes. These trees have been grown in the restricted soil volumes shown in these pictures. Our expert witnesses will be able to confirm that trees of this size will be expected to grow to full size and maturity in these restricted rooting conditions given the correct water, nutrients, oxygen.
4. The volume of soil in a garden on top of basement of any area will be considerably greater than shown above.

5. The Council also contends that no evidence had been provided in our submission that trees of any size will grow on top of a basement. The Council has ignored Table 1 on page 6 of our submission Ref 14 which gives the area of a garden over a basement (5 m x 9.6 m) that will support large tree growth. This area is based on the required soil volumes given in the study "Trees in the Urban Landscape: Site Assessment, Design and Installation. Trowbridge J & Bassuk N (2004).
6. In paragraph 29 the Council states that they would age the tree at Bedford Gardens at nearer 15 years old. The garden designer has confirmed that the tree is about 40 years old, see e-mail below.

From: Luciano Giubbilei [mailto:garden@lucianogiubbilei.com]
Sent: 02 September 2014 16:19
To: Simon Haslam
Subject: Re: Age and any other information on the tree on the basement roof at Bedford Gardens

Simon

The tree is about 40 years old.

Luciano

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7. The tree at Bedford Garden has had nine months to establish since planting and can be seen in the pictures below to be healthy and establishing well. The pictures were taken in July 2014.
Bedford Gardens from ground floor facing to rear
8. The Council has dismissed the evidence provided on the poor quality of soils in RBKC, Basement Force response Ref 3, which provides 11 boreholes from across the borough all showing poor soil conditions. The Council has provided no evidence to show good soil conditions but has instead relied on historical anecdote of agricultural conditions from the 17th to 19th century.

9. The RBKC planning website has tens, if not hundreds, of boreholes from across the borough - all basement planning applications have had to provide a site specific borehole for several years. During our previous submission preparation we had searched to find examples of good quality, deep soils in order to show balance and to understand better any variation of the soils across the borough however we were unable to find any boreholes showing good quality soils.

10. We have demonstrated that the soils in the borough are often poor quality. Basement development in gardens therefore allows the Council, by planning condition, to improve the long term medium for planting of trees and other plants.

11. The Council states in paragraph 19 that we have made an assumption that the soil type at Egerton Crescent is poor and is conducive to deep rooting without us providing evidence as support. We now provide a trial pit and a borehole from 46 Egerton Crescent below that show that the soil is poor quality and that are assumption was correct.
Trial pit – showing no soil present. Ground is 700mm of loose light brown silty gravely fine to medium sand fill. Gravel of coarse angular brick, concrete, flint and tile. Some cobble size fragments of brick.
Borehole in rear garden – 200mm of grass over grey sandy topsoil with roots up to 2mm in diameter. Underlain by 1.5 metres of made ground over sands and gravels, likely to be Kempton Park Gravels.
12. The Council’s paragraph 41 states that our input to the Basement Working Group Meeting 1 on Thu 14 Feb 2013 was incorrect when we said that clay is impermeable. The Council makes this assertion based on a supposed link between clay permeability and subsidence being associated with water absorption in clays. There is no link between the two, clay is impermeable.


   ”However, because of the impermeable London Clay which lies beneath the gravel terraces there is a local perched water table which is fed by precipitation within the Thames Valley.” [Emphasis added]

14. Our view on surface water drainage is supported by the Alan Baxter report, reports by Arup for us [Basement Force response, Ref 15] and the Council’s RBKC Arup Geotechnics January 2008 study.

- END OF APPENDIX -