# Technical Review

## PROJECT: Regents Wharf - 10-18 All Saints St.

Review of GIA Light Pollution Report

PREPARED FOR: Treaty St and Thornhill Bridge Wharf Residents

March 2020

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# 1. Introduction

## 1.1 General

1.1.1 This report has been written on behalf of Treaty Street and Thornhill Bridge Wharf Residents by Designs for Lighting Ltd, a specialist lighting consultant with recognised expertise in the area of Light Impact Assessments and Lighting Design.

1.1.2 This report is a review or 'critique' report of the Regents Wharf light pollution assessment that was submitted by GIA for the planning application (reference: Islington P2019/3481/FUL) in particular, this report examines their methodology, interpretation of the baseline lighting survey measurements and conclusions with regards to predicted light spill from the Proposed Development.

1.1.3 In particular this report is a review of the GIA submission "Light Pollution assessments for 10-18 All Saints Street" dated February 2020.

1.1.4 GIA provided a response in Feb 2020 to the comments raised related to Artificial Light following the GIA report "Light Pollution Assessment" dated 29th November 2019. The response covered the areas of selecting the correct Environmental Zone and "Design Considerations" to mitigate any potential obtrusive light.

# 2. Environmental Zone

## 2.1 Classification of Environmental Zone

2.1.1 This is often an area of contention for obvious reasons. In an ideal scenario, the Planning Authority designates Environmental Zones for every part of their Authority Area and any development is required to comply. That is quite a rare scenario. In this case, the residents assert that the Environmental Zone that best fits this location is E3, however the Applicant has assumed E4 which is less stringent in terms of reducing obtrusive light and will have a greater detrimental impact on the surrounding environment as well as a significant adverse impact on the night-time amenity and well-being of residents whose bedroom windows face onto the development..

2.1.2 In this particular instance it is worth referencing the ILP Guidance Notes description for the Environmental Zones. The latest version of the Guidance Notes was published in January 2020 however, the wording is similar in the 2011 version which was used in the GIA submission.

**Table 2: Environmental zones**

| Zone | Surrounding | Lighting environment | Examples |
|---|---|---|---|
| E0 | Protected | Dark (SQM 20.5+) | Astronomical Observable dark skies, UNESCO starlight reserves, IDA dark sky places |
| E1 | Natural | Dark (SQM 20 to 20.5) | Relatively uninhabited rural areas, National Parks, Areas of Outstanding Natural Beauty, IDA buffer zones etc. |
| E2 | Rural | Low district brightness (SQM ~15 to 20) | Sparsely inhabited rural areas, village or relatively dark outer suburban locations |
| E3 | Suburban | Medium district brightness | Well inhabited rural and urban settlements, small town centres of suburban locations |
| E4 | Urban | High district brightness | Town/city centres with high levels of night-time activity |

Figure 1 ILP GN01 Environmental Zone Descriptors

2.1.3 E4 is described in the guidance notes as Lighting Environment having “High District Brightness” and examples given are “Town/city centres with high levels of night-time activity”

2.1.4 E3 is described as a Lighting Environment having “Medium District Brightness” and examples given are “Well inhabited rural and urban settlements, small town centres of suburban locations”

2.1.5 Arguably the area surrounding the Proposed Development does not fit neatly into either of these descriptors. In particular, there seems to be very little “night-time activity” when reviewing the photographs in Appendix 1. There are no pedestrians in the photos, so there is no evidence to suggest “high levels of night-time activity”.

2.1.6 The argument for the area being an E3 centres on the following key points:

- The level of night-time activity is not high
- The Regents Canal is a conservation area and there are bat foraging routes along it.
- Residents photos show low levels of ambient luminance consistent with a lower Environmental Zone. See **Appendix 1.**
- Residents arguably have a better understanding of the night-time character of the area so are best placed to lead consultants in making a judgement on the Environmental Zone.

2.1.7 The method that has been used to make the assessment is to measure horizontal illuminance at 1m above ground level. This is then assessed against the ILP GN01 guidance for vertical illuminance levels at window height (generally first floor). There is no basis for the assessment using the vertical illuminance limits, nor for a measurement being taken at a height of 1.0m above ground level.

