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7 June 2019

Mr Narinder Lakhan Planning Officer London Borough of Wandsworth Housing and Community Services 2 Adelaide Road London SW18 1DA

By email only: nlakhan@wandsworth.gov.uk

Dear Narinder,

Winstanley and York Road Estate Regeneration Independent review of daylight and sunlight-related matters – final review report

1. Introduction

In accordance with your instructions, we have carried out an independent review of the documents submitted in support of the planning application for the proposed Winstanley and York Road Estate Regeneration development as relate to daylight and sunlight issues, both in terms of potential daylight, sunlight, overshadowing and solar glare effects on the site's surroundings and daylight/sunlight amenity within the proposed development.

We set out our interim findings on the potential effects on the surroundings in our letter dated 1 May 2019 and on amenity within the site in our email dated 15 May 2019. Following those findings, we received the applicant's consultant's rebuttal dated 28 May 2019 (copy attached).

This letter repeats the text of interim findings in our letter and email dated 15 May 2019 and 28 May 2019 respectively. It then goes on to add our review comments on the applicant's rebuttal response. This letter therefore constitutes what I expect to be our final review report.

2. Independent review of daylight, sunlight, overshadowing and solar glare effects on surroundings

We have carried out an independent review of the following applicant documents on daylight, sunlight, overshadowing and solar glare effects on surroundings:

- December 2018 ES chapter and appendices prepared by the Applicant's consultant, GIA,
- December 2018 stand-alone daylight and sunlight report and appendices on the impacts on surrounding properties, also prepared by GIA.

The ES chapter assesses the likely significant effects of the maximum parameters massing in conjunction with the detailed Phase 1 proposals and is therefore a worst case scenario. It also includes an assessment of an interim scenario and a cumulative assessment in conjunction with other cumulative schemes. It covers daylight and sunlight to buildings, overshadowing to amenity spaces and solar glare effects.

The standalone report contains the same daylight and sunlight data but also assesses the potential effects of the illustrative masterplan massing and detailed Phase 1 proposals. The report argues that the effects identified in that scenario are therefore potentially a more realistic impact assessment than the worst-case maximum parameters assessment in the ES. The report also provides a contextual analysis of the surrounding area, including other proposed developments within the vicinity, particularly to the west of the site.

Also at: Delva Patman Redler LLP The Plaza 100 Old Hall Street Liverpool L3 9QJ Delva Patman Redler LLP Registered in England & Wales OC335699 A list of members can be inspected at our Registered Office above Regulated by RICS We have been asked to review the assessments and advise on the suitability of their scope, method of assessment, criteria used, results produced and conclusions reached by the consultant. This is to assist the Council in understanding the robustness of the assessments that have been submitted and the potential effects of the proposed development on the surrounding environment having regard to planning policy and published guidelines.

This review does not extend to a detailed technical analysis of our own, nor have we checked the consultant's 3D computer model or calculations. We have assumed that the assessment is accurate and simply report on the results and conclusions; although, if we feel there is reason to seek confirmation on matters affecting accuracy we have stated so below.

For ease of identification, any sections of text in this letter where I recommend referring queries back to the applicant I have highlighted orange for ease of identification.

2.1 Planning policy and guidance

The relevant national, regional and local planning policy is summarised in the ES and standalone report. In essence, the Council's local planning policy seeks to avoid significant adverse impacts on the daylight and sunlight conditions of the surrounding environment.

The leading guidelines on daylight and sunlight amenity are published by the Building Research Establishment in BRE Report 209 'Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice' (second edition, 2011).

The Mayor of London's 'Housing Supplementary Planning Guidance' (March 2016) advises that the BRE guidelines should be applied with an appropriate degree of flexibility and sensitivity to higher density housing development, especially in opportunity areas, town centres, large sites and accessible locations. It suggests that account should be taken of local circumstances, the need to optimise housing capacity and scope for the character and form of an area to change over time. The site is apparently earmarked for redevelopment and increased density in the Wandsworth Local Plan Site Specific Allocations Document (March 2016).

The National Planning Policy Framework (NPPF) (revised July 2018) includes a chapter entitled "*Making effective use of land*", which promotes the effective use of land in meeting the need for homes and other uses. Under the heading "*Achieving appropriate densities*" it urges local planning authorities to refuse applications which they consider fail to make efficient use of land, taking into account the policies in the NPPF. When considering applications for housing, "*Authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight, where they would otherwise inhibit making efficient use of the site (as long as the resulting scheme would provide acceptable living standards).*"

An example of this flexibility in application is given in an Inspector's appeal decision in February 2018 (Appeal Ref: APP/E5900/W/17/3171437) in relation to The Whitechapel Estate (site between Varden Street and Ashfield Street, London E1) within the London Borough of Tower Hamlets. In that case the Inspector noted that evidence submitted by the applicant showed that "a proportion of residual VSC values in the mid-teens have been found acceptable in major developments across London [which] echoes the Mayor's endorsement in the pre-SPG decision at Monmouth House, Islington that VSC values in the mid-teens are acceptable in an inner urban environment." A noticeable adverse effect might therefore nonetheless be considered acceptable if, in an urban area like London, a proportion of retained daylight levels would be in the mid-teens for VSC, with a smaller proportion in the bands below 15% VSC.

In the <u>*Rainbird*</u> judicial review the judge noted that the assessment of impact on daylight and sunlight amenity is a two-part process:

- First, as a matter of calculation, whether there would be a material deterioration in conditions; and
- Second, as a matter of judgment, whether that deterioration would be acceptable in the particular circumstances of the case, including the local context.

In Appeal Ref: APP/E5900/W/17/3191757 (Enterprise House, 21 Buckle Street, London E1 within the London Borough of Tower Hamlets) the Inspector noted that matters forming part of the first stage include the usual daylight and sunlight calculations and quantification of reduction in light, as explained in the next section of this letter. Matters forming part of the second stage include much wider considerations, such as:

i. Whether the neighbouring building stands unusually close to the site boundary, including the highway, taking more than its fair share of light, such that a greater reduction in light may be unavoidable if one site is not to

be prejudiced by how another has been developed. This can potentially be demonstrated with a mirror massing test.

- ii. Whether windows in neighbouring buildings are self-obstructed by overhanging or inset balconies or other projections such as to make relatively larger reductions unavoidable even if there is a modest new obstruction opposite (per *Rainbird*) in effect themselves taking away more than their fair share of light.
- iii. In historic city centres or areas characterised by modern tall buildings, high density and close proximity, a higher degree of obstruction may be unavoidable if new buildings are to match the height and proportion of existing buildings.
- iv. In areas that are designated by the local planning authority for substantial growth or providing opportunities for change and sustainable regeneration, the sort of change that would be brought about by the introduction of taller, denser development is to be expected, including reductions in daylight and sunlight levels, closer proximity, loss of outlook, etc.

With the above in mind it is clearly important to apply the daylight and sunlight guidelines flexibly and to have regard to context, adequacy of retained daylight levels and other contributory factors. I therefore concur in principle with the arguments made in that respect within the standalone report, including at paragraphs 1.2 to 1.12 and 1.19 to 1.20 of its Executive Summary.

2.2 Relevant guidelines for daylight, sunlight, overshadowing, solar glare

Please refer to Appendix 1 of this letter for a summary of relevant guidelines for daylight, sunlight, overshadowing, solar glare, including assessment methodology and numerical criteria, as published by the Building Research Establishment (BRE), British Standards Institution (BSI). The appendix also explains the terminology and acronyms used in this letter (e.g. VSC, NSL, ADF, APSH, WPSH, etc.)

The applicant's ES summarises the relevant guidelines appropriately.

2.3 Scope of the assessments

The ES includes assessments of the following scenarios:

- Daylight and sunlight impacts within the site boundary from an interim scenario (Phase 1 blocks 1, 5 and 6, plus maximum parameters massing for blocks 7, 10 and 11) (release 24, issue 06)
- Daylight and sunlight impacts from Phase 1 and maximum parameters massing (release 25, issue 01) on existing surrounding properties
- Cumulative daylight and sunlight impacts from Phase 1, maximum parameters massing and cumulative schemes at Heliport House, 198 York Road, 58-70 York Road, 100 York Road, Land North of Grant Road and Plantation Wharf Estate (release 25, issue 02) on existing surrounding properties
- Daylight and sunlight impacts from Phase 1 and maximum parameters massing on consented neighbouring developments
- Solar glare from Phase 1 at key points on the surrounding highways

The standalone report includes the same daylight and sunlight assessments as the ES, plus the following:

• Daylight and sunlight impacts from Phase 1 and illustrative masterplan massing (release 24, issue 01), including an additional assessment of St Peter's Church/Parkside without its balconies (release 25, issue 03)

The following scenarios are illustrated in Appendix 15.1 of the ES:

- baseline scenario drawing numbers 12499/25/01/001 to 003
- interim scenario drawing numbers 12499/24/06/001 to 006
- development scenario (Phase 1 and maximum parameters massing) drawing numbers 12499/25/01/001 to 003
- cumulative scenario (as existing or development scenarios, plus cumulative schemes) drawing numbers 12499/25/02/001 to 003 and 12499/25/04/004 to 006

The following additional scenario is illustrated in Appendix 02 of the standalone report:

 development scenario (Phase 1 and illustrative masterplan massing) - drawing numbers 12499/24/01/004 to 006

As the maximum parameters massing has been used for the outline element in the ES, this presents a worse case. As the illustrative masterplan massing has been used for the outline element in the additional assessment in the standalone report, the standalone report argues that this presents a more realistic assessment of impact. That seems an understandable and potentially reasonable point to make, although there would be scope for impacts to increase if the detailed scheme that ultimately comes forward is closer to the maximum parameters massing.

The BRE preliminary 25° angle and 90° orientation tests are said to have been applied to scope the sensitive receptors for daylight and sunlight assessments. Lists of all receptors that have been assessed are set out in Tables 15.1, 15.2 and 15.3 of the ES and appear to be comprehensive. The locations of the receptors is apparently illustrated in Figures 15.3 to 15.7 inclusive, but I do not appear to have been supplied with a copy of any of the figures from the ES. However, the receptors and the other cumulative schemes are also shown in Figure 03 in the standalone report.

The scope of the assessments is considered appropriate.

2.4 Applicant's assessment methodology and application of the guidelines

I have reviewed the scope and methods of assessment and am satisfied that they are sufficient and in accordance with the guidelines, with some qualifications, as explained below.

