

**22\_02066\_FUL-MKA\_ECOLOGY\_LTD\_-\_107221\_QUEENS\_\_COLLEGE\_\_OWLSTONE\_CROFT\_\_CAMBRIDGE\_-\_BAT\_ACTIVITY\_SURVEYS\_2.0-6085891**

**22\_02066\_FUL-RESPONSE\_TO\_BIOSCAN\_COMMENTS\_FINAL-6078562**

**NATURE\_CONSERVATION\_OFFICER\_COMMENTS-6088314**

**GM Comments 06/12/2022**

1) This letter is written in response to three documents:

- The MKA Ecology Bat Activity Survey report dated 18<sup>th</sup> November 2022 (22\_02066\_FUL-MKA\_ECOLOGY\_LTD\_-\_107221\_QUEENS\_\_COLLEGE\_\_OWLSTONE\_CROFT\_\_CAMBRIDGE\_-\_BAT\_ACTIVITY\_SURVEYS\_2.0-6085891),
- The letter from Jon Burgess at Turley dated 28<sup>th</sup> October 2022 (22\_02066\_FUL-RESPONSE\_TO\_BIOSCAN\_COMMENTS\_FINAL-6078562), which responds to the ecology-related comments I had made in my letter dated 30/09/2022, and
- The Cambridge City Council Ecology comments (NATURE\_CONSERVATION\_OFFICER\_COMMENTS-6088314).

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- 2) This report describes some of the results of bat activity and remote surveys carried out by MKA Ecology between July 2022 and October 2022. My comments are as follows:
- 3) 2.1 states that *“not all results are presented”*. Given the sensitivity of this application it is suggested that it would be more helpful for the dataset to be seen in its entirety so that the results can be examined in full.
- 4) Firstly, it is important to highlight again that the County Ecologist has stated that bat surveys should consider this as a site with **high suitability habitat for bats**, and Bioscan agree with this assessment. As stated previously this requires the following survey effort in accordance with the Bat Conservation Trust Good Practise Guidelines, 3<sup>rd</sup> edition (2016):
- (Transect / spot count / timed bat surveys) Up to two survey visits per month (April to October) in appropriate weather conditions for bats. At least one of the surveys should comprise dusk and pre-dawn (or dusk to dawn) within one 24 hour period.
  - (Automated / static bat detector surveys) Three locations per transect, data to be collected on five consecutive nights per month (April to October) in appropriate weather conditions for bats.
- 5) For reference, the table below compares the required survey effort in accordance with industry guidelines with the actual survey effort carried out by MKA to date:

| Month     | Required Survey Effort   | Actual Survey Effort   | Compliant with Industry Standards?                                |
|-----------|--|--|---|
| April     | Up to 2 transect surveys.<br>3 static detectors deployed for 5 nights. | None   | No (no data)  |
| May       | Up to 2 transect surveys.<br>3 static detectors deployed for 5 nights. | Incidental data from surveyor carrying out building emergence survey.<br>2 static detectors. | No (no focused transect survey, only 2 static detector locations) |
| June      | Up to 2 transect surveys.<br>3 static detectors deployed for 5 nights. | None   | No (no data)  |
| July      | Up to 2 transect surveys.<br>3 static detectors deployed for 5 nights. | 1 transect.<br>2 static detectors.   | No (only 2 static detector locations)                             |
| August    | Up to 2 transect surveys.<br>3 static detectors deployed for 5 nights. | 1 transect.<br>3 static detectors.   | Yes   |
| September | Up to 2 transect surveys.<br>3 static detectors deployed for 5 nights. | 1 transect.<br>1 static detector.  | No (only 1 static detector location)                              |
| October   | Up to 2 transect surveys.<br>3 static detectors deployed for 5 nights. | 1 transect.<br>1 static detector.  | No (only 1 static detector location)                              |