2.1.8 Therefore, an assessment should be made on the basis of the Lighting Environment rather than on a measure that has no basis or relevance.

2.1.9 This is particularly concerning as the GIA report suggests that the limits may be breached post curfew. This is unacceptable, as mitigation measures could be implemented to ensure compliance with post curfew limits.

## 2.2 Impacts on Specific Sensitive Receptors

2.2.1 The GIA report details the baseline measurements on Tracks 1 to 4 (See Fig 1 below), this information will be reviewed and the impact upon specific sensitive receptors assessed.

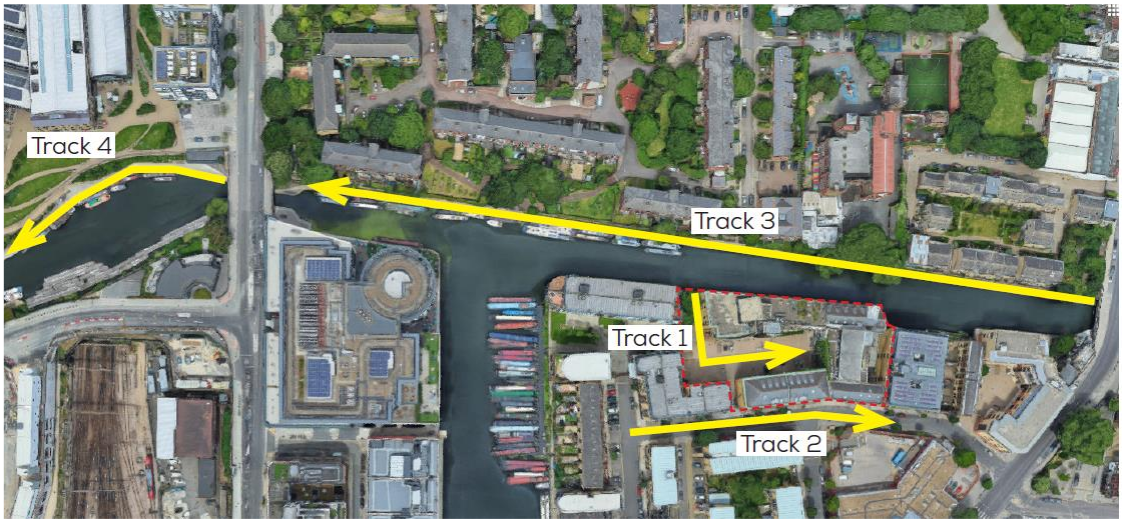


Figure 2 Fig 01 Area Map from GIA report

### 2.3 Ice Wharf (to the West of the Proposed Development) (Track 1)

2.3.1 The view of the Proposed Development will see a significant change from the current baseline as there will be more glazed area at a closer distance due to the developed building footprint.

2.3.2 The section of Track 1 which runs South from the canal between Ice Wharf and Regents Wharf is very dark. Further along the track, there is a security light which is on all night, The new building (Thorley House) will run from the canal to the street, there won't be the courtyard that is there now; the new building will be closer to Ice Wharf than it is now when it infills the courtyard, and much taller than the existing buildings; the windows will be much larger and much closer so it's even more important that they have blinds etc

2.3.3 During the Light Impact Assessment, the baseline survey should have measured the baseline vertical illuminance levels at the windows of the sensitive receptors in the Ice Wharf development and compare the baseline light levels to cumulative post-development light levels. Following this methodology, the impact of artificial light from the Proposed Development can be appropriately assessed

2.3.4 The measured light levels have no meaning and relevance and do not comply with any guidance on undertaking light impact assessments. No reference has been made to the Institution of Lighting Professionals guidance PLG04 "Guidance on Undertaking Light Impact Assessments".

### 2.4 1-3 All Saints Street (Track 2)

2.4.1 The GIA report states that the main source of light along this track is provided by the street lighting. The street lighting here is a modern LED unit which is full cut-off to reduce light spill and therefore is unlikely to provide much vertical illuminance on the windows of 1-3 All Saints Street. The street is very typical of an E3 Environmental Zone, there is little night-time activity. We would expect to see evidence showing that there is little impact on the apartment windows with the additional light from the Proposed Development. This would require a proper baseline assessment following the methodology discussed above.