3D modelling and sources information

The 3D computer model used in the assessment was built from various sources of information including detailed 3D laser scan measured survey (point cloud), a 3D massing model produced from photogrammetry, and site photos. I have no reason to doubt it is sufficiently accurate for the purposes of the assessment.

Research was undertaken to obtain floor plans of the neighbouring properties where possible, so that room uses could be identified and room layouts adopted, which is particularly relevant to NSL and ADF testing. The properties where plans have been used are listed in paragraph 4.4 of the standalone report and copies of the plans are reproduced at Appendix 03 of the standalone report. The list is not repeated within the ES. In other properties, room layouts and uses have been assumed.

Ordinarily I would consider the approach that has been taken to researching layout plans for the neighbouring properties to be acceptable. However, having checked the Council's online planning records myself for five properties for which plans were not obtained I found plans readily available for three of them, namely Fairchild Close, Penge House, John Kirk House. Also, given the Council's role as landowner I would have expected it to have made available to the applicant floor plans for the buildings within the site boundary that have been assessed in the interim scenario. I recommend the applicant be asked to revisit its research, undertaking further online research as necessary, and for the Council to make available floor plans for the relevant properties within its site. Where these efforts yield further plans, the applicant should be asked to comment on the implications for the findings of its assessment, both in terms of accuracy of the NSL and ADF results and the sensitive of the room use.

Assessment methodology – impacts on surrounding environment

The correct BRE assessment methodology has been used for assessing the effects on existing surrounding properties, including daylight (the two-part assessment of VSC and NSL) and sunlight (the two-part assessment of APSH annually and in winter) to buildings.

Although APSH is calculated per window, for rooms served by multiple windows the BRE guide permits account to be had for sunlight reaching all the windows. For example, if a room has two windows on opposite walls, the APSH due to each can be simply be added together. If they are on the same wall or adjacent walls it is not so straightforward, as there is a risk of double counting the available sunlight. Fortunately, the software used by a number of consultants, including the applicant's, avoids any double counting and accurately calculates the aggregate APSH to the room. I therefore agree with the applicant's consultant's approach of assessing sunlight effect significance based on the room-based APSH results. The results tables appended to the ES contain just room-based results, whereas the versions appended to the standalone report include both window-based and room-based results, presumably for completeness.

The relevance of Appendix 05 of the standalone report, which contains a letter from the author of the BRE guide clarifying certain aspects of the BRE assessment methodology, is unclear as I cannot find it referenced anywhere within the text of the report. I recommend the applicant be asked to explain.

For unbuilt or as-yet-unoccupied buildings, the ADF assessment has been undertaken, which is considered appropriate. The parameters used in the ADF assessment for reflectance of the room surfaces and dirt on glass are considered appropriate. The value assumed for diffuse light transmittance (0.75 quoted in Table 01 on page 3 of the impact assessment towards the end of Appendix 15.2 of the ES) appears to be optimistic. Such a figure is more likely to be the direct light transmittance, in which case it would need to be multiplied by a factor of 0.91 and the relevant results recalculated, as the ADF values would then be lower. The applicant should be asked to respond to this comment.

In line with the BRE guidelines, an additional 'without balconies' assessment has been run for the flats at 23-32 Plough Road adjacent to St Peter & St Paul Church. The purpose of this test is to investigate whether the balconies or other daylight-inhibiting projections are the main factor in the relative light loss and it is a reasonable supplementary test.

Sunlight to specific amenity spaces has been assessed using the BRE two-hours sun-on-ground assessment on 21 March and transient overshadowing studies have been undertaken comprising hourly snapshots on 21 March (spring equinox), 21 June (summer solstice) and 21 December (winter solstice) for each scenario.

The potential for reflected solar glare to occur at the selected points on the highway has been assessed for the detailed Phase 1 using an appropriate common-practice methodology, as described in the appendix to this letter.

2.5 Significance criteria adopted within the assessments

Daylight/sunlight to neighbouring properties and overshadowing

The ES applies the BRE standard numerical guidelines for daylight and sunlight to existing surrounding buildings and sunlight to amenity spaces. To assist the understanding of the impacts, the assessment categorises the magnitude of change in daylight/sunlight using the bandings set out in the table below.

Table 1 – Categorisation of magnitudes of effect

Effect satisfies the BRE	Effect	does not satisfy the BRE guidelines		
guidelines	20% to 29.9% reduction	30% to 39.9% reduction	≥40% reduction	
Negligible change	Minor magnitude of change	Moderate magnitude of change	Major magnitude of change	

When determining the significance of the impact on a dwelling or group of dwellings, Appendix I of the BRE guide, which provides guidance for use in EIAs, notes that it is important to consider the number of impacts that are outside the BRE guidelines, the magnitude of the impacts and the margin by which they are outside, the sensitivity of the receptors (in terms of the strength of their requirement for daylight and sunlight), whether the receptors have other sources of light and whether there are particular reasons why an alternative, less stringent, guideline should be applied (as advised in Appendix F of the BRE guide). See paragraph 15.75 *et seq* of the ES and Appendix 1 to this letter for further information on this point. The standalone report proposes the adoption of alternative target values that a lower, because of the urban context – see the next section of this letter for further details.

There are no published numerical criteria for transient overshadowing and significance therefore relies on professional judgement, which is considered an acceptable approach.

The approach taken to assessment of effect significance in EIAs is, necessarily, fairly mechanistic so as to be consistent between topics and chapters. The standalone report therefore goes further and looks at the impacts and reasonableness of the retained levels of daylight and sunlight in the context of the surroundings, which of course are changing, with the introduction of other nearby developments, and other contributory factors. For the reasons I have explained in section 1 of this letter I consider this to be an acceptable approach.

<u>Solar glare</u>

There are no published numerical criteria for solar glare. The significance criteria adopted in the ES is explained at ES paragraphs 15.69 to 15.74 and has regard for the recommendations in CIE 146:2002, *'CIE Equations for Disability Glare'* published by Commission Internationale l'Eclairage, which is considered reasonable.

2.6 Contextual analysis and alternative target values

Section 6 of the standalone report repeats the assessment methodology described in the ES and emphasises the planning policy context in which the daylight and sunlight effects should be assessed. This notes that that the Draft London Plan and the Mayor of London's Housing Supplementary Planning Guidance support a contextual approach to the design of new developments and a flexible application of daylight and sunlight guidance with due regard for the emerging context and careful consideration of the location and context and standards experienced in broadly comparable housing typologies within the area and of a similar nature across London. The Housing SPG advises that the BRE guidelines "should be applied sensitively to higher density development, especially in opportunity areas, town centres, large sites and accessible locations, where BRE advice suggests considering the use of alternative targets" and that "This should take into account local circumstances; the need to optimise housing capacity; and scope for the character and form of an area to change over time."

The standalone report therefore proposes the use of alternative target values for daylight and sunlight to neighbouring dwellings, which would take into account the proposed transformation of the site from a low density housing estate to a modern high-density one that optimises housing capacity and is more in keeping with the emerging context principally to the north and west of the site

The report contains an analysis of the emerging context and the consented developments to the north and west and one to the south. This includes a detailed review of the daylight and sunlight reports for those consented schemes, including percentage adherence to the guidelines, magnitudes of impact and retained values in the proposed conditions. Having regard to this context and the applicant's consultant's experience elsewhere, including on the Whitechapel Estate appeal that I have referred to above, the standalone report proposes the following alternative target values for daylight and sunlight to dwellings:

- Vertical sky component: 15% VSC instead of the BRE standard target of 27% VSC
- Daylight distribution/no-sky line: 50% of the room area instead of the BRE standard target of 80%
- Annual probable sunlight hours: 15% APSH annually and no target for winter instead of the BRE standard target of 15% APSH annually of which 5% APSH should be in the winter months.

Paragraph 6.37 of the standalone report suggests that the alternative target values were used within Chapter 15 of the ES and that *"the reasoning for this is set out within that Chapter"*. In fact, I can find no mention of the use of alternative target values within the ES. On the contrary, the criteria in Table 15.4 and the statement in paragraph 15.82 of the ES Chapter 15 makes it clear that the BRE standard targets were adopted in the ES. I assume, therefore, that paragraph 6.37 is an error and that the alternative target values have only been used within the standalone report as a basis for seeking to justify the acceptability of the impacts. The applicant should be asked to clarify that my understanding is correct and that the statement in paragraph 6.37 of the standalone report is an error. Assuming my understanding is correct, I believe this approach is reasonable in principle and that the suggested alternative target values are not unreasonable for a dense urban area. Obviously, it is for the Council to decide upon the appropriateness of the proposed massing changes and the application of these alternative target values to the properties that surround the site.

Section 6 of the standalone report also explains the relevance of looking at other factors in the relative light loss, such as the presence of overhanging balconies or other structures that limit the available light and make the windows beneath more susceptible to larger relative losses. Under the BRE guidelines it is appropriate to run a supplementary assessment without the overhanging balconies to establish whether the balconies are the main factor in the relative light loss. This is a reasonable approach.

2.7 Effects of interim scenario

The ES includes, in paragraphs 15-105 to 15-195, an assessment of the effects of an interim scenario on six existing buildings within the site boundary (Ganley Court, Gagarin House, Shepard House, Farrant House, Chesterton House and Darien House) and various amenity spaces, all of which would not be cleared to make way for subsequent phases of the development for up to ten years. The interim scenario comprises the detailed Phase 1 blocks 1, 5 and

6, plus maximum parameters massing for blocks 7, 10 and 11. The effects have been classified as 'temporary' to distinguish them from the long-term effects of the completed development, which I consider to be appropriate.

Of the 1,385 windows and 755 rooms assessed in the six buildings concerned, 1,158 windows (84%) would meet the BRE VSC criteria and 716 rooms (95%) would meet the BRE NSL criteria. Furthermore, of the 412 rooms assessed for sunlight, 381 (92%) would meet the both the annual and winter APSH criteria. Tables 15.7 and 15.8 summarise the impacts for each building and further discussion is provided in subsequent paragraphs.

I concur with the significance ascribed to the effects, which are repeated in the tables below for convenience.