- 6) As can be seen from the table, the only month in which the data collected is compliant with the requirements of industry standard guidance is August. In May and July there are only two rather than the requisite three static detectors. In September and October there is only one rather than the three requisite static detectors<sup>1</sup> (September is considered a particularly critical month to have a full dataset as it is one of the months during which levels of bat activity are typically the highest). In April and June there is no data at all, leaving major gaps in the coverage, and meaning there is no data available for the early spring period.
- 7) The BCT guidelines require coverage of three locations with static detectors for sites with high suitability for bats to ensure there is a sufficient number of sampling points to give a robust dataset. It is also noted incidentally that MKA provide no information on whether or not the static detector survey nights were carried out in appropriate weather conditions for bats.
- 8) In the context that the site is regularly visited by the rare bat species barbastelle, it is considered essential that MKA do provide the above dataset in full. MKA's comment that *"it is unlikely that additional bat survey effort in April would significantly alter the results"* is based on speculation rather than fact. Fluctuations in bat activity can and do occur from season to season, and the Bat Conservation Trust guidelines require

<sup>1</sup> It is regrettable that bat detectors were taken at static locations 1 and 2 in August. But there was scope for the static detectors to be situated within the Queens gated compound, or indeed at treetop level in the reserve, or at alternative hidden locations along the LNR boundary, to keep them safe, so this is not considered to be an adequate reason for collecting a lower level of survey effort than required to inform planning.

surveys to be carried out in April for this reason. **Providing a full dataset is considered necessary for decision makers to make a fully informed decision about impacts on bats, and the importance of this is compounded by the presence of the rare species barbastelle.**

- 9) As an aside it is also considered inappropriate that MKA are citing data collected by Bioscan in June 2022 at 3.5. This data was paid for by the Friends of Paradise LNR due to their concerns about the levels of bat data collected by MKA prior to that point being grossly insufficient, and this data should not be used to plug gaps left by MKA's own bat survey coverage.<sup>2</sup>
- 10) In terms of what the existing partial dataset shows, it is noted that barbastelle has been recorded throughout the survey periods, and in relatively high numbers for this species (in the context that this is a rare species and where present on other sites registrations are often only very occasional, rather than regular and sustained across the season in this way). On this basis, the dataset so far is considered to further highlight the importance of the LNR / site boundary for this rare and light sensitive bat species. Whether or not levels of barbastelle activity increase, decrease or stay the same during the periods not yet sampled remains to be seen.
- 11) In terms of MKA's recommendation concerning post-development monitoring of bat activity along the eastern site boundary, our only comment is that by then the anticipated impacts on bats from lighting would already have occurred, and it will be too late. The correct time to establish a robust baseline on bat activity is pre-development, prior to planning permission being granted.
- 12) MKA comment that the highest levels of barbastelle activity were noted at static detector location 3, where light levels were highest. But we note that the only time when all three static detectors were out together was 12-22 August, so this is the only time during which they could be directly compared. This comparison cannot be made with the data in the form in which it is provided because the static 3 dataset also includes the period 23-31 August, and does not separate this out. The reason for static detector 3 having high levels of bat activity could equally be because it focused mainly on August and September, the two months of the year during which bat activity is typically highest (in contrast the static detectors at locations 1 and 2 were also deployed in May and July).
- 13) MKA also comment that barbastelle passes were recorded by static detector 3 between 29 September and 2 October, when they say the nursery floodlights were inadvertently left on. The exact number of barbastelle passes during this time is not specified, and cannot be determined because the data is lumped for the periods 22-30 September and 1-31 October. It would be helpful to know the exact number of barbastelle passes between 29 September and 2 October. It is suspected that this statement is made on the basis of a very small sample size.
- 14) But the key point is that even if there have been some registrations of barbastelle recorded when light levels exceed the recommended maximum level, this does not necessarily mean that the bats are not being impacted by light, and it certainly does not mean that it is therefore acceptable to exceed recommended light levels post-development. The recommended maximum light levels given within the Bat Conservation Trust's guidelines Bats and Artificial Lighting in the UK (2018) are based on an extensive dataset, and are well established in the industry.

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<sup>2</sup> It is also pointed out that Bioscan deployed only two remote bat detectors in June, rather than the requisite three remote bat detectors which would have been required were we collecting data to support the planning application.

