JANE AND DAVID CORNWELL

9 GAINSBOROUGH GARDENS
LONDON, NW3 1BJ.

1ST May 2014

Development Management (Camden Council)
Camden Council
6th Floor, Camden Town Hall Extension
Argyle Street
London WC1H 8EQ
FAO: Rachel Miller

Dear Ms Miller,

Re. planning application 10 CHRISTCHURCH HILL, LONDON NW3 - LPA REF NO: 2014/2116/P

ERECTION OF 3 STOREY PLUS BASEMENT HOUSE WITH REAR ADDITION AT FIRST FLOOR LEVEL AND MANSARD ROOF EXTENSION FOLLOWING PARTIAL DEMOLITION OF EXISTING EXTERNAL ENVELOPE

We object strongly to the above proposals for the following reasons:

1. No.10 Christchurch Hill, NW3, where the applicants propose their redevelopment, is situated in a conservation area which is cherished by local people as well as by visitors from all over the world who come to see its beauty for themselves.

2. The style and materials of the new development - a four-story slab-and-block building, huge windows

threatening the privacy and stealing the light from neighbours' houses, and the free use of ultra-modern tecu oxid material more suited to Canary Wharf - are all completely out of kilter with the surrounding buildings.

3. Quite apart from the aesthetics of the proposed redevelopment, there are structural issues which must be recognised. We have lived in this area for more than thirty-five years and remember, as will some members of the Council, the problems posed by the Fleet River which from time to time has caused road collapses - for example: in the road outside No. 9A Gainsborough Gardens on one occasion, and on another when a lorry fell into a hole that appeared in the road outside the Wells Tavern, and another occasion a collapse outside Burgh House. So the idea that this huge building will dig down into Christchurch Hill for its basement seems to be courting problems with drains and disruption on an unprecedented scale, especially given recent dramatic climate changes with torrential rains and consequent sudden rises in the water table.

I attach, in case the Council no longer has a copy of it, Dr Eric Robinson's geological objections to a proposal by an earlier neighbour of ours at No. 10 Gainsborough Gardens when he wanted to excavate to build a swimming pool in his garden which faced onto Christchurch Hill. The instability of the rock underlying the whole of this area is clearly explained in Dr Robinson's report.

We urge the Council to decline permission for this redevelopment of No. 10 Christchurch Hill.

THE

GEOLOGISTS' ASSOCIATION

FOUNDED 1858

Dr Eric Robinson,
Department of Geological Sciences
University College London
Gower Street
[redacted]

Geological objections against the proposed swimming-pool, 10, Gainsborough Gardens, Hampstead.

1. My name is Eric Robinson, Senior Lecturer in Geology, Department of Geological Sciences, University College London, Gower Street.

2. I graduated from King's College, Newcastle in 1946, and was awarded my Ph.D. in 1952 for research into the geology of the North Tyne Valley, now the site of Kielderwater Reservoir.

3. Over the past eleven years, I have taken an interest in the geology of North London and the influence which it has upon the ground stability and landscape. I have written several articles in the local Press when incidents involving geology have occurred, if only to stress the relevance of geological considerations in local planning decisions.

The Hampstead situation :

4. Hampstead and Highgate experience foundation problems as a direct consequance of the nature of the underlying rocks and the responses which they have to slope and building operations.

5. The hill tops are capped by a layer of Bagshot Sands, up to 30 or 40 feet thick, but often reduced to less as a result of erosion. They sit upon a mixture of clays and silts known to geologists as the Claygate Beds (up to 30 feet in thickness). Beneath both, there occurs a considerable thickness of London Clay, a blue-grey sticky clay with occasional seams of sand.

6. All of these rocks are geologically 'young' and without the mechanical strength commonly associated with rock in the popular sense of that word. The sands are friable and can be dug with the hands. The Claygate silts are only a little more consolidated, only the London Clay has any tenacity in exposed outcrops.

7. All the strata are horizontal in their disposition, but beds may have moved from their original position under gravity,

down slopes created by stream erosion. Locally, the headwaters of the River Fleet drainage have cut back into the higher ground of the Bagshot Sands, creating well-defined valleys. The Vale of Health survives as open space located within such a valley; similar valleys have been built over in the vicinity of New End and Christ-church Hill, giving the hilly character to built-up Hampstead.

8. Steep slopes created by stream erosion are prone to slippage of the valley sides under gravity alone. This tendency is increased by the weight and density of buildings loaded on to the slopes, a worry if anything increased by piecemeal development and re-building in contrasting styles.