Table 2 – Significance of daylight and sunlight effects of interim scenario, as stated in the ES

Address	Significance of daylight effects	Significance of sunlight effects
Ganley Court	Moderate adverse	Insignificant
Gagarin House	Minor adverse	Minor adverse
Shepard House	Minor adverse	Moderate adverse
Farrant House	Minor adverse	Insignificant
Chesterton House	Minor adverse	Insignificant
Darien House	Moderate adverse	Moderate adverse

Table 3 – Significance of overshadowing effects of interim scenario, as stated in the ES

Address	Significance of sunlight effects
Communal Amenity Area and Play-space between Ganley Court, Gagarin House and Shepard House	Minor adverse
Chesterton House Amenity Area	Moderate adverse
Amenity Area west of Darien Road	Minor adverse
Shepard House Amenity Area	Insignificant
Jackson House Amenity Area	Insignificant
Private Gardens to Ganley Court, Shepard House, Darien House and Farrant House	Insignificant

Section 10 of the standalone report discusses in further detail the three buildings that would experience moderate adverse daylight and/or sunlight effects, namely Ganley Court, Shepard House and Darien House. The internal layouts of these properties have all been assumed, which may need to be revisited, as suggested above.

The report identifies that the following factors need to be borne in mind when considering the moderate adverse impacts:

- Ganley Court: the windows whose daylight would be adversely affected would retain daylight that could be considered adequate for an urban area (mid-teen VSCs or above), except where they sit under overhanging structures, which limit the view of sky
- Shepard House: the windows whose daylight would be adversely affected sit under overhanging structures that limit the view of sky and most of those whose sunlight would be adversely affected would retain ≥18% APSH, which I would consider reasonable for an urban area
- Darien House: the adversely affected windows sit under overhanging structures that limit the view of sky and many of those whose sunlight would be adversely affected would retain ≥16% APSH, which I would consider reasonable for an urban area

(Note: paragraphs 10.2.6 and 10.3.6 incorrectly refer to "annual sun hours" and a "25-hour target" when they should refer to annual probable sunlight hours and a 25% APSH target.)

Neither the ES nor the standalone report includes any window location drawings with which to identify the affected windows, so I have been unable to verify whether many of them sit beneath overhanging structures. Assuming the more poorly lit windows do sit beneath overhanging structures, the point is a reasonable one to make, in my view. If you wish to understand the locations of the more adversely affected windows you may wish to ask the applicant to provide you with window maps with which you may then cross-reference the detailed results in the first table in Appendix 15.2 (Release 24, Issue 06, 45 pages).

The overshadowing results are illustrated in the hourly snapshots in section 2 of the overshadowing assessment at Appendix 15.3 of the ES.

2.8 Effects of the hybrid application proposed development on the surroundings

Daylight and sunlight to neighbouring properties

The baseline levels of daylight and sunlight to surrounding properties are summarised in Table 15.6.

Maximum parameters massing

The ES includes an assessment of the effects of Phase 1 and maximum parameters massing, which I will call the 'maximum parameters scheme', relative to the existing baseline. In reality, the effects would occur more gradually, as the development is undertaken in phases.

Detailed tables of daylight and sunlight results for the maximum parameters scheme are contained in Appendix 15.2 (Release 25, Issue 01, 208 pages), including levels enjoyed in the existing baseline scenario and proposed (maximum parameters scheme) scenarios and the magnitudes of impact, expressed as both absolute losses and percentage losses. The results are summarised in Tables 15.9 and 15.10.

In total, 6,172 windows and 3,782 rooms were assessed for daylight and 1,824 rooms were assessed for sunlight. 4,144 windows (67%) would meet the BRE VSC criteria and 3,180 rooms (84%) would meet BRE NSL criteria. A further table provided by GIA (copy attached) summarises the rate of compliance with the guidelines for each building, which shows that overall 2,310 rooms (61%) would satisfy both VSC and NSL criteria, meaning that 39% of neighbouring rooms would experience a notice a reduction in daylight with the maximum parameters massing. Turning to sunlight, 1,516 rooms (83%) would meet both the BRE annual and winter APSH criteria, meaning that 17% of relevant neighbouring rooms would experience a notice a reduction in sunlight.

The impacts of the maximum parameters scheme on daylight and sunlight are described in paragraphs 15-196 to 15-467 and paragraphs 15-468 to 15-581 respectively, including the number of windows or rooms affected in the group and the magnitude of effect. The ES ascribes an overall significance to the effects on each property. Mitigation measures and likely residual effects are summarised in Table 15.11 of the ES. I have reproduced the significance of effects in the second and third columns of Table 4 below.

Illustrative masterplan scheme

The standalone report includes tables of results of an assessment of the effects of the Phase 1 and illustrative masterplan massing, which I will call the 'illustrative masterplan scheme', relative to the existing baseline. Detailed tables of daylight and sunlight results for the illustrative masterplan scheme are contained in Appendix 04 (second table, Release 24, Issue 01, 120 pages plus 4 pages for 98 York Road) in a similar format to the maximum parameters scheme assessment.

The standalone report does not contain summary tables for the illustrative masterplan results equivalent to Tables 15.9 and 15.10 of the ES for the maximum parameters scheme. However, GIA did provide me with a separate summary table (copy attached) summarising the rate of compliance with the guidelines for each building. This shows that 4,673 windows (76%) would meet the BRE VSC criteria and 3,409 rooms (90%) would meet BRE NSL criteria. Overall 2,654 rooms (70%) would satisfy both VSC and NSL criteria, meaning that 30% of neighbouring rooms would experience a notice a reduction in daylight with the illustrative masterplan scheme. Turning to sunlight, 1,622 rooms (89%) would meet both the BRE annual and winter APSH criteria, meaning that 11% of relevant neighbouring rooms would experience a notice a reduction in sunlight.

Section 9 of the standalone report examines in more detail the 23 properties that would, according to the findings of the ES, experience moderate or major adverse effects with the maximum parameters massing. That is on the basis that the other 75 properties assessed would experience effects that are either insignificant or of minor adverse

significance, both of which, it is contended, could be considered acceptable. I believe that is a reasonable approach. The 75 properties with only insignificant or minor adverse effects are identified by the grey-coloured rows in Table 4 below and the phrase "*not examined further*", meaning they were not examined further in the standalone report.

The standalone report takes each of the 23 properties with moderate or major adverse impacts in turn and examines the effects of both the maximum parameters scheme and the illustrative massing scheme. It should be notes that 'properties' range from individual houses to whole blocks of flats. The report describes the number of windows or rooms affected in each 'property' and the magnitude of effect for each of the two proposed scenarios. It also highlights wider considerations of relevance to each property when considering the acceptability of the impacts (as noted by the Inspector in the 21 Buckle Street appeal, which I referenced on page 2 of this letter), including the retained levels of light, whether its windows are self-obstructed in some way by projecting structures, whether a higher degree of obstruction may be unavoidable if new buildings are to match the height and proportion of other development in the vicinity and the fact that the area is designated by the Council for providing opportunities for sustainable regeneration where taller, denser development involving reductions in daylight and sunlight levels is to be expected. The commentary is supported by window maps, although the text is so blurred that it is generally impossible to decipher the window references, so they are not of as much assistance as they could be. You may wish to ask the applicant for a crisper versions of the window maps.

I have noted in the final column of Table 4 below my comments on the significance of the effects of the maximum parameters scheme and/or illustrative masterplan scheme and/or other relevant considerations for each property.

	Maximum para	meters scheme	DPR comments on
Address	Significance of daylight effects	Significance of sunlight effects	illustrative masterplan (IMP) and/or other relevant considerations
21-32 Carmichael Close	Moderate adverse	Insignificant	MaxP: Larger relative daylight losses are to windows with low VSC values, so absolute VSC losses are actually small. IMP: lesser impact. No window map identifying windows.
1-4 Fairchild Close	Insignificant	Insignificant	Not examined further
5-8 Fairchild Close (1 building)	Major adverse	Insignificant	Assessment used assumed layouts despite plans available online. Faces undeveloped part of site. MaxP: 1st floor retains mid-teen VSC (reasonable for a dense urban area); 2 nd floor retains lower VSC, but deep overhanging eaves is a contributory factor. IMP: Similar to MaxP.
9-22 Fairchild Close (14 buildings)	Major adverse	Major adverse	Assessment used assumed layouts despite plans available online. Faces undeveloped part of site. MaxP: Gnd floor, presumed living: 40-77% loss of VSC, 16-69% loss of NSL, 55-75% loss of annual APSH, 85-90% loss of winter APSH; about half retain mid-teen VSCs, other half retain ~5-15% VSC (coloured yellow on window maps) and about a third retain <50% NSL. 1 st floor, presumed beds/baths: greater relative impacts, albeit overhanging eaves is a contributory factor. Overall: Major adverse impacts and retained daylight levels would be low even for an urban area. IMP: Similar to MaxP.
23, 24-29, 30-38, 47-49 Fairchild Close (4 buildings)	Insignificant	Insignificant	Not examined further
39-46, 50-53 & 54-59 Fairchild Close (3 buildings)	Insignificant	Minor adverse	Not examined further
69, 67 & 65 Heaver Road, 1-12 & 14 Fawcett Close (5 buildings)	Insignificant	Insignificant	Not examined further
Penge House	Moderate adverse	Minor adverse	MaxP: Although some windows/rooms lose up to 52% of their VSC and up to 47% of the NSL, they retain >15% VSC and >50% NSL, which could be considered reasonable daylight for a dense urban area. (Fig.36 window map appears to be showing the wrong elevation – W19-W24 when it should be showing W1-W6.) IMP: Similar to MaxP.