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### Point 4 (and Points 8 and 9)

- 15) We thank Turley for clarifying that the recorded light levels at points 18 and 19 were attributable to nursery lighting and bollard lighting respectively, rather than floodlighting. The confusion arose as a result of the photographs which were provided by Turley in Appendix 1 of their 22\_02066\_FUL-RESPONSE\_TO\_OBJECTIONS\_FROM\_VARIOUS\_PARTIES-6038871 to show light levels at the nursery building, which show the floodlights turned on.
- 16) An important first point to make in response is that we still dispute that these nursery and bollard lights should form part of the baseline. Regular visitors to the reserve in the evening are clear that the 'normal / baseline' situation is for the nursery lights and bollard lights to be turned off. As such, it would be more appropriate for this situation to be the measured baseline. In this context the proposals would result in an increase in light levels along the LNR edge, rather than the suggested decrease.
- 17) Furthermore it is noted that the operational requirement for lights to be on in the nursery is only for a few hours late afternoon and evening, and only applies in winter when the hours of darkness are longer, and bats are hibernating (or bat activity levels significantly reduced). It is not relevant at all in summer when bats are active.
- 18) There has been no confusion over the interpretation of the lighting levels at locations 18 and 19 from Hoare Lea's lighting report as Turley suggest. Conversely, the impacts table provided by Turley on page 3 is extremely misleading – it states that the 'post-construction vertical peak illuminance calculated' at location 18 is 0.35 lux. The original table in Section 3 of Hoare Lea's Lighting Impact Assessment (reproduced below for reference with red highlighting added by me) clearly shows that 0.35 lux is in fact the 'calculated **additional** illumination' (from modelled results) [see legend to colour coding in right hand bar]. The table below shows that the resultant illumination (total value post development) in the pink column [see legend to colour coding in right hand bar] is **2.98 lux vertical**, resulting in a worsening of the current situation and net adverse effect at point 18.

| Sensitive receptor (human) - vertical |   |             |                    |  |  |   |      |                        |
|---------------------------------------|---|-------------|--------------------|--|--|---|------|------------------------|
| Survey location                       | Location name                               | Sensitivity | Environmental zone | Peak illuminance measurement (Lux) vertical (H1) @ 1.5m above ground | Peak illuminance calculated (Lux) vertical (H1) @ a range of 0-15m height above ground | Peak illuminance resultant (Lux) vertical (H1) @ a range of 0-15m height above ground | Note | Significance of effect |
| 15                                    | Adjacent to residential building            | Low         | E3                 | 10.39  | Within proposed development building   | Within proposed development   | 1*   | N/A                    |
| 16                                    | In-between residential building and nursery | Low         | E3                 | 3.62   | 1.39   | Replaced with new lighting  | 2*   | Moderate Beneficial    |
| 17                                    | Play area adjacent to nursery               | Low         | E4                 | 18.16  | Within proposed development building   | Within proposed development   | 1*   | N/A                    |
| 18                                    | Eastern edge of site by tree line           | Low         | E2                 | 2.33   | 0.35   | 2.98  |      | Minor Adverse          |
| 19                                    | South eastern edge of site by tree line     | Low         | E3                 | 7.28   | 0.35   | -6.93   |      | Moderate Beneficial    |
| 20                                    | Wooded area behind building                 | Low         | E2                 | 0.07   | 0.00   | 0.07  |      | Negligible             |
| 21                                    | Wooded area                                 | Low         | E1                 | 0.14*  | 0.45*  | 0.45*   | 3*   | Moderate Adverse       |
| 22                                    | Path adjacent to river                      | Low         | E1                 | 0.05   | 0.00   | 0.05  |      | Negligible             |
| 23                                    | Path adjacent to river                      | Low         | E1                 | 0.05   | 0.00   | 0.05  |      | Negligible             |
| 24                                    | Path adjacent to river                      | Low         | E1                 | 0.05   | 0.00   | 0.05  |      | Negligible             |
| 25                                    | Path adjacent to river                      | Low         | E1                 | 0.05   | 0.00   | 0.05  |      | Negligible             |
| 26                                    | Path adjacent to river                      | Low         | E1                 | 0.05   | 0.00   | 0.05  |      | Negligible             |
| 27                                    | Path adjacent to river                      | Low         | E1                 | 0.05   | 0.00   | 0.05  |      | Negligible             |
| 28                                    | Path adjacent to river                      | Low         | E1                 | 0.05   | 0.00   | 0.05  |      | Negligible             |
| 29                                    | Path adjacent to river                      | Low         | E1                 | 0.05   | 0.00   | 0.05  |      | Negligible             |
| 30                                    | Path adjacent to river                      | Low         | E1                 | 0.05   | 0.00   | 0.05  |      | Negligible             |
| 31                                    | Path adjacent to river                      | Low         | E1                 | 0.05   | 0.00   | 0.05  |      | Negligible             |