9. Apart from the physical strength and character of the rocks which has been dealt with above, a cause for concern must be the contrasting responses to groundwater circulation which the local succession demonstrates. The higher sands have a high porosity, accepting large volumes of rainfall and surface run-off with little difficulty. Such water soaks down through the sand until reaching the underlying clays and silts which tend to check their flow. A consequence is that water is thrown out at surface close to the contact between sand and clay, in the form of springs The best known of these must be the Chalybeate Well in Well Walk,but in fact there are many.

10. Flow of water from springs promotes thelubrication of rock contact surfaces and may increase the risk of slippage on slopes. Flow also promotes the erosion of sands from the contact zone, creating sub-surface voids

11. The flow of water produces natural drainage patterns cutting into the rocks, runnels and trickles becoming streamlets and eventually streams which make a visible notch into the surface of slopes. Christchurch Hill is such a stream course.

12. The saturation of rocks varies from season to season, and with persistant drought or deluge. The changing levels of water within beds is known as the water table, a surface which continues subsurface beneath whole districts. The water table can be modified locally by deep foundationing, deep pipe-line laying, or leakage from district mains supply. Changes to the local water table can result in the drying out of ground previously continuously moist, resulting in local shrinkage and increased crumbling of soils. The opposite is also true, construction may cause ponding of

previously uninterrupted water flow, creating wetness and waterlogging where previously the ground had been well-drained. Such changes in water table should be borne in mind in all planning applications as any changes could have consequences for a neighbourhood.

13. In summary, the combination of rock character and the influence of the water table determine the stability of property and surface in Hampstead. Changes are constantly occurring in Nature; the system is not static. The outcome of such changes can be seen in the slopes which surround the Vale of Health, which include active and passive landslips, periodic ground collapse , and intermittent springs. In built-up Hampstead across East Heath Road, changes are less obvious from day to day, but can be dramatic when roads collapse (Burgh House, August 1988) or buildings crack. The whole area is in a state of delicate balance which needs careful consideration when new developments are proposed (the New End Hospital is fresh in the mind).

Local Conditions relevant to Gainsborough Gardens :

14. Gainsborough Gardens was planned to exploit the steady slope descending from Well Walk south eastwards to Heath Side. Locally, there is a steep slope to Christchurch Hill, which, as has been mentioned above (note 11), is the line of a stream course draining to the Fleet.

15. The local contact between Bagshot Sands and the Claygate Beds is very close to the line of Well Walk, a fact confirmed by the position of the Well itself, and the local record of wetness in gardens close to the line of the Walk, extending into observable outcrops to the east of East Heath Road.

16. From the nature of the slopes and the character of the local soils , it is possible that much of the area of the Gardens is underlain by slumped and slipped Bagshot Sands which have moved downslope from their original position, the whole area having become stabilised by time and the anchoring by the large Victorian houses of the estate. A similar situation can be noted in the vicinity of The Pryors on the edge of the Heath. Here, there are patches of distinctly sandy nature downslope from the outcrop of Sands which lies upslope close to Foley House.

17. Local events with a geological context are dominated by the road collapse at the junction of Well Walk and Flask Walk opposite Burgh House (August 1988). A combination of the natural seepages already mentioned (notes 10 & 11), and undoubted leakages from water mains, effectively leached away the soft Claygate Beds beneath the road surface. Observations of the local streets in wet weather makes it clear that much run-off simply disappears into the ground, most visibly in the gutters of Willow Road and Christchurch Hill, suggesting that natural drainage exists beneath much of thelocal slopes.

18. Up-slope from No.10, the toe of the slope to Christchurch Hill has already been disturbed by modern building extending further than the original Victorian houses of the Gardens. Excavation necessary for the construction of the swimming pool at No.10 , if it is to be of conventional depths, would both open up the present stable surface, and extend local diversions of the water table.

19. Taking into account the possible knock-on effects on adjacent properties, it needs also be taken into account the consequences of leakage or even normal discharge of thousands of gallons of water from thepool into a drainage system which is at best suspect. Surface water drainage has no better record than mains supply which admits a possible 25-30% loss from the piped system. Further aggravation should be avoided if possible.

20. In summary, I think that there are risks involved in the proposals which may or may not be critical. In the circum-stances, and these concerns could also relate to the stability of No.10 itself, it would seem better to err on the side of caution and turn down planning permission.

Enclosures:

Cuttings from local Press relating to incidents.
A map of the geology of the area.
A sketch-section of the ground beneath Gainsborough Gardens