Table 4 – Significance of daylight and sunlight effects and DPR comments

	Maximum parameters scheme		DPR comments on	
Address	Significance of daylight effects	Significance of sunlight effects	illustrative masterplan (IMP) and/or other relevant considerations	
Falconbrook Primary School	Moderate adverse	Major adverse	Note: The ES (paras. 15.492-15.498) inexplicably groups this school building and neighbouring John Kirk House (sheltered housing) despite being separate properties and different uses. I have separated them out for the purpose of my review and comments, which is the approach taken in the standalone report.	
			MaxP: Although some large reductions in VSC (up to 68% loss), the very large windows should mean the retained VSCs (typically 10-15% VSC to the most adversely affected windows) and high NSL levels afford reasonable daylight. I do not regard schools as having a particular requirement for sunlight, nevertheless the retained levels are reasonable.	
			IMP: Slightly less impactful than MaxP.	
John Kirk House (1-5 Mantua Street)	Major adverse	Major adverse	Note: See above comment in relation to primary school. Purpose- built rental sheltered housing at 1-5 Mantua Street. Layouts have been assumed despite plans being readily available online. Assessment used assumed layouts despite plans available online. Partly faces underdeveloped part of site (car park). MaxP: Moderate and major reductions in VSC (up to 50% loss) and NSL (up to 79% loss) to various living rooms, kitchens, bedrooms and common rooms served by 51 windows. 41 of those retain >15% VSC (reasonable for urban area) and 9 retain 10- 15% VSC (on the low side even for urban area). Only one window would retain <10% VSC, but sits beneath canopy that is a contributory factor and serves a large open-plan common room that is also served by two other large better-lit windows. Some poor retained NSL values (as low as ~25% lit). Annual sunlight satisfies either the BRE target or the proposed alternative target values (>15% APSH), meaning the larger adverse impacts are generally to winter sunlight (75-100% loss on the ground floor). I recommend the applicant comments further, in light of the available floor plans and known room uses. IMP: Materially less impactful than the MaxP. (It varies between tests and receptors, but in my estimation would be roughly 20- 30% less impactful in relative terms)	
1-57 Wolftencroft Close (incorrect address, this is a continuation of John Kirk House, 1-5 Mantua Street)	Moderate adverse	Insignificant	The property address is incorrect. The building is not located in Woltencroft Close and is a wing of John Kirk House (sheltered housing). Layouts have been assumed despite plans being readily available online. Applicant should be asked to respond to these comments. Faces undeveloped part of site (car park & amenity space). MaxP: The windows coloured yellow in Fig. 56 of the standalone report actually serve a hall, stairs/landings and bathrooms, according to plans I found online and can be ignored. That leaves a small number of major VSC and NSL reductions, all of which would retain >15% VSC (reasonable for urban area). Two would have low NSL values (32-44%). IMP: Materially less impactful than the MaxP. (It varies between tests and receptors, but in my estimation would be roughly 20-30% less impactful in relative terms.)	
3-27 Wolftencroft Close	Major adverse	Major adverse	There are actually two buildings: 1-17 Wolftencroft Close and 19- 29 Wolftencroft Close. MaxP: Moderate and major reductions in VSC (up to 62% loss) and NSL (up to 68% loss) to various habitable rooms served by 17 windows directly facing the site. 3 of those would retain >15% VSC (reasonable for urban area) and 14 retain 10-15% VSC (on the low side even for urban area). These rooms would all retain low NSL values (26-40% lit). Annual sunlight satisfies BRE), meaning the larger adverse impacts are winter sunlight (44-100% loss). IMP: Materially less impactful than the MaxP. (It varies between tests and receptors, but in my estimation would be roughly 20- 30% less impactful in relative terms.)	
2 Wolftencroft Close (Haven Lodge)	Moderate adverse	Major adverse	Sheltered housing. Faces undeveloped part of site (car park & amenity space). Note: Slightly recessed windows (W10 & W13 on gnd & 1 st) have been incorrectly assumed to each serve one	

	Maximum para	ameters scheme	DPR comments on
Address	Significance of daylight effects	Significance of sunlight effects	illustrative masterplan (IMP) and/or other relevant considerations
			room, when street view shows each aperture comprising two windows each serving separate rooms (possibly a kitchen and bathroom). MaxP: Moderate and major reductions in VSC (up to 65% loss) and NSL (up to 61% loss) to various living rooms, kitchens, and possibly bedrooms served by 18 windows. 10 of those would retain >15% VSC (reasonable for urban area) and 7 retain 10- 15% VSC (on the low side even for urban area). Only one window would retain <10% VSC, but sits beneath overhanging eaves that is a contributory factor. Major reductions in NSL and some low retained values (as low as ~36% lit). Annual sunlight largely satisfies either the BRE target or the proposed alternative target values (>15% APSH), meaning the larger adverse impacts are generally to winter sunlight (63-100% loss). IMP: Materially less impactful than the MaxP. (It varies between tests and receptors, but in my estimation would be roughly 20- 30% less impactful in relative terms.)
38-54 Ingrave St	Major adverse	Major adverse	Faces undeveloped part of site (car park & amenity space). MaxP: Major reductions in VSC (up to 63% loss) and NSL (up to 69% loss) to all 15 habitable rooms facing the site. None of those would retain >15% VSC (reasonable for urban area), all would retain 11-15% VSC (on the low side even for urban area). All retained NSL values would be below 50% (as low as ~31% lit). Annual sunlight satisfies the BRE target; all windows will experience major adverse impacts to winter sunlight (90-95% loss). IMP: Materially less impactful than the MaxP. (It varies between tests and receptors, but in my estimation would be roughly 15- 25% less impactful in relative terms.)
20-36 Ingrave St	Moderate adverse	Minor adverse	Faces undeveloped part of site (car park & amenity space). Note: The recessed windows appear to serve common parts circulation space and I have therefore ignored these impacts, even though they are included in the assessment in the absence of floor plans. MaxP: Moderate and major reductions in VSC (up to 48% loss) to three rooms per floor facing the site. All would retain >~15% VSC (reasonable for urban area) and >70% NSL. IMP: Materially less impactful than the MaxP. (It varies between tests and receptors, but in my estimation would be roughly 15% less impactful in relative terms.)
1-11 McDermott Close	Insignificant	Insignificant	Not examined further
2-18 McDermott Close	Insignificant	Major adverse	MaxP: Annual sunlight satisfies the BRE target; 14 out of 17 windows will experience major adverse impacts to winter sunlight (60-100% loss). Building faces almost due west and is limited to afternoon sunlight, so it is this afternoon sunlight in winter that will be adversely affected. In the summer months it will continue to enjoy good sunlight. IMP: Number of adverse winter sunlight effects would halve and the magnitude of the remaining adverse effects would reduce.
2-18 Ingrave St	Minor adverse	Insignificant	Not examined further
134 Falcon Road	Insignificant	Minor adverse	Not examined further
136 Falcon Road	Insignificant	Insignificant	Not examined further
1-75 Inkster House	Minor adverse	Insignificant	Not examined further
Harrier House	Minor adverse	Moderate adverse	MaxP: Low levels of sunlight, particularly in winter, due to self- blinkering by projecting wings results in large relative reductions, but the absolute losses will be small. IMP: Would satisfy sunlight guidelines.
Hawk House	Moderate adverse	Moderate adverse	MaxP: Moderate and major reductions in VSC (up to 48% loss) and NSL (up to 57% loss). The only windows retaining <15% VSC are secondary side windows in projecting bays or are heavily blinkered by projecting wings of the building. 9 rooms will experience major adverse sunlight impacts and retained values will be low. IMP: Would satisfy sunlight guidelines.

	Maximum parameters scheme DPR comments on		DPR comments on
Address	Significance of daylight effects	Significance of sunlight effects	illustrative masterplan (IMP) and/or other relevant considerations
Peregrine House	Major adverse	Moderate adverse	Note: Standalone report incorrectly refers to "hours" when it means "percentage of probable sunlight hours". MaxP: Moderate and major reductions in VSC (up to 75% loss) to 46 windows and NSL (up to 65% loss) to 12 rooms. 24 of the 46 windows will retain <15% VSC. Most of these are either secondary side windows in projecting bays or are heavily blinkered by projecting wings of the building. 6 of the 12 rooms retain >50% NSL; the other 6 retain >30% NSL which is low for an urban area. 13 rooms will experience major adverse sunlight impacts but many of these are to secondary side windows in projecting bays or windows in projecting bays or windows heavily blinkered by projecting wings of the building. IMP: Would satisfy sunlight guidelines.
Osprey Heights	Minor adverse	Insignificant	Not examined further
Kite House	Moderate adverse	Moderate adverse	Similar situation to Hawk House and Peregrine House
1-25 Kestrel House	Minor adverse	Insignificant	Not examined further
50 Winstanley Road- Block A Block B	Moderate adverse	Minor adverse Insignificant	Purpose-built blocks of post-graduate student accommodation, which is less sensitive than private dwellings as students occupy on a relatively short-term basis. Less weight should be afforded to the adverse impacts. MaxP: Moderate and major reductions in VSC (up to 73% loss) to 116 windows and NSL (up to 87% loss) to 81 rooms. 47 of the 116 windows will retain >15% VSC with the remainder being more poorly lit. 63 rooms will have NSL values <50%. IMP: Materially less impactful than the MaxP.
50 Winstanley Road- Block C	Minor adverse	Insignificant	Not examined further
1-44 Sendall Court, 1-44 Shaw Court, 1-44 Clark Lawrence Court (3 buildings)	Major adverse "	Insignificant " Minor adverse	MaxP: 44% BRE compliance for VSC and 85% compliance for NSL. Moderate and major impacts to VSC to 468 out of 942 windows and NSL to 29 out of 266 rooms. Only 16 of these windows would retain >15% VSC, with 31 retaining 10-15% and 421 < 10% VSC, which is low. The wrap-around balconies limit mean existing daylight levels are low which results in larger relative reductions, but the absolute losses will be small. IMP: 59% BRE compliance for VSC and 96% compliance for NSL.
1-24 Wheeler Court	Moderate adverse	Insignificant	MaxP: 25% BRE compliance for VSC and 98% compliance for NSL. Moderate and major impacts to VSC to 47 out of 72 windows. All but one of would retain >15% VSC, with the remaining one being fractionally below. IMP: Same rate of compliance.
1-8 Thomas Baines Road	Insignificant	N/A	Not examined further
9-16 Thomas Baines Road	Minor adverse	N/A	Not examined further
17-30 & 31-43 Thomas Baines Road	Insignificant	Insignificant	Not examined further
44-56 Thomas Baines Road	Insignificant	N/A	Not examined further
57-68, 69-82 Thomas Baines Road and 1-14 Weekley Square (3 buildings)	Insignificant	Insignificant	Not examined further
15-28 Weekley Square	Insignificant	Insignificant	Not examined further
36 Plough Road	Insignificant	Insignificant	Not examined further
38-40 Plough Road, 28- 29-34 Jansen Walk, 17- 20-21 & 22-23-27 Wallis Close, 31-34 Wallis Close, 2-12 Holgate Avenue (6 buildings)	Insignificant	Insignificant	Not examined further
30 & 35, 31 & 36, 32 & 37, 33 & 38 Jansen	Insignificant	N/A	Not examined further

