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Mark Chan
Haringey Planning Service
5th Floor Alexandra House
10 Station Road,
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10th August 2026

Dear Mr Chan,

CASE REFERENCE: HGY/2026/1858

Approval of details pursuant to condition 8 (Chartered Engineer), 9 (Hydrogeological and Geotechnical Investigations), 10 (Ground Movement Assessment), 11 (Movement Monitoring) and 12 (Drainage) attached to planning permission ref: HGY/2024/1676

The Geotechnical Consulting Group have been engaged by Mr and Mrs Purves of No. 8 Grange Road and by Messrs.' Schulz and Cossio Murillo of No. 6 Grange Road, London N6 4AP, to review the information recently uploaded to the Haringey Planning Portal related to this case (reference HGY/2024/1676).

Our previous comments in relation to the Building Damage Assessments undertaken by Create (References 1 to 3) still apply. The documents have not been revised since they were previously submitted.

We note that in relation to the prediction of ground movements leading to potential building damage and hydrogeology, GEA (Reference 4) have undertaken a review of the previous submission. In our opinion this review does not address any of the planning conditions (Conditions 8 to 12) directly, it is merely a discussion of Create's submission which lacks detail. Even so, in our opinion, the GEA review is flawed.

Addressing each condition, we comment as follows:

Condition 8: No development, including any excavation, shall commence until a suitably qualified chartered engineer has been appointed to inspect, approve and monitor the critical elements of both the temporary and permanent basement works. Details of the appointment, including the engineer's qualifications and responsibilities, shall be

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submitted and approved in writing by the Local Planning Authority. The appointed engineer shall remain in post for the duration of the basement works

At present the building damage assessments have been based on an envisaged construction sequence and a series of assumptions which may or may not be valid. Potentially there has been no consideration of the practicalities of construction. We note the appointment of a permanent works engineer (EngineersHRW's letter dated 29th May 2026), but a suitably qualified engineer to undertake the design of the temporary works has not been appointed.

Temporary works design is an interactive process whereby account must be taken not just of the structural design but also potential ground movements. It is therefore important that the temporary works designer takes account of the effect of the temporary works design on the adjacent buildings and is able to demonstrate their competence in this matter. It is not simply a question of structural design; it is also a matter of soil-structure interaction.

At present no appointment of a temporary works designer has been made nor has there been a statement of the requirements needed to meet this role. Therefore, in our opinion, Condition 8 has not been addressed.

Condition 9: *Notwithstanding the information submitted to date, no development, including excavation, shall commence until a site-specific hydrogeological and geotechnical investigation has been carried out and submitted to, and approved in writing by, the Local Planning Authority. The investigations shall confirm groundwater levels and flow conditions at the site, assess the hydrogeological and geotechnical impacts of the approved basement, and set out any mitigation measures required to ensure that the development will not increase flood risk or adversely affect the structural stability of the neighbouring properties. The development shall thereafter be carried out strictly in accordance with the approved mitigation measures.*

Building Damage

At present the Create report (Reference 3) suggests that, depending on the assumptions made, Category 1 or borderline Category 2 damage could result by construction of the proposed scheme (see Figures 6.27b & 6.27c, Reference 3).

Both Create and GEA (Reference 4) based their assessments on the computer program WALLAP which assumes symmetry and it does not account for the props being linked across the excavation from one side to the other. As such the inevitable sway across the excavation cannot be accounted for and so displacements “upslope” are under-predicted; as a result, the potential damage to the adjacent properties will have been under-predicted. In these analyses, the supports to the retaining wall are fixed in space and have an infinitely stiff reaction rather than, as in reality, the reaction coming from the stiffness of the ground behind the “downslope” wall. In effect the analyses undertaken by Create and GEA assume that props compress against a fixed point which has no lateral displacement. This assumption is unrealistic.