Note:

| Legend to colour coding                                    |  |
|--|--|
| Measured illumination (Taken from original baseline)       |  |
| Calculated additional illumination (From modelled results) |  |
| Resultant illumination (Total value post development)      |  |

- 19) The comments from MKA have already been dealt with above, but we reiterate the important point that even if there have been some registrations of barbastelle recorded when light levels exceed the recommended maximum level, this does not necessarily mean that the bats are not being impacted by light, and it also does not mean that it is therefore acceptable to exceed recommended light levels post-development. The recommended maximum light levels given within the Bat Conservation Trust's guidelines Bats and Artificial Lighting in the UK (2018) are based on an extensive dataset, and are well established in the industry.
- 20) The key point here, which Turley have failed to adequately address in their response, is that post-development the maximum light level along the LNR edge will be **2.98 lux vertical** (at point 18). **This exceeds the recommended cut-off of 0.4 lux (vertical)<sup>3</sup> by a factor of 7.4 times.** Having one area where light levels are significantly too high could constitute a permanent impact on bat activity and have the potential to sever bat commuting along the LNR boundary. The current design is not appropriate in this regard. The regular presence of the rare bat species barbastelle greatly adds to the planning weight of this point.
- 21) Turley are highlighting that there are lighting problems with the current site, and we agree that on the (rare) occasions when all the existing lights are turned on they are excessive<sup>4</sup>, but this does not justify the proposed development failing to comply with the Bat Conservation Trust Guidelines post-development, in particular given the confirmed presence of the rare bat species barbastelle.

#### **Point 5 (and Point 11)**

- 22) Much of this has already been dealt with in our response to the MKA bat survey report. To reiterate, bat activity survey effort is still considered to be significantly below that required by industry guidelines, and it is considered essential that MKA provide a full dataset which covers the entire season to adequately inform decision makers. The importance of this is underlined by the regular presence of the rare bat species barbastelle.
- 23) We also have several points to make in relation to the line of mature lime trees along the northern boundary between the application site and the school (shown in the photograph below):

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<sup>3</sup> Bats and Artificial Lighting in the UK (Bat Conservation Trust, 2018).

<sup>4</sup> It is hoped that Queens will act appropriately now that they have been aware since June 2022 that elements of the extant on-site lighting has the potential to impact on rare bat species along the LNR boundary.





24) Turley state "...the line of lime trees on the northern boundary was included as part of extended transects in the months of August, September and October. They have confirmed that no barbastelle activity was recorded along this corridor during that period." It is firstly noted that this incorporates no spring or early summer coverage. But critically, industry guidelines (as set out under point 4 above) also require automated / static bat detector surveys to be carried out on five consecutive nights per month (April to October). This is particularly important for adequately detecting rare bat species such as barbastelle. **MKA's static bat surveys have not covered this boundary at all, so we have no reliable information concerning whether or not it is used by barbastelle bats.**