	Maximum para	meters scheme	DPR comments on impacts of maximum parameters scheme (MaxP).
Address	Significance of daylight effects	Significance of sunlight effects	illustrative masterplan (IMP) and/or other relevant considerations
Walk, 33-37-38 Benham Close, 36 & 41, 35 & 40, 34 & 39 Benham Close, 24 & 28, 25 & 29, 26 & 30 Wallis Close, 1a Holgate Avenue (12 buildings)			
Orbis Wharf	Moderate adverse	Insignificant	MaxP: 72% BRE compliance for VSC and 97% compliance for NSL. Moderate and major impacts to VSC to 13 out of 68 windows. All would retain ~10% VSC or less. IMP: 78% BRE compliance for VSC and 100% compliance for NSL.
Falconbrook Primary School – Caretaker's House	Insignificant	Insignificant	Not examined further
1-9, 11-21 & 22-31 Winstanley Road (3 buildings)	Major adverse	Insignificant / N/A	MaxP: 6% BRE compliance for VSC and 37% compliance for NSL. Moderate and major impacts to VSC to 57 out of 62 windows and NSL to 17 out of 38 rooms. 30 of these windows would retain <15% VSC. Balconies are a contributory factor to some of the impacts. IMP: 6% BRE compliance for VSC and 50% compliance for NSL.
1-106 Sporle Court	Major adverse	Insignificant	MaxP: 33% BRE compliance for VSC and 86% compliance for NSL. Moderate and major impacts to VSC to 190 out of 371 windows and NSL to 17 out of 246 rooms. 180 of these windows would retain <15% VSC (mostly <10% VSC). Balconies are a contributory factor to some of the impacts. IMP: 41% BRE compliance for VSC and 91% compliance for NSL.
1-20 Carmichael Close	Moderate adverse	Insignificant	MaxP: 55% BRE compliance for VSC and 94% compliance for NSL. Moderate impacts to VSC to 19 out of 108 windows and moderate and major impacts to NSL to 4 out of 71 rooms. 11 of these windows would retain <15% VSC. IMP: 94% BRE compliance for VSC and 100% compliance for NSL
33-46 Carmichael Close	Insignificant	Insignificant	Not examined further
1-14 John Parker Square	Insignificant	N/A	Not examined further
15-22 John Parker Square	Insignificant	Insignificant	Not examined further
23-36 John Parker Square	Insignificant	N/A	Not examined further
1-18 Fenner Square	Minor adverse	N/A	Not examined further
19-27 Fenner Square	Minor adverse	Insignificant	Not examined further
28-41 Fenner Square	Insignificant	N/A	Not examined further
St Peter Centre and St Paul Church (Parkside St. Peter's, 21 Plough Lane)	Major adverse	Insignificant	I believe the correct name for the apartment block is Parkside St. Peter's, 21 Plough Lane. MaxP: 38% BRE compliance for VSC and 74% compliance for NSL. Moderate and major impacts to VSC to 98 out of 184 windows and NSL to 20 out of 129 rooms. 59 of these windows would retain <15% VSC (about half of which would be <10% VSC). Balconies are a contributory factor to some of the impacts. Building currently looks over open amenity space, so relative change will be greater than if the that part of the site had previously been developed. A supplementary 'without balconies' assessment has been run as suggested in the BRE guidelines which shows the proposed alternative target (15% VSC) would generally be met except where the windows are recessed on the 8 th and 9 th floors. Balconies are a contributory factor in the magnitude of some of the relative light loss. Church has low VSC values, so absolute losses would be small. IMP: 41% BRE compliance for VSC and 78% compliance for NSI
1-11 Holgate Avenue	Insignificant	N/A	Not examined further

	Maximum para	ameters scheme	DPR comments on
Address	Significance of daylight effects	Significance of sunlight effects	illustrative masterplan (IMP) and/or other relevant considerations
1-6 & 7-12 York Road, 76 & 78 York Road (4 buildings)	Insignificant	Insignificant	Not examined further
98 York Road	Major adverse	Moderate adverse Under construction. I concur that it is appropriate to also the results of the ADF assessment, subject to my query a light transmittance. MaxP: 63% BRE compliance for VSC and 78% complia NSL. Moderate and major impacts to VSC to 102 ou windows and NSL to 31 out of 186 rooms. 74% complia ADF criteria; those falling short are 26 LKDs and 22 bed number of these will be poorly lit. 79% compliance with A IMP: 76% BRE compliance for ADF and 83% compliance of ADF and 83% compliance of the additional statement.	
Altura Tower	Insignificant	Insignificant	Not examined further
1-18 Fowler Close	Insignificant	Insignificant	Not examined further
19-30 Fowler Close, 31- 42 Fowler Close, 35-38 Fowler Close, 15-26 Holliday Square, 27-44 Holliday Square (5 buildings)	Minor adverse	Insignificant	Not examined further
1-14 Holliday Square	Minor adverse	N/A	Not examined further
1-45 Candlemakers apartments-York Place	Minor adverse	Minor adverse	Not examined further
48-51 Candlemakers apartments-York Place	Minor adverse	Insignificant	Not examined further
52-72 Candlemakers apartments-York Place	Major adverse	Insignificant	MaxP: 18% BRE compliance for VSC and 73% compliance for NSL. Moderate and major impacts to VSC to 38 out of 50 windows and NSL to 5 out of 22 rooms. All 38 of these windows would retain >15% VSC. IMP: 20% BRE compliance for VSC and 77% compliance for NSL
73-85 Candlemakers apartments-York Place	Insignificant	Insignificant	Not examined further
18-35 Price's Court	Insignificant	Insignificant	Not examined further
36-53 Price's Court, and 116-121 Price's Court	Minor adverse	Insignificant	Not examined further
54-72 Price's Court	Minor adverse	Insignificant	Not examined further
73-103 & 110-115 Price's Court Price's Court	Minor adverse	Moderate adverse	MaxP: 81% BRE compliance for VSC and 99% compliance for NSL. Moderate and major impacts to VSC to 12 out of 131 windows. All 12 of these windows would retain <10% VSC.83% APSH compliance and 8 out of 60 rooms will have low levels of sunlight. IMP: 85% BRE compliance for VSC, 100% compliance for NSL and 85% for APSH.

Sun-on-ground / overshadowing to gardens and amenity spaces

The ES describes the impacts on overshadowing in paragraphs 15-582 to 15-674. I concur with the findings. The only locations with moderate or major effects are:

- 98 York Road moderate-to-major adverse
- Fairchild Close Communal Lawn minor-to-moderate adverse
- Falconbrook Primary School minor-to-moderate adverse
- John Kirk House moderate-to-major adverse
- Hawk House moderate adverse
- Peregrine House minor-to-moderate adverse
- 11 Fairchild Close moderate adverse
- 23 private gardens listed in paragraph 15.672 major adverse

Solar glare at test points

The ES describes the impacts on solar glare in paragraphs 15-675 to 15-710. I concur with the findings. The only locations with moderate or major effects are:

- York Road YOR_01 (Northbound) moderate adverse
- York Road YOR_02 (Northbound) moderate adverse
- York Road YOR_03 (Northbound) moderate adverse
- York Road YOR_04 (Northbound) moderate adverse

2.9 Cumulative effects

The results of the cumulative effects assessment for the proposed development in conjunction with other cumulative schemes are set out in chapter 15 of the ES and section 11 of the standalone-report. The cumulative effects assessment appears to have been conducted appropriately.

2.10 Conclusions and recommendations on daylight, sunlight, overshadowing and solar glare effects on surroundings

The assessment is comprehensive and has been undertaken in accordance with the published guidelines. Appropriate assessment criteria have been used.

The scale and massing is such that the maximum parameters scheme would result in widespread adverse effects of large magnitude that are well in excess of the BRE guidelines such that they will be very noticeable to the occupiers of the relevant buildings. However, national planning policy and guidance emphasise the need to optimise sites such as this for housing delivery and stress the importance of applying BRE guidelines sensitively with an eye on the ability of a character and daylight/sunlight conditions to change. It is ultimately a matter of judgment for the Council whether the significant adverse effects are considered acceptable given all the factors under consideration as part of the broader planning balance and having regard to the reasonableness of the retained values in an urban context.

Clarifications

It is suggested the applicant be asked to respond to the following queries/requests:

- 1. Provide a copy of Figures 15.3 to 15.7
- 2. Revisit its research of floor plans for neighbouring buildings and explain why readily available plans were not found. Undertake further online research as necessary, with the Council providing floor plans for the relevant properties within its site. Where these efforts yield further plans, comment on the implications for the findings of its assessment, both in terms of accuracy of the NSL and ADF results and the sensitive of the room use.
- 3. Explain the relevance of Appendix 05 of the standalone report, which is not referenced in the text.
- 4. Justify the adoption of a diffuse light transmittance of 0.75 in the ADF calculations and demonstrate this is an achievable value for <u>diffuse</u> light transmittance (not <u>direct</u> light transmittance).
- 5. Confirm that the statement in paragraph 6.37 of the standalone report is an error and that alternative target values were not adopted in the ES.
- 6. If the Council requires, provide window maps of the adversely affected windows to Ganley Court, Shepard House and Darien House. Also, provide crisper versions of the window maps with legible text for the window reference numbers.
- 7. Fig.36 window map appears to show the wrong elevation.
- 8. 1-57 Wolftencroft Close appears to be an incorrect address and the subject buildings is actually a continuation of John Kirk House, 1-5 Mantua Street.
- 3. Independent review of daylight/sunlight amenity within the proposed development

I now set out my interim review comments on daylight/sunlight within the proposed development.

Two standalone reports provide internal daylight and sunlight assessments for the proposed dwellings and amenity spaces within the detailed and outline elements respectively of the proposed development.

3.1 Assessment methodology and application of the guidelines

I have reviewed the scope and method of assessment. Daylight and sunlight to the proposed dwellings has been assessed using the ADF, NSL, RDC and APSH tests for the detailed element and façade-based VSC and APSH for the outline element, which is appropriate. I am satisfied that the assessment is sufficient and in accordance with the guidelines, with some qualifications in relation to the ADF assessment, as explained below.

ADF calculation – glazing transmittance

One of the parameters used in the ADF calculation for the detailed element is the <u>diffuse</u> light transmittance of the window openings, after allowing for the effects of dirt on the glass and the amount of window framing and glazing bars. The applicant's consultant have correctly applied an 8% reduction for the effects of dirt and an appropriate frame correction factor of 0.8. However, they have assumed a diffuse transmittance for the clean glazing of 0.75 (i.e. before the application of the aforementioned factors). The BRE guide suggests that for clean, clear double glazing with a low emissivity coating, a transmittance of 0.68 can be used and that for other types of glazing, the diffuse transmittance can be found by multiplying the manufacturer's normal incidence (or direct) light transmittance by 0.91. Similarly BS8206-2:2008, *Lighting for buildings – Part 2: Code of practice for daylighting* states: "Where a manufacturer can only supply the direct transmittance values, the diffuse transmittance values can be estimated by multiplying these by 0.91".