The submitted assessment by Create took no account of sloping ground and it used an empirical methodology to determine ground movements remote from the basement, hence



building damage. Ground movements remote from the excavation do not come directly from the analyses performed. The methodology used by Create to estimate remote ground movements is described in CIRIA 760 (Reference 5). This methodology is based on two case histories, both in central London. The report states (we have emphasised the last sentence):

*“This relationship is based on the case studies that comprise a top-down construction sequence with diaphragm walls embedded in stiff clay retaining up to 10m thickness of coarse-grained soils overlying the stiff clay. The relationship shown in Figure 6.17 should only be applied in comparable ground conditions with similar support stiffness. **Caution should be exercised if this relationship is applied to situations that differ significantly from those applicable to the case studies that it is based on.**”*

According to Create (Reference 1) the ground conditions at Grange Road are as follows:

“Ground conditions at the Site comprised Made Ground over cohesive (clay) Claygate soils to approximately 2.0m bgl over granular Claygate soils to the maximum extent of the boreholes (13.2m bgl). The cohesive Claygate was indicated to be of intermediate to high plasticity. The sandy Claygate comprised a fine silty Sand of low permeability and included horizons of clay”.

The stiff clay referred to in CIRIA C760 is London Clay whereas the ground conditions at the Grange Road site are very different. The two case histories referred to are the House of Commons Car Park and the YMCA building in central London. Both these projects bear no relation to the proposed scheme in terms of ground conditions and the nature of the projects.

In view of the foregoing, we consider that the submitted assessments of building damage undertaken to date are not realistic.

Hydrogeology

Unless relief measures are put in place groundwater will be dammed on the upslope side of the basement and this will inevitably result in ground movements which are additive to those predicted by the building damage assessments. Potentially this will increase the damage to the adjacent properties.

Further just down Grange Road, damage to 4 Grange Road was observed which was attributed to adjacent basement construction (8 View Road). The comments made concerning the cause of the damage (our emphasis) to the building should be noted and were as follows (References 6, 7 & 8):

*“the “damming” effect causing changes in local groundwater levels leading to differential movements and the erosion of ground behind the retaining structure. **As such any design of basements in this locality should aim to minimise these effects by installing groundwater drainage or more particularly overflow measures.**”*



The issue of dewatering during excavation for the new basement has not been adequately addressed. Potentially during this process, the ground water table either side of the basement would be depressed and settlement of the adjacent properties result. The only way of preventing this would be to form a “cut-off” but given Create’s description of the ground conditions (see above) this seems very unlikely and therefore cannot be relied upon.

GEA (Reference 4) are of the view that a “cut-off” could be formed but their view is inconsistent with Create’s view of the ground conditions (Reference 1). Create, who oversaw the investigations, described the ground being as mixture of cohesive and granular soil as above (see Building Damage, above). It seems very unlikely that, given that the ground to depth has a relatively high permeability, a “cut-off” could be formed without making the piles much deeper. If the piles were deeper the displacements due to pile installation would increase and the effects on the adjacent properties would be greater.

It is not clear if the full hydrostatic head on the underside of the base slab has been accounted for in the design of the basement or if drainage beneath the slab will be included. If there is to be a drainage layer beneath the basement, the long-term effects of construction would be more severe.

The submissions made so far in terms of building damage assessments and hydrogeology are in our opinion flawed and do not adequately address the issues related to this development. As such we believe the information presented is insufficient to discharge Condition 9.

Condition 10: *Notwithstanding the information submitted to date no development, including any excavation, shall commence until an updated Ground Movement Assessment has been submitted to and approved in writing by the Local Planning Authority. The assessment shall use a methodology appropriate for sloping ground conditions and shall demonstrate that ground movements arising from the approved basement can be limited to Burland Category 1 for all neighbouring properties. The development shall thereafter be carried out strictly in accordance with the approved details.*

Assessments of building damage have been undertaken by Create (References 1 to 3) which do not consider sloping ground. GEA (Reference 4) produced a report which purports to consider sloping ground. However, as noted above (see comments related to Condition 9), these assessments do not account for the inevitable sway of the basement walls from one side of the excavation to the other with support from the ground on the downslope side of the basement. It is not sufficient or realistic to do as GEA (Reference 1) have to done and simply place a surcharge behind a retaining wall.