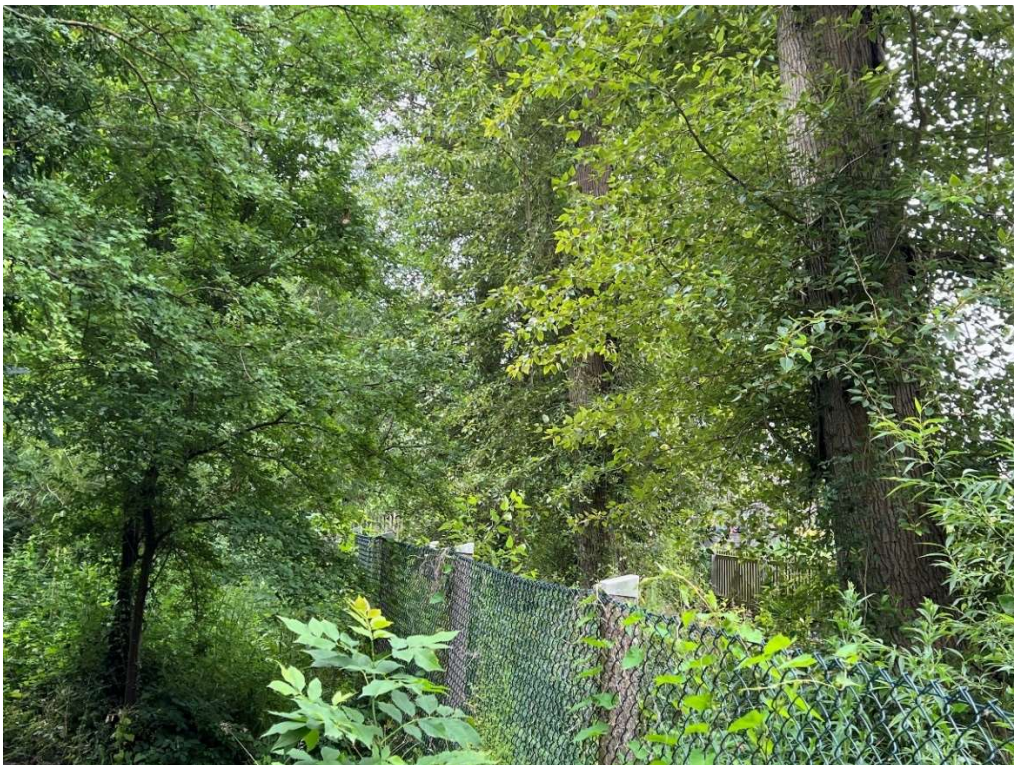
25) Now considering potential impacts, it is stated that the lux level will be reduced from the originally reported 13.64 lux horizontal and 2.75 lux vertical at location 3 to '2 lux pre curfew and 0.1 lux post curfew'. Presumably an appropriate lighting model will be provided to adequately demonstrate that this reduction is possible for a building in such close proximity to the tree line. It is also noted that 2 lux still greatly exceeds the light level recommended by the BCT guidelines (below 0.2 lux horizontal and below 0.4 lux vertical).

26) In the context that the presence of the rare bat species barbastelle has been regularly confirmed in habitat immediately adjacent to this tree line, it is considered essential that bat activity along this tree line is properly assessed with static surveys, and impacts from lighting on this tree line considered in detail.

#### **Point 6**

27) With reference to the condition of the poplar trees along the boundary, the photographs below show that the trees appeared to be relatively vigorous in June 2022. The mention of ash dieback is irrelevant, as these are poplar trees and thus unaffected by this disease.





28) The timing of the removal of the poplar trees is irrelevant to the point we are making, which is that Turley have still not considered the trees in the context of their providing a habitat along which bat activity has been noted. The tree line shown above is assessed to be ecologically contiguous with the nature reserve in terms of usage by bats (see photos above). As such, the removal of these trees would be expected to have an impact on bat activity (including on the rare bat species barbastelle), and must be considered in this context.