The consultant's glazing transmittance value of 0.75 is apparently based on two sheets of 4mm-thick Pilkington K Glass and a 16mm 90% argon-filled cavity. The Pilkington K Glass product literature I have seen quotes a direct light transmittance value of 0.76 for 4/16/4 argon-filled with 'Optiwhite' inner pane. In that case, the diffuse light transmittance would be 0.91 x 0.76 = 0.69, which is more akin to the 0.68 value suggested in the BRE guide and 8% lower than the value the consultant have used, in which case the ADF values throughout the study would be 8% lower than has been calculated and a greater number of rooms would be below the minimum recommendations for ADF.

In light of the above I recommend you ask the applicant for further information to clarify and support their assumption of a diffuse light transmittance value of 0.75 for clean glazing.

ADF calculation - internal surface finishes

The ADF assessment for the detailed element assumes the following fairly light internal finishes: white ceilings (0.85 reflectance), light grey walls (0.68) and light wood floors (0.4). This gives a better mean reflectance than the BRE default value of 0.5, but is a reasonable approach, in my opinion..

<u>Sunlight</u>

For sunlight in the detailed element, only living rooms with windows facing within 90 degrees of due south have been assessed. It is correct that only living rooms need be tested and I acknowledge that paragraph 3.1.11 of the BRE guide states that if a room faces significantly north of due east or west it is unlikely to meet the APSH criteria. However, I disagree with the statement on page 6 of the report that *"as such, it is clear that only windows facing within 90 degrees of due south can be assessed using this methodology"*. On the contrary, paragraph 3.1.11 of the BRE guide states *"the BS 8206-2 criterion applies to rooms of all orientations"*. The consultant ought really to have assessed all living rooms regardless of orientation, albeit the results for those with a northerly aspect will necessarily enjoy lower levels of sunlight. This should be borne in mind when interpreting the APSH results or benchmarking the percentage adherence against other schemes.

You may wish to ask the applicant for a table showing the number of proposed units in each block of the detailed phase that have a main living room with a southerly aspect and have therefore been assessed for sunlight and the number that have not. This would put the results in context and give you a better understanding of the overall sunlighting potential of the whole of the detailed phase.

3.2 *Results of assessments*

Detailed element

The report explains the approach taken in the detailed design to prioritise daylight and sunlight, particularly to living spaces, which is positive. The report advises the following levels of adherence to the BRE guidelines would be achieved:

- 86% adherence to the average daylight factor (ADF) guidelines across all habitable rooms
- 86% adherence to the daylight distribution (NSL) guideline across all habitable rooms
- Vast majority of habitable rooms designed to satisfy the room depth criterion (RDC) guideline
- 73% adherence to annual probable sunlight hours (APSH, both annual and winter) for livings rooms with a southerly aspect

The report breaks down the ADF adherence for each block, as follows:

- Block 01: 93% ADF adherence
- Block 05: 76% ADF adherence
- Block 06: 88% ADF adherence

The report also confirms a breakdown by room type of the 217 rooms that do not meet the ADF guidelines:

- 134 main living rooms (out of 497 in total, i.e. 27%)
- 1 studio
- 47 kitchens
- 35 bedrooms (4%)

The 134 main living rooms that fall short of the guidelines (1.5% ADF for living rooms and 2% ADF for living/kitchen/dining rooms (LKDs) on account of the fact they contain a kitchen), comprise 23 living rooms and 111 open-plan LKDs. However, 42 of the LKDs satisfy the 1.5% guideline for living rooms, which I believe could be considered an appropriate target in modern, dense residential developments of this kind. Therefore a total of 92 living spaces (25 + 111 - 42) are below an appropriate target for this type of development, of which 24 are only slightly below (1.3% or 1.4% ADF), meaning that across all three blocks just 68 main living spaces (14%) are more materially below an appropriate target. Apparently, these typically occur where they face other facades in the development and about half (32) are situated beneath balconies, which inevitably limit the available daylight. Many more (269 out of 497 main living spaces, 54%) will enjoy very good levels of ADF (>3% ADF) that are far above the minimum BRE recommendations.

Of the 35 bedrooms that will be below the guidelines, 7 are only slightly below (0.8% or 0.9% ADF), meaning that across all three blocks just 28 bedrooms are more materially below an appropriate target. The majority of these are on the lower levels and face into a courtyard or other development façade. About half of them are situated beneath balconies, which inevitably limit the available daylight.

You may wish to ask the applicant to highlight on their results tables and floor plans the rooms that will be below the ADF guidelines. For the purposes of LKDs I would suggest it would be appropriate to base this on an alternative target of 1.5% ADF.

Outline element

I will not repeat the findings of the report on the outline element, which I accept and are self-explanatory. The only negatives to highlight are the poorer levels of available daylight and sunlight to some parts of the facades, particularly on courtyard-facing elevations, and the poor levels of sunlight to the courtyards at the centre of many of the blocks. The former will require careful design of internal layouts and elevations at the detailed design stage. The latter will require careful thought as to the use of these spaces and suitable landscaping that does not depend on good sunlight.

3.3 Conclusion on daylight/sunlight amenity within the proposed development

I have highlighted in orange three points in orange that I believe would benefit from clarification from the applicant. Subject to the applicant providing an acceptable response to support the assumed diffuse light transmittance value of 0.75 for clean glazing, I am satisfied with the study. In our experience, 86% adherence to ADF recommendations (with light finishes) and 73% to APSH recommendations (southerly aspect living rooms, both annual and winter) is a reasonable level of adherence for a dense housing development.

The outline elements present some design challenges, in terms of daylight and sunlight. With careful detailed design it should be possible to achieve reasonable daylight and sunlight amenity to dwellings in those elements. Sunlight to the courtyards will be poor, however. Careful thought is therefore needed as to the use and suitable landscaping of those spaces.

4. <u>Applicant's rebuttal response</u>

I have reviewed GIA's rebuttal response letter dated 28 May 2019, which responds to the clarification requests highlighted in orange above. I attach a copy of the letter, minus its appendices, at Appendix 2 to this letter.

My clarifications requests (which I have numbered for ease of future reference) and GIA's responses thereto are summarised in Table 5 below. My comments are given in the final column. As you will see, I consider their responses to be acceptable and have no further comments.

Item	Clarification request	Summary of GIA response	DPR comments
DS01	Provide ES Figures 15.3 to 15.7	Further copy appended to rebuttal response.	Response acceptable. No further comments.
DS02	Revisit floor plan research. Council to make plans available for relevant properties within the site. Comment on implications of any additional plans.	See rebuttal letter, but in summary: list of properties for which plans obtained has been updated; further plans have been reviewed; Council has been unable to provide plans for any of its properties; GIA's conclusions have been reviewed and updated where appropriate, but do not change the findings of the ES.	Response acceptable. No further comments.
DS03	Explain relevance of Appendix 05 of the standalone report on impact on surrounding properties	The author of the BRE guide considers that loss of sunlight to bedrooms should not be treated as a material issue.	Response acceptable. No further comments.
DS04	The value assumed for diffuse light transmittance (0.75) in the ES appears to be optimistic, in which case the ADF values could be lower.	The only neighbouring property assessed for ADF is 98 York Road, which used the ADF formula method and a diffuse light transmittance of 0.68 in accordance with BS8206. The ADF assessment of the proposed dwellings used Radiance daylight simulation and physical properties of glazing, namely 0.75 direct normal transmittance.	Response acceptable. No further comments.
DS05	Confirm that paragraph 6.37 of the standalone report is an error and that alternative target values were not used in the ES.	Alternative target values were not used in the ES. They were only used in the standalone report.	Response acceptable. No further comments.
DS06	Council may wish to ask the applicant to provide window maps for cross-referencing results.	Window maps provided within the updated standalone report.	Response acceptable. No further comments.
DS07	Window map in Fig.36 appears to show wrong elevation of Penge House.	Corrected within the updated standalone report.	Response acceptable. No further comments.

Table 5 – Summary of clarification requests, GIA's responses and DPR's further comments

Item	Clarification request	Summary of GIA response	DPR comments
DS08	1-57 Wolftencroft Close is an incorrect address. The building is a continuation of John Kirk House, 1-5 Mantua Street.	Addresses were taken from Land Registry map. Nevertheless, all relevant rooms to these buildings have been assessed and reported under one or other address.	Response acceptable. No further comments.
DS09	Council may wish to ask for a table showing the number of proposed units in each block of the detailed phase that have a main living room with a southerly aspect and have therefore been assessed for sunlight and the number that have not.	See table provided on page 4 of the rebuttal letter.	Response acceptable. No further comments.
DS10	Council may wish to ask for results tables and floor plans to highlight rooms that will be below the ADF guidelines, with 1.5% ADF being an appropriate alternative target for LKDs, in the reviewer's opinion.	These rooms have been highlighted within the report at Appendix 02 to the letter.	Response acceptable. No further comments.

5. <u>Final conclusion</u>

The assessment of daylight, sunlight, overshadowing and solar glare effects on surroundings and of daylight and sunlight within the proposed development is comprehensive and has been undertaken in accordance with published guidelines. Appropriate assessment criteria have been used.

The scale and massing of the proposed development is such that the maximum parameters scheme would result in widespread adverse effects of large magnitude that are well in excess of the BRE guidelines in many instances such that they would be very noticeable to the occupiers of the relevant buildings.

The maximum parameters massing would obviously represent the worst-case scenario. It is possible that subsequent applications for future detailed phases may seek to bring forward proposals with lower height and massing, in which case some of the potential effects would be lower than stated in the ES. An example of what might could potentially be brought forward is given with an illustrative masterplan massing, the effects of which have been assessed in the standalone report. If such a scheme was brought forward, the rate of adherence with the BRE's standard guidelines for effects on neighbouring buildings would improve and some of the effects would be less adverse than stated in the ES. A comparison between the rate of BRE adherence for the maximum parameters scheme and the illustrative masterplan scheme is given in Table 6 below.

Fable 6 – Comparison betwee	n BRE adherence for maximun	n parameters scheme and ill	ustrative masterplan scheme
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BRE daylight/sunlight test	Rate of adherence to BRE standard numerical guidelines		
	Max. parameters scheme	Illustrative masterplan scheme	
VSC only	67%	76%	
DD only	84%	90%	
VSC and DD	61%	70%	
APSH (annual and winter)	83%	89%	

National planning policy and guidance emphasise the need to optimise sites such as this for housing delivery and stress the importance of applying BRE guidelines sensitively with an eye on the ability of a character and daylight/sunlight conditions to change.

It is ultimately a matter of judgment for the Council whether the significant adverse effects are considered acceptable given all the factors under consideration as part of the broader planning balance and having regard to the reasonableness of the retained values in an urban context.