Both assessments have relied on the computer program WALLAP which is sometimes referred to as a “pseudo” finite element program, but it is not considered to be a full numerical analysis. A full numerical analysis would only be an analysis using either the finite element method (not pseudo finite elements) or a finite difference approach. Only these methods can realistically account for the sloping ground and predict ground movements remote from the basement and, consequently, building damage resulting from the construction processes. This is apparent from Table 1 below (Reference 9).



In view of the above, our opinion is there is no evidence that a suitable assessment has been submitted so far. As such we believe that Condition 10 has not been addressed.

Condition 11: *The basement works hereby approved shall be carried out under the continuous supervision of a suitably qualified chartered structural or geotechnical engineer. Movement monitoring shall be installed and undertaken in accordance with the updated Ground Movement Assessment approved pursuant to the condition above, with readings taken at the intervals specified therein. If monitoring identifies movement exceeding Burland Category 1 threshold, all excavation and basement works shall cease immediately until a revised mitigation strategy has been submitted to and approved in writing by the Local Planning Authority. The development shall thereafter be carried out strictly in accordance with the approved mitigation strategy.*

In terms of the qualifications for a geotechnical engineer, we would expect that the individual concerned would appear in the Register of Geotechnical Specialists (ROGEP). ROGEP is a scheme sponsored by the Institution of Civil Engineers, the Geological Society of London, the Institute of Materials, Minerals and Mining, Engineers Ireland and the Institute of Geologists of Ireland. Appearing on the register demonstrates competence in geotechnical engineering. As for the temporary works engineer, there are no proposals for an individual to fill this role nor is there a statement of the requirements needed to meet this role, noting our comments related to Condition 8.

METHOD OF ANALYSIS		DESIGN REQUIREMENTS						
		Stability			Wall & supports		Adjacent structures	
		Wall & support	Base heave	Overall	Structural force	Displacement	Structural force	Displacement
Closed form (Linear elastic)		No	No	No	Yes	Yes	Yes	Yes
Limit equilibrium		Yes	Separate calcul.	Separate calcul.	Yes	No	No	No
Stress field		Yes	Separate calcul.	Separate calcul.	Yes	No	No	No
Limit analysis	Lower bound	Yes	Separate calcul.	Separate calcul.	Crude estimate	No	No	No
	Upper bound	Yes	Separate calcul.	Separate calcul.	Crude estimate	Crude estimate	No	No
Beam-Spring approaches		Yes	No	No	Yes	Yes	No	No
Full Numerical analysis		Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 1: Design requirements for retaining structures.



We have not seen any evidence that a suitable monitoring system will be installed to monitor the behaviour of the surrounding buildings (before during and after construction) and to form a basis for control of the Works. Good practice is that a monitoring plan is produced that details the frequency of readings and the actions to be taken as and when trigger levels are breached. The plan should be sufficiently robust to allow preventative action to be taken before damage to the adjacent properties arises. **The monitoring system needs to be installed before construction** with sufficient time (months) for baseline readings to be taken and to capture seasonal variations. During this period the system should be read on a regular basis. We believe that the interval between readings should every 2 weeks, as a minimum, during this period.

Condition 12: *Notwithstanding the submitted Basement Impact Assessment (BIA) prepared by Create Engineering Ltd (Ref. AW/VL/P22-2546/02 Rev. K, May 2025), and following detailed design of the scheme, revised drainage layout drawings shall be submitted to and approved in writing by the Local Planning Authority prior to commencement of development (excluding demolition and site clearance). The drawings shall demonstrate full coordination with the approved structural and piling design to ensure feasibility and avoid physical conflict. The development shall thereafter be carried out in accordance with the approved drainage details.*

In this respect we concur with the comments made by Luca Frasca of Alan Baxter and reference our comments on the hydrogeological assessments (Condition 9). In this respect we believe that further work is needed before this condition can be discharged.

In conclusion we have reviewed the documentation provided on the planning portal relating to this case. We are of the view that, based the documents provided, Planning Conditions 8 to 12 have not been addressed. There are sound technical reasons why we believe this to be the case which we have set out in this letter.

In view of this we support the position whereby these conditions are not discharged.

Yours sincerely,

for GEOTECHNICAL CONSULTING GROUP LLP

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