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ECOLOGY DESIGN INNOVATION

Our ref: 753 Car Park J Lighting v2
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Author. Carlos Abrahams
e. c.abrahams@bakerconsultants.co.uk
m. 07739 346112

Dear Mr Critchley,

Alton Towers Car Park J – Lighting and Ecological Impact

This letter is to confirm that Baker Consultants Ltd finds the proposed Alton Towers Car Park J Lighting Scheme acceptable in terms of its low level of potential impact on local bat populations.

I have reviewed our 2017 ecological appraisal (Alton Towers Barrels: Development Phase 2 Ecological Appraisal) and previous ecology reports, along with the 'Alton Towers Car Park J: Proposed New Lighting' document, kindly provided by yourself. Additionally, I have reviewed the lighting scheme in relation to current guidance, particularly the Interim Guidance published by the Bat Conservation Trust (BCT, 2014), and the Overview of Current Evidence and Mitigation Guidance arising from a joint study conducted by the University of Bristol, Natural England and the BCT in 2014 (Stone, 2014).

Bat Survey Results

The results of our bat activity surveys in 2017, and previous ecology work, show that seven bat species have been recorded across the site; including two taxa, namely brown long-eared bat *Plecotus auritus* and *Myotis* species, classified as 'light averse'. The highest bat activity level was recorded along the treeline south of Car Park J, and along woodland edges including those surrounding Nicklin's Farm to the west of the car park. A brown long-eared

maternity roost and a soprano pipistrelle *Pipistrellus pygmaeus* day roost are present within the Nicklin's Farm building.

In accordance with guidance provided by the BCT (2014), the emittance of artificial light within foraging and commuting areas used by light-averse species should be kept to an minimum - ideally <1 lx. Artificial light emittance above this level can adversely affect bats on an individual and population level via competitive exclusion/habitat avoidance, and via the direct reduction of invertebrate prey (Stone, 2014). The current guidance states that any artificial light emitted as part of a development should avoid all bat roost exit points, and any known flight paths leading to and from a roost.

Proposed Lighting Scheme

eosDesign's proposed lighting scheme utilises 33 Carina LED polycarbonate floodlights, and will provide an average illuminance of 6.5 lx within the car park, up to a maximum of 49.2 lx in the brightest areas. However, outside of the car park, the potential light spill into the neighbouring woodland areas is low. Here, the illuminance average is 0.19 lx, with a maximum of 0.63 lx, so lighting levels within the potential bat habitat are below the recommended 1 lx threshold.

Assessment of Impacts

From the modelled lighting figures, it can be concluded that the proposed lighting scheme is unlikely to directly affect the Nicklin's Farm bat roosts, and foraging and commuting areas close to the woodland edge to the west and the treeline to the south of the car park, will not be exposed to light levels that would significantly affect bat activity. As a result, there is no ecological constraint to the proposed lighting scheme being put forwards.

Carlos Abrahams MSc PgC MSc MCIEEM

Technical Director