Turning to daylight/sunlight levels within the proposed development, in my experience, 86% adherence to ADF recommendations (with light finishes) and 73% to APSH recommendations (for both annual and winter sunlight to southerly aspect living rooms) is a reasonable level of adherence for a dense housing development. The outline

elements present some design challenges, in terms of daylight and sunlight. With careful detailed design it should be possible to achieve reasonable daylight and sunlight amenity to dwellings in those elements. Sunlight to the courtyards will be poor, however. Careful thought is therefore needed as to the use and suitable landscaping of those spaces.

I trust this final review letter fulfils your brief. If you have any queries, please let me know.

Yours sincerely

Aidan Cosgrave BSg (Hons) MRICS

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Enc: Appendix 1 - Summary of guidelines for daylight, sunlight, overshadowing, solar glare & light pollution Appendix 2 - GIA's rebuttal response letter dated 28 May 2019

Appendix 1



Summary of relevant guidelines for daylight, sunlight, overshadowing and solar glare

This appendix summarises the relevant guidelines for daylight, sunlight, overshadowing, solar glare and light pollution, including assessment methodology and numerical criteria.

BRE guidelines on daylight, sunlight, overshadowing and solar glare

The leading guidelines on daylight and sunlight amenity are published by the Building Research Establishment in BRE Report 209 'Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice' (second edition, 2011). This document sets out an assessment methodology and numerical guidelines for assessing the effects of development on daylight and sunlight to surrounding properties and sunlight to amenity spaces. It also sets out a methodology and criteria for assessing the adequacy of daylight and sunlight within new development by reference to BS8206-2:2008 'Code of Practice for Daylighting'.

Effects on daylight/sunlight to neighbouring properties

In short, where some part of the proposed development will subtend an angle greater than 25° to the horizontal measured from the level of the centre of the lowest neighbouring windows, the effect on daylight and sunlight to the habitable rooms in the relevant neighbouring properties is assessed using the following tests:

- Daylight:
 - o vertical sky component (VSC) at the window, which assesses the total available skylight, and
 - no-sky line contour (NSL) on the working plane inside the room, which assesses the distribution of daylight around the room
- Sunlight:
 - percentage of annual probable sunlight hours (APSH) for windows of main habitable rooms that face within 90° due south, both annually and in the winter months
- Sunlight to gardens/amenity spaces:
 - o percentage of each area that receives at least two hours of sunlight on 21 March
 - where a large building is proposed, shadow plots can be produced at different times of day and year, with the equinox (21 March) being the best assessment date and summer and winter solstices (21 June and 21 December) as optional additional dates.

The assessments are run in the existing and proposed scenarios on an absolute scale, followed by a comparative scale measuring the factor of former value or percentage reduction, so that the magnitude of impact is quantified.

The BRE numerical guidelines work on the principle that, except where certain minimum values will be retained with the proposed development in place (i.e. 27% VSC, 25% APSH annually, 5% APSH in winter and 50% of a garden/amenity space receiving at least two hours of sunlight) or in the case of sunlight the annual loss will be no greater than 4% APSH, a reduction to less than 0.8 times former value (i.e. loss of more than 20% of an existing light level) will be noticeable to the occupiers.

The average daylight factor (ADF) is another means of quantifying daylight inside a room. It is primarily intended for assessing daylight within new development, including neighbouring consented buildings that are not yet built. However, when considering the acceptability of VSC and NSL effects it can be helpful, as a supplementary test, to understand whether the retained ADF values with the proposed development in place would satisfy the ADF guidelines for new dwellings (i.e. a minimum of 2% ADF for kitchens, 1.5% ADF for living rooms and 1% ADF for bedrooms). However, in order to understand the robustness of the results, the input variables for glazing transmittance, internal surface reflectance values and frame correction factors need to be stated, as they have a fundamental bearing on the results (see below in relation to daylight within the proposed development).

If planning consent has been granted for other nearby developments that have not yet been built, it is customary to assess the cumulative effects of the proposed development and nearby consented developments on the surrounding receptors so that the combined effects can be understood.

Appendix F of the BRE guide provides advice on setting alternative target values for daylight and sunlight. This notes that the numerical target values are purely advisory and different targets may be used based on the special

requirements of the proposed development or its location. Such alternative targets may be generated from the layout dimensions of existing development or be based on an extant planning permission. Table F1 of the BRE guide gives various building-to-building angles of long, uniform obstructions and their corresponding VSC values. An example is given of a narrow mews in an historic city centre where the VSC values derived from the obstruction angle could be used as a target vale for development in that street if new development is to match the existing layout. The guide notes that a similar approach may be adopted in cases where an existing building has windows that are unusually close to the site boundary and taking more than their fair share of light. In that case, to ensure that new development matches the height and proportions of existing buildings, the VSC and APSH targets for the relevant windows could be set to those for a 'mirror-image' building of the same height and size, an equal distance away on the other side of the boundary.

Where there is an extant planning consent for the application site and the developer wishes to change the design, the BRE guide states:

"In assessing the loss of light to existing windows nearby, a local authority may allow the vertical sky component (VSC) and annual probable sunlight hours (APSH) for the permitted scheme to be used as alternative benchmarks. However, since the permitted scheme only exists on paper, it would be inappropriate for it to be treated in the same way as an existing building, and for the developer to set 0.8 times the values for the permitted scheme as benchmarks."

Appendix I of the BRE guide provides advice on ascribing a significance to effects in EIAs. The guide states:

Adverse impacts occur when there is a significant decrease in the amount of skylight and sunlight reaching an existing building where it is required, or in the amount of sunlight reaching an open space.

The assessment of impact will depend on a combination of factors, and there is no simple rule of thumb that can be applied.

Where the loss of skylight or sunlight fully meets the guidelines, the impact is assessed as negligible or minor adverse. Where the loss of light is well within the guidelines, or only a small number of windows or limited area of open space lose light (within the guidelines), a classification of negligible impact is more appropriate. Where the loss of light is only just within the guidelines, and a larger number of windows or open space area are affected, a minor adverse impact would be more appropriate, especially if there is a particularly strong requirement for daylight and sunlight in the affected building or open space.

Where the loss of skylight or sunlight does not meet the guidelines, the impact is assessed as minor, moderate or major adverse. Factors tending towards a minor adverse impact include:

- only a small number of windows or limited area of open space are affected;
- the loss of light is only marginally outside the guidelines;
- an affected room has other sources of skylight or sunlight;
- the affected building or open space only has a low level requirement for skylight or sunlight; and
- there are particular reasons why an alternative, less stringent, guideline should be applied.

Factors tending towards a major adverse impact include:

- a large number of windows or large area of open space are affected;
- the loss of light is substantially outside the guidelines;
- all the windows in a particular property are affected; and
- the affected indoor or outdoor spaces have a particularly strong requirement for skylight or sunlight, e.g. a living room in a dwelling or a children's playground.

Solar glare

The BRE guidelines contain recommendations for assessing the potential adverse effects of reflected solar glare from glazed or reflective building façades. It notes that:

"The problem can occur either when there are large areas of reflective glass or cladding on the façade, or when there are areas of glass or cladding which slope back so that high altitude sunlight can be reflected along the ground. Thus solar dazzle is only a long-term problem for some heavily glazed (or mirror clad) buildings."

The BRE guide refers to BRE Information Paper IP 3/87, 'Solar dazzle reflected from sloping glazed façades' (1987), which provides a manual method for calculating the times of year and duration when reflected glare could potentially occur at a point, for example where motorists and other road users may be approaching a junction or train drivers may be approaching signals. The results can help inform whether mitigation measures might need to be developed in the detailed design, such as by specifying non-reflective glass or opaque screening.

It has become common practice to move away from the manual methodology in BRE IP 3.87, which was published over 20 years ago, towards 3D computer modelling of the sun's path throughout the course of the year and analysis of how it can reflect off buildings onto receptors, such as the eye of a driver of a motor vehicle. The sun's path is modelled in colour-coded monthly bands (based on azimuth) and hourly bands (based on altitude) and areas of glazing are set up as mirrors. A virtual camera facing the line of sight of the driver produces an image of the field of view in which the colour-coded bands can then be seen reflected in the relevant areas of glazing. The dates and times when reflected solar glare could potentially occur at the receptor may then be read from the image. Concentric circles are overlaid on the image indicating angles of incidence to the line of sight, thereby permitting the proximity to the line of sight to be measured and the potential disabling effect to be understood. The methodology does not assess the intensity of the solar glare as no account is taken of the specularity of the glazing or other façade materials.

Daylight/sunlight conditions within the proposed development

At early stages in design, before room layouts and window sizes/locations are undecided, which is typically the case for outline applications, the BRE guide recommends calculating VSC and APSH levels at a series of points on each main face of the proposed building 1.6 m above ground and no more than 5 m apart. Living rooms and kitchens need more daylight than bedrooms, so where there is a choice it is best to site the living room or kitchen away from obstructions. Sensitive layout design of flats will attempt to ensure that each individual dwelling has at least one main living room which can receive a reasonable amount of sunlight.

For daylight, the guide recommends the following:

- if VSC is at least 27% conventional window design will usually give reasonable results;
- if VSC is between 15% and 27% special measures (larger windows, changes to room layout) are usually needed to provide adequate daylight;
- if VSC is between 5% and 15% it is very difficult to provide adequate daylight unless very large windows are used; and
- if VSC is less than 5% it is often impossible to achieve reasonable daylight, even if the whole window wall is glazed.

Where room layouts and window sizes/locations are known, daylight provision in new rooms may be checked using the following tests:

- ADF, which measures the average amount of daylight inside the room;
- NSL, which measures the distribution of daylight around the room by plotting the percentage of the working plane enclosed by the no-sky line and enjoying a view of sky; and
- RDC, which applies the room depth criterion to any single-aspect rooms to check they are suitably sized relative to the size of their windows.

Even if the amount of daylight in a room, given by the ADF, is sufficient, Appendix C of the BRE guide notes that the overall daylight appearance will be impaired if its distribution is poor. For that reason, the NSL and RDC criteria should also be satisfied for the whole of the room to look adequately daylit. Nevertheless, it is very common for

designers, developers and local planning officials to form a view on the adequacy of internal daylight conditions based on ADF results alone.

The ADF is a measure of the overall amount of daylight in a space. BS 8206-2:2008, 'Code of practice for daylighting' advises that in housing minimum recommended values of ADF are 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. The ADF calculation takes account of the amount of sky visible at the window, diffuse light transmittance of the glazing, effects of dirt on glass, frame and glazing bar correction, the area of the room surfaces and their surface reflectance. Reasonable parameters must adopted and clearly stated and the view of sky should be measured accurately taking account of external obstructions, including balconies. Where groups of dwellings are planned, site layout design should aim to maximise the number of dwellings that meet the minimum ADF recommendations.