- 29) Any replacement planting would take considerable time to establish to replicate the existing situation, so would not alleviate impacts on bat activity.
- 30) Lastly, it is noted that comments from the LLFA dated 15/11/2022 suggest that drainage attenuation may need to be altered / expanded at the detailed design phase, and this has the potential to result in further impacts on trees. It is understood that it was originally proposed to fell the large poplar T10 to facilitate the drainage scheme, but it was later agreed with the tree officer that it would be retained. If it were necessary to fell this tree then additional impacts on bat activity would be expected to result, and at a location where MKA Ecology have recorded high levels of bat activity.

#### **Point 10**

- 31) It remains to be seen whether or not effective lighting for the seating area is possible to provide while still staying below 0.4 lux at the site boundary (N.B. any lighting here needs to be considered cumulatively as an additional effect on top of other proposed post-development lighting). In our experience this is very difficult to achieve when in such close proximity to a boundary. And it is repeated that designing in a seating area at this location could very well act to encourage people to bring significant light sources to this social area themselves if the lighting provided is insufficient, potentially having significant impacts on bat (and barbastelle) activity along the immediately adjacent LNR boundary.

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- 32) Comments made by the Nature Conservation Officer are italicised, with our comments following beneath.**

- 33) ***Summary** - The application is acceptable subject to the proposed conditions. From the information supplied by the applicant it is considered that the application is acceptable in planning terms and if refused solely on ecology grounds would likely be upheld if appealed.*

Bioscan (UK) Ltd disagree with this assessment, for the reasons set out within this report.

- 34) *... and reduction of existing light levels on the LNR boundary have the potential to benefit the LNR and associated species in the long term.*

As noted at Paragraph 16 above, we dispute that the nursery and bollard lights should form part of the baseline in the context that the 'usual' situation is for them to be turned off. On this basis, the proposals will result in an increase in light levels along the LNR boundary, not a decrease.

- 35) *It is noted that automated and transect Spring surveys have not been undertaken, however, I am minded to agree with the MKA ecology report that bat activity has varied little over the data collection period and is unlikely to alter significantly to require further delay to determination of the application. Since the light sensitive species are not roosting on or adjacent to the site the proposed required mitigation and low lux levels would not alter if bat activity was found to increase during the spring period.*

As noted at Paragraph 8 above, in our view the Bat Conservation Trust Guidelines require coverage during the spring period for a reason. In the context that this is a site with a rare bat species confirmed to be present, it is considered even more important to adhere to the survey guidelines. Yet the opposite is happening, and instead a reduced dataset on bat activity is being provided. It is considered inappropriate to fix mitigation without any available bat survey information from the start of the season, and from a dataset



with significant holes in its coverage (as set out at Paragraph 5 above) – for example it is even possible that other hitherto undetected bat species may be discovered (such as another rare bat species *Nathusius' pipistrelle*, recorded at nearby Coe Fen and Sheep's Green by Johanna Chesham in her 2019 paper 'Impact of bat friendly lighting on bat activity and bat diversity at Coe Fen and Sheep's Green, Cambridge). Lastly, it is not considered that sufficient survey effort has been expended to be able to state with any degree of confidence that light sensitive bat species are not roosting 'adjacent to the site', as the bat roost surveys carried out by MKA focused on the buildings within the site.

*36) From the number and timing of passes within the data provided It is considered that the barbastelle activity is likely to represent a single or very low number of barbastelle bat commuting past the site, whilst using the river Cam corridor.*

This statement must be considered in the context that barbastelle is a rare species which is typically not recorded at all, or at best occasional passes recorded (hardly ever in higher numbers in the UK). As such, the fact that there have been regular, sustained passes recorded at this site throughout all the seasons incorporated into the survey is considered to be highly significant.

*37) The MKA report details observed barbastelle activity when the existing nursery lights were on, suggesting that the individual/s are tolerating existing lighting within the site and wider urban habitats.*

As noted at Paragraphs 13-14 above, it is suspected that MKA's assertion is based on a very small sample size (though it is not possible to tell with the data provided). Conversely, the Bat Conservation Trust's guidelines Bats and Artificial Lighting in the UK (2018) statement that barbastelle is a highly light-averse species is based on an extensive dataset, and well established in the industry.