### 2.5 Regents Canal Towpath (Opposite the Development) Track 3

2.5.1 There are a number of sensitive receptors adjacent to the towpath. As detailed above, the assessment should detail vertical illuminance on bedroom windows as detailed in the ILP guidance. In particular, the sensitive receptors in Treaty Street and Thornhill Bridge Wharf should be assessed and a cumulative impact detailed which includes the baseline and both interior and exterior lighting proposed as part of the Proposed Development.

### 2.6 Ecology and Regents Canal

2.6.1 The Regents Canal should be treated as an Ecological sensitive receptor. This does not appear to be referenced in the GIA report. There is no light level survey detailed in the GIA report which details the horizontal illuminance at ground level immediately adjacent to the canal.

2.6.2 The Ecology survey report produced by RPS states:

> "*The site is directly adjacent to Regent's Canal (a Site of Importance for Nature Conservation, SINC). The canal is an important wildlife corridor within an otherwise urban setting and is known to support a diverse range of wildlife. Therefore, it will be important that the development avoid indirect impacts via dust generation/accidental pollution etc. during construction. The development should avoid lighting the canal above the levels at which it is currently lit to ensure that the use of the canal by nocturnal wildlife is not compromised.*

2.6.3 This does not appear to have been addressed by the GIA report.

# 3. Design Considerations

3.1.1 The report dated Feb 2020 states “This means that the assessed effects are based on a notional scenario and that this assessment will be used to guide the lighting design in order to avoid any potential light spillage. Standard mitigation measures such as, motion sensors and optimised lighting system, will likely mitigate any potential light spillage.”

3.1.2 There is no evidence in the GIA statement that a suitable lighting scheme will be installed for the Proposed Development. It is expected that where a light impact assessment is used as guidance during the detailed design stage, that a lighting strategy would be provided that outlines the performance parameters that the lighting design would adhere to. The whole assessment is based upon a “notional” design rather than specific calculations which will provide definitive values of obtrusive light impacting on the residents.

3.1.3 Furthermore, the report suggests that the ILP limits may be breached post-curfew. This is based upon the assumption of an E4 zone, in which case the scheme will not comply with any Environmental Zone. Post curfew limits exceed maximum recommended limits for high brightness, high activity areas.

3.1.4 The calculated light spill levels need to be added to the baseline measured levels to determine the resultant effects of lighting in terms of baseline increase on sensitive receptors.

### 3.2 Exterior Lighting

3.2.1 The report only references interior lighting in the assessment of potential impacts. There is no mention of exterior lighting, so we are unable to assess the impact. If there is no exterior lighting proposed then this should be mentioned, otherwise the exterior lighting should be based upon a strategy and the cumulative effects of the exterior lighting, the interior lighting and the baseline should be modelled.

### 3.3 Sensitive Receptors

3.3.1 There are additional sensitive receptors that are not detailed in the report. These are the residents of Thornhill Bridge Wharf. These residents are likely to be impacted mostly by the light emitted from the restaurant. The report should provide justification for the assumed illuminance levels and lighting simulation, it is important to note that the report only considers internal lighting and provides no strategy with regards to potential exterior lighting and signage, which are commonly associated with restaurant establishments. It is important to provide levels of vertical illuminance on the windows for these residents based upon a realistic lighting assumption.

### 3.4 Ecology

3.4.1 The Ecology report produced by RPS has a number of references to Artificial Light. In particular it states in 4.1.3 & 4.1.4

> *“Further, there is the potential for impacts due to increased lighting during both the construction and operational phases. Therefore, it will be important that the development avoids such impacts. The following measures will be adopted:*
>
> • *ensure that such lighting does not exceed current levels through equivalent replacement of up-lighters and the replacement of any essential ground-level exterior lighting with appropriately cowled and directional low-level lighting. This will include via compliance with any relevant conditions relating to lighting.*

3.4.2 There is no information within the GIA report detailing how this ecology requirement will be met. It is expected that light spill modelling would indicate compliance with the ecology report from both interior and exterior light sources.