The BRE guide and BS8206-2:2008 suggest a number of default parameters that may be used in ADF calculations in early stages of design, including diffuse light transmittance of 0.68 for clean, clear double glazing, and average surface reflectance of 0.5 for fairly light-coloured rooms. Where glazing details and surface finishes are known the guides acknowledge that more accurate parameters may be used instead.

For sunlight, the overall sunlighting potential of a large residential development may be initially assessed by counting how many dwellings have a window to a main living room facing south, east or west. The aim should be to minimise the number of dwellings whose living rooms face solely north, north east or north west, unless there is some compensating factor such as an appealing view to the north. BS 8206-2 recommends that interiors where the occupants expect sunlight should receive at least 25% APSH, including at least 5% APSH in the winter months between 21 September and 21 March.

Proposed amenity spaces should be assessed on the equinox (21 March). The sunlighting requirements of each space may differ depending on use, but in general it will be considered adequately sunlit if at least half its area can receive at least two hours of sunlight on 21 March (the two-hours sun-on-ground test). Normally trees and shrubs, fences or walls less than 1.5 metres high and sunlight at an altitude of 10° or less are all ignored. Where a large building is proposed, it can be illustrative to plot shadow plots, as described above.

Appendix 2





GIA rebuttal letter dated 28 May 2019 (excl. Appendices 01 and 02)



Daylight and Sunlight

Winstanley & York Road Estate Rebuttal

Prepared by: Jessica Rawlings Reference: 12499 Date: 28/05/2019

DATE / REF

28/05/2019 JRAW/12499

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Mr N Lakhan London Borough of Wandsworth Housing and Community Services Town Hall Wandsworth High Street SW18 2PU

Dear Narinder,

Re: Winstanley and York Road Estate (2019/0024) – Daylight and Sunlight Rebuttal

I write further to the issue of Delva Patman Redler's ('DPR's') third party review of GIA's ES Chapter and Standalone Daylight and Sunlight Report (dated December 2018). This review highlighted eight key areas for clarification, each of which are dealt with in turn below.

1. Provide a copy of figures 15.3 to 15.7.

A copy of these figures from the ES Chapter can be found in Appendix 01 of this letter.

2. Revisit floor plan research.

GIA undertook a full and thorough review for floor plan information available prior to completing the modelling that facilitated our technical analysis. Where floorplans were not available or were difficult to accurately scale, assumed room layouts were used. The industry accepted standard for residential properties is rooms that are 4m deep, and for commercial 6m deep. In using assumed layouts, this means all rooms are assessed within a property regardless of use, as non-habitable rooms (hallway/circulation or bathrooms) would only be discounted where floorplans are available certifying the use.

Within the Standalone Daylight and Sunlight Report, it is stated that the following floorplans were used in informing the modelling process:

- > 98 York Road,
- > St Peter and St Paul's Church (Parkside),
- Alutra Tower,
- Orbis Wharf,

- > 198 York Road,
- > 50 Winstanley Road (Blocks A-C), and
- > Plantation Wharf.

In addition, full or partial floorplans were sourced and used for the following properties which was not stated in the Standalone Report:

- > 1-9 Winstanley Road,
- > 11-21 Winstanley Road,
- > 22-31 Winstanley Road,
- > 1-45 Candlemaker's Apartments,

- Heliport House,
- ➢ 100-110 York Road, and
- ➤ 1-44 Sendall Court.

In undertaking their review, DPR have also flagged that additional floorplans are available for the following properties, which have now been shared with GIA;

- > Properties on Fairchild Close, and
- John Kirk House.



In light of DPR's feedback, GIA have undertaken a further review to ensure as far as possible all available floorplans within the public domain have now been received. In addition, GIA have requested floorplans through the applicant, who in turn have requested them through Wandsworth Council. This was flagged by DPR as particularly important for properties within the red line site boundary as these properties are within Wandsworth's ownership. These efforts yielded floorplans for 1-24 Wheeler Court through online planning recorded, but Wandsworth were not able to provide any further floorplans for properties inside or outside the red line site boundary.

GIA have reviewed the floorplans for these three additional properties to understand firstly; how different the assumptions used in the existing modelling are compared to these floorplans, and secondly; where any changes in layout are noted, whether they have a bearing on the results reported. Each of the properties are discussed further below.

Fairchild Close

It should be noted that although we have found these floorplans, it is not clear due to the age of these drawings (~35 years), whether these layouts are still accurate to the internal arrangements of the houses. For completeness, and as requested by DPR, GIA have reviewed these floorplans in comparison with the assumptions made in our analysis.

The floorplans demonstrate in general marginally bigger rooms to the ground floor. Whilst this could result in some differences to the No Sky Line results reported, they will not change the overall conclusions reached.

John Kirk House

GIA have been provided with full floorplans for this property by DPR. It would appear that these floorplans show a number of non-habitable spaces (i.e. bathrooms and hallways) that have been included in GIA's analysis that would otherwise not need to be considered. Therefore, the overall impact would be reduced as a number of rooms could be discounted. Generally, the assumptions we have made in our model follow the depths of the rooms shown in these plans. There are instances where the floorplans demonstrate that some rooms are served by multiple windows, which will change the No Sky Line results reported to some rooms. However, this is likely to only be positive.

Similar to the properties on Fairchild Close, we can conclude that the floorplans provided will not alter the overall conclusions of the report.

Wheeler Court

The floorplans for Wheeler Court demonstrate similarities with the assumptions GIA made in their original modelling. The key difference would be excluding circulation space (which is non-habitable) which GIA have currently reported the impacts on assuming them to be habitable space. The floorplans also demonstrate marginally smaller rooms than those in GIA's model, meaning the light loss reported may in fact be marginally less. Generally, the differences are considered very minor and would not change the overall impacts or conclusions for this property as stated in the ES and Standalone Report.

3. Explain the relevance of Appendix 05 (Letter from Paul Littlefair, author of BRE Guidelines).

Whilst specific reference is not made within the Standalone Report to the letter from Paul Littlefair which was appended, it's relevance is still paramount. The letter's content highlights that bedrooms should be considered less important when reviewing loss of sunlight, stating *'loss of sunlight to bedrooms would not be treated as a material issue except in bedrooms that also comprised a living space.'* As a large number of bedrooms surrounding the development site will see a reduction in sunlight amenity, GIA feel this is a pertinent point in highlighting that it is in fact loss of sunlight to living rooms which should be given greater weight. This letter therefore provides material justification from the author of the BRE Guidelines for points made on bedrooms being of less important throughout the Standalone Report.

4. Justify the adoption of a diffuse light transmittance of 0.75 in the ADF calculations and demonstrate this is an achievable value for diffuse light transmittance (not direct light transmittance).

In response to the query regarding the diffuse transmittance of glazing, the diffuse transmittance correction of 0.91 is only relevant where the ADF formula method is utilised. GIA have undertaken the detailed ADF assessments using Radiance rather than the ADF formula method as it provides a more detailed and accurate assessment of the quantum of light within a room, in particular within urban environments.



In Radiance, materials are defined by their physical properties. For glazing, this is the transmissivity, which can be derived from the direct normal transmittance, as indicated in the spec sheet. Therefore, it was not appropriate to apply the 0.91 correction for diffuse transmittance. This applies to the ADF analysis completed by GIA in the Internal Daylight and Sunlight report (detailed elements) and the assessments undertaken on the neighbouring consented schemes.

We however note that the ADF assessments of 98 York Road were undertaken using the ADF formula method and therefore a diffuse glazing transmittance of 0.68 was used in accordance with BRE Guidance and BS8206-2:2008, Lighting for buildings – Part 2: Code of practice for daylighting. Again, therefore, nothing needs to be changed.

5. Confirm that the statement in paragraph 6.37 of the Standalone Report is an error and that alternative target values were not adopted in the ES.

We can confirm that the ES did not adopt alternative target values, and that this was only used in the assessment and narrative of the Standalone Report.

6. If the Council requires, provide window maps for properties in the interim scenario.

These have now been provided within the updated Standalone Report.

7. Figure 36 window map appears to show the wrong elevation.

The incorrect façade of Penge House was marked-up, the correct window map has now been included within the updated Standalone Report.

8. 1-57 Wolftencroft Close appears to be an incorrect address and it should be John Kirk House, 1-5 Matua Street.

GIA have added the addresses to our model from the Land Registry. In relation to this specific property, it is not clear from Land Registry or title plan available how the addresses for this property are divided. The addresses have therefore been input from the map on the Land Registry as shown in Figure 01 below, separated as 'John Kirk House' and '1-57 Wolftencroft Close.' We can also confirm that, regardless of address registration, all relevant rooms facing the site have been assessed and are reported upon under the addresses of John Kirk House and 1-57 Wolftencroft Close.



Figure 01 – John Kirk House/1-57 Wolftencroft Close Addresses



In addition to the above specific points raised by DPR, GIA also wish to highlight on the basis of this review that:

- Reference is made to the use of ADF generally. The ADF analysis was only used in respect of neighbouring properties within the Standalone Report for 98 York Road as it was not inhabited at the time of the analysis.
- The third-party review acknowledges throughout that the illustrative masterplan will cause lesser impacts than those reported for the max massing parameter scheme. To fully conclude the report, GIA feel this point should have also been highlighted in the conclusion considering its reference throughout the review.

GIA have also received comments from DPR on the Internal Daylight and Sunlight reports submitted as part of the planning application. In response to the comments raised:

A. Provide a table showing the number of proposed units in each block of the detailed phase that have a main living room with a southerly aspect and have therefore been assessed for sunlight and the number that have not.

Block	Total Number of Living Rooms (inc. LKD's and Studios)	Number of Living Rooms with a southerly aspect	Number of Living Rooms without a main window within 90º of due south
B01	239	180	59
B05	138	98	40
B06	127	107	20

Table 01 – Living Rooms, LKD's and Studios within Detailed Blocks Assessed for Sunlight

B. Provide highlighted results tables and floorplans for the rooms that will be below the ADF guidelines. For the proposes of LKD's, the appropriate base level of 1.5% ADF should be used.

GIA have highlighted these rooms as requested within the report found in Appendix 02.

I trust the above helps clarify the position for each of the points raised by DPR, but please do let me know if you need any further clarifications on any of the above.

Yours sincerely For and on behalf of GIA

lawlings

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Encl. Appendix 01 to 02