*38) Following discussion with officers the applicant has demonstrated that the proposal development can limit artificial light to levels of near to complete darkness along the boundary of the LNR and demonstrate a betterment for bats species with the reduction of existing external lighting from the current nursery building.*

As noted at Paragraph 16, we dispute the baseline lighting situation and as such consider that the proposed development will increase light levels along the boundary, rather than decrease them. The lighting report states that at point 18 the post-development lighting will be **2.98 lux vertical**, exceeding the recommended cut-off of 0.4 lux (vertical)<sup>5</sup> (which would be 'near to complete darkness') by a factor of 7.4 times, and we have not seen any information which adequately demonstrates that this will not continue to be the case.

*39) Ecological Sensitive Lighting Scheme. a) identify those parts of the site, especially the Local Nature Reserve (LNR) boundary, that are sensitive for bat species and where artificial lighting is likely to cause disturbance along identified important routes used for foraging and commuting.*

It is our view that this is key information which should inform the planning process, and should be made available prior to planning permission being granted or refused.

*40) Ecological Sensitive Lighting Scheme. d) not exceed the maximum permitted 0.4 lux level on the vertical plane (before and post curfew) resulting from the development along the boundary of the LNR, as specified for light sensitive bat species in accordance with the Bat Conservation Trust and ILP guidance GN08/18.*

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<sup>5</sup> Bats and Artificial Lighting in the UK (Bat Conservation Trust, 2018).

Again, the lighting report states that at point 18 the post-development lighting will be **2.98 lux vertical**, exceeding the recommended cut-off of 0.4 lux (vertical)<sup>6</sup> by a factor of 7.4 times, and we have not seen any information which adequately demonstrates that it will be possible to achieve 0.4 lux at this point along the boundary of the LNR.

In addition, there is no consideration or mention here of the tree-lined boundary adjoining the school. As noted at Paragraphs 23 – 26 above, there is zero static bat detector information available for this boundary, so the level of impacts on the rare bat species barbastelle here are entirely unknown. The lighting report originally stated that light levels here would be 13.64 lux horizontal and 2.75 lux vertical at location 3 (exceeding the Bat Conservation Trust recommended cut-off by a factor of 68 times). Last minute amendments now say lux levels here will be reduced to 2 lux pre curfew and 0.1 lux post curfew. There is no evidence provided that this dramatic reduction in light levels is possible, and it is also noted that even 2 lux still exceeds the light level recommended by the BCT guidelines by a factor of 5 times.

41) It is also noted that the Ecology Officer has not engaged with some of our points in his letter, notably:

- The value of the poplar trees to be removed as a conduit for bat activity, including that of the rare species barbastelle (Paragraph 20 above), and that fact that the removal of these trees should be assessed as an impact on barbastelle.
- The lack of any remote bat survey information for the line of large lime trees adjoining the school (Paragraphs 23 – 26 above), and associated significant lighting impacts at this location which have the potential to impact the rare bat species barbastelle.

42) Lastly, consideration is given to Cambridge Local Plan Policies 69 and 70. These policies are below in italics, with our comments inserted in plain text:

***Cambridge Local Plan Policy 69 Protection of sites of biodiversity and geodiversity importance***

*This policy sets out a presumption against approval, 'where development is proposed within, adjoining or which will otherwise affect a locally designated nature conservation site.'*

*Tests for the applicant to demonstrate the proposal will not have an adverse effect on biodiversity (Cambridge Local Plan para 7.65). These tests (set out in Cambridge Local Plan para 7.66) are:*

*TEST 1 "comprehensive surveys of the historic and existing biodiversity importance"*

Further to the concerns raised at Paragraphs 4 – 8 above about the gaps in the coverage of the bat activity and remote survey data, it is considered that the surveys of existing biodiversity importance absolutely cannot be considered to be 'comprehensive', so this test is not met. The presence of the rare bat species barbastelle underlines the importance of not cutting corners in survey coverage.

*TEST 2 "a professional ecological assessment of the impact of the proposed development"*

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<sup>6</sup> Bats and Artificial Lighting in the UK (Bat Conservation Trust, 2018).