# 4. Mitigation

### 4.1 Introduction

4.1.1 The mitigation provided is minimal and gives no confidence that a suitable lighting scheme will be installed.

4.1.2 It is advised that the report should re-address mitigation to provide some robust and enforceable mitigation measures that the planning officer should request/impose as conditions in order to help reduce the impact of the night time character of the building on local residents and the canal, namely light spill.

4.1.3 Mitigation should include methods to:

- minimise the amount of light emitted from the luminaires in the direction of the window.
- Minimise the amount of light emitted from the windows via the use of louvres or blinds
- Propose an earlier curfew of the suggested 23:00pm within ILP guidance due to the proximity of residential receptors to the Proposed Development, after which all lit offices must have blinds operated to black-out the light.
- Ensure that proximity and motion sensors are employed to dim the lights to an emergency level wherever there are areas of no occupancy.
- Switch off zones whenever the last person leaves that zone.

4.1.4 A robust lighting strategy should be created which lists mitigation measures deployed to reduce light spill from internal and external light sources.

4.1.5 The above mitigation points should be considered through the planning process and added as condition of any planning approval for the Proposed Development.

# 5. Summary

5.1.1 The residents of Treaty Street and Thornhill Bridge Wharf, many of whom are in homes directly overlooking the Proposed Development are concerned that the Proposed Development will produce light which will have an adverse effect on their amenity and will adversely impact on their lives.

5.1.2 The Lighting report which was reviewed within this report does not adequately address many of the concerns and leaves a number of unanswered questions.

5.1.3 The baseline light level has not been properly measured in line with ILP guidance. In particular existing levels of vertical illuminance at the windows of sensitive receptors has not been measured. The light levels that were measured are not able to provide any meaningful values upon which an assessment of the baseline can adequately be made.

5.1.4 The proposal to put the Proposed Development in an E4 environmental zone does not fit with the observed environment, particularly with regards to the level of night time activity which appears to be low on photos submitted by the Light Pollution report and photos provided by the residents of Treaty Street and Thornhill Bridge Wharf.

5.1.5 It is more appropriate to assess the Environmental Zone as E3. This would ensure that there is no unnecessary proliferation of light and particularly would limit the light spill onto the sensitive residential receptors and the ecological receptor of Regents Canal.

5.1.6 Not all sensitive receptors have been assessed or included in the report. In particular the residents of Thornhill Bridge Wharf believe that they will be adversely impacted by light emitted from the large windows of the proposed restaurant facility.

5.1.7 The light modelling has used very basic assumptions and does not provide any certainty as to the levels which will actually be emitted and to the levels of obtrusive light which will enter the windows of the sensitive receptors.

5.1.8 The light modelling does not consider either the baseline light levels or any exterior lighting.

5.1.9 In some areas, by the admission of the report, the light levels will exceed the guidance obtrusive light limits set by the ILP even if the Environmental Zone remains at E4.

5.1.10 Exterior lighting which may form part of the Proposed Development has not been assessed or even mentioned in the report. Any exterior lighting forming part of the Proposed Development will further adversely impact the sensitive receptors.

5.1.11 The report does not follow ILP guidance PLG04 “Guidance on Undertaking Environmental Lighting Impact Assessments”

5.1.12 In particular, the assessment of light impact should include an assessment on the

- sensitivity of the receptors
- magnitude of change of artificial light for the receptors as a result of the Proposed Development
- Impact of the lighting on sensitive receptors without mitigation considering the cumulative light from all sources
- Impact of lighting on sensitive receptors post mitigation.

5.1.13 The mitigation suggested is not robust, it is very vague and does not provide any assurance to residents that it will be either adequate or be suitable or indeed that it will be included within the completed build.

5.1.14 We recommend that the Light Impact Assessment readdresses all the points above and is re-submitted in the format recommended by the ILP guidance PLG04.

# 6. Appendix 1

**6.1 See separate file – Appendix 1.**