MKA are professional ecologists and have assessed the impact of the proposed development. However, Bioscan are also professional ecologists, and we disagree with MKA's assessment of the impacts on bats. In particular, as noted at Paragraph 37 above, we feel that MKA's assertions about barbastelle being locally resilient to lighting cannot be considered to be reliable, given that it is likely based on a very small sample size (while barbastelle being a highly light-averse species is well established in the industry guidelines, which are supported by a far more robust dataset).

*Where adverse effects have been identified, Local Plan Policy 69 requires applicants to address:*

*TEST 3 by providing "details of measures to protect and enhance the habitat or species identified."*

The Ecology Officer has proposed several Conditions in this regard. However, as set out at Paragraph 40 above, we have grave concerns that:

- (a) It has not been satisfactorily demonstrated by the applicant that post-development lighting levels of 0.4 lux vertical will be achievable given the proximity of the buildings to the LNR boundary. The lighting report stated that post-development lighting at point 18 on the LNR boundary would be 2.98 lux vertical, exceeding this cut-off by a factor of 7.4 times.
- (b) The Condition does not cover the line of mature lime trees along the site's boundary with the school, which could very well be used by rare barbastelle bats, but which is significantly deficient in bat survey information, and where significant lighting impacts far in excess of the 0.4 lux cut-off are anticipated to occur.

On this basis we do not feel that test 3 can be considered to have been adequately met.

#### ***Policy 70: Protection of priority species and habitats***

*Development will be permitted which:*

- a. protects priority species and habitats; and*
- b. enhances habitats and populations of priority species.*

*Proposals that harm or disturb populations and habitats should:*

- c. minimise any ecological harm; and*

The layout of the proposed development with tall buildings close to the LNR boundary has given rise to the ecological problems set out in this report, and does not in our view minimise ecological harm.

*d. secure achievable mitigation and/or compensatory measures, resulting in either no net loss or a net gain of priority habitat and local populations of priority species. Where development is proposed within or adjoining a site hosting priority species and habitats, or which will otherwise affect a national priority species or a species listed in the national and Cambridgeshire-specific biodiversity action plans (BAPs), an assessment of the following will be required:*

This development is adjoining a site hosting priority species and habitats, so the following points do apply.

- e. current status of the species population;*



*f. the species' use of the site and other adjacent habitats;*

*g. the impact of the proposed development on legally protected species, national and Cambridgeshire specific BAP species and their habitats; and*

*h. details of measures to fully protect the species and habitats identified.*

As per the points set out in Paragraphs 4 – 8 above, we do not consider that there has been an adequate assessment of the current status of the species population, or the species' use of the site and other adjacent habitats, or the impact of the proposed development on legally protected species, national and Cambridgeshire specific BAP species and their habitats. And as per the concerns raised for TEST 3 of Local Plan Policy 69, we do not consider that adequate details of measures to fully protect the species and habitats identified have been provided.

Geoff Moxon  
Senior Ecologist, Bioscan (UK) Ltd

#### **Geoff Moxon**

Geoff joined Bioscan (UK) Ltd in 2008, and has worked in the role of senior ecologist since 2012, prior to which he was a surveyor at the Somerset Environmental Records Centre (SERC), and involved in a variety of environmental research projects in Asia, Africa, Europe and Central America. He is a full member of the CIEEM.

Over the past 14 years, Geoff has been responsible for 'cradle to grave' management of many large projects, ranging from major housing developments to windfarms to quarries, and involving EIA assessment, preparation and implementation of management plans, ecological monitoring, Condition submissions, habitat creation, site works supervision and European Protected Species licensing. He holds Natural England and Natural Resources Wales survey licences for dormice, bats and great crested newts, and has been named ecologist on numerous dormouse and bat licences.

In his spare time, Geoff is involved with the Ashmolean Natural History Society of Oxfordshire (ANHSO), having previously served 5 years as the society's field secretary, and in Environmental Education with the ANHSO, Oxford Natural History Museum and Earth Trust.