Petersham Nurseries, Richmond
Ecology Technical Note
edp8781_r001a

QA: TWi_GGi/FMi_200524

1 INTRODUCTION

1.1 This Ecology Technical Note has been prepared by The Environmental Dimension Partnership Ltd (EDP) on behalf of Petersham Nurseries Ltd ('the Appellant'). It has been prepared in support of an appeal against an Enforcement Notice (ref. 18/0025/EN/BCN) ('the Notice') served by the London Borough of Richmond upon Thames ('the Council') on 15 January 2024 in respect of Land at Petersham Nurseries, Petersham Road, Petersham, Richmond, TW10 7AB ('the Site').

1.2 This Note addresses comments by members of the public regarding alleged harm to the local ecology and wildlife resulting from the evening operation café/restaurant within the Site. These comments are contained in Appendix 11 of the Council's Statement of Case, and were received in response to a previous Certificate of Lawful Existing Use or Development (CLEUD) application in August 2021 (LPA ref: 21/3108/ES191).

1.3 The majority of comments on ecological harm do not specify the ecological features at risk, or the pathways for adverse impacts, however a small number of the comments note a specific concern regarding impacts from lighting within the Site on nocturnal animals, namely bats and badgers (*Meles meles*) using adjacent land.

2 BASELINE ASSESSMENT

Methodology

2.1 EDP has completed an assessment of the ecological interest within and directly adjacent to the Site. This assessment comprised a visit to the Site and publicly accessible parts of the surrounding area on 09 May 2024 together with an ecological desk study in May 2024, which involved collating biodiversity information from the following sources:

- Greenspace Information for Greater London (GiGL) – search radius of 1km around the Site; and
- Multi-Agency Geographic Information for the Countryside (MAGIC) website[1]

[1] www.magic.gov.uk

Findings

Designated Sites

Statutory Designations

2.2 The only statutory nature conservation designation within 1km of the Site is Richmond Park Special Area of Conservation (SAC), which is located c.150m to the east of the Site at its nearest point. The SAC is designated for its stag beetle (*Lucanus cervus*) population, which relies upon deadwood habitat associated with ancient trees. Richmond Park is also designated as a National Nature Reserve (NNR) and Site of Special Scientific Interest (SSSI) owing to its semi-natural habitats and invertebrate populations.

Non-Statutory Designations

2.3 Within the Greater London Authority and London borough councils non-statutory nature conservation designations are named Sites of Importance for Nature Conservation (SINCs), and there are three grades of SINC in descending order of importance as follows:

- Sites of Metropolitan Importance;
- Sites of Borough Importance (borough I and borough II); and
- Sites of Local Importance.

2.4 Proposed Sites of Importance for Nature Conservation (pSINCs) are sites that have entered Regulation 18 (public consultation), but have not yet been adopted in a Local Plan

2.5 The GiGL data return confirms that the Site is not covered by any SINC designation. However, within 1km of the Site there are seven SINCs, and a further seven pSINCs albeit these are almost identical in coverage to the SINCs. Full details of these designations are provided in **Appendix EDP 1**.

2.6 Of the SINCs within 1km, the most pertinent to the Site, is Petersham Meadows (currently designated as a Site of Borough Importance, Grade II) as it is located in close proximity to the northern boundary of the Site (c.5m north).

Other Designations

2.7 In additional to the above, the Site and much of the surrounding land, particularly to the north, is Metropolitan Open Land (MOL). Whilst MOL is not a nature conservation designation *per se*, Criteria 3 for the designation of MOL is: "*Contains features or landscapes (historic, recreational, biodiversity) of either national or metropolitan value*".

Habitats

2.8 As described in Section 2 of the Appellant's Statement of Case, Petersham Nurseries comprise three glass greenhouse structures, separate brick and timber buildings, and outdoor areas. Natural habitats, or features of ecological importance, are largely absent within the Site itself. The notable exception to this is the hedges present along the eastern and western boundaries and part of the northern boundary, albeit these are well-maintained/regularly trimmed hedges, incorporating entrance gates and often

fragmented amongst other boundary features such as walls and fences. Furthermore, the dense hedges and other boundary features enclosing the Site create a clear separation between the Site and any neighbouring habitats.

2.9 The Site is surrounded by suburban land uses to the west, south and east, predominantly large private gardens characterised by both native and ornamental trees, shrubs, flower beds and grass lawns, and associated dwellings and a church. As described above, Petersham Meadows Site of Borough Importance, Grade II, lies to the north of the Site, the nearest portion of which comprises a grassland field with scattered trees which is enclosed by treelines and hedgerows.

Species

2.10 The GiGL data return includes 141 records of protected and priority species from within 1km of Site, including amphibians, reptiles, birds, bats, invertebrates and rare plants. It is likely that the vast majority of these records are from within the nearby designated sites described above, where the higher value habitats are concentrated. GiGL also returned a separate list of confidential records where the location is not specified, which includes 64 records of badger within the 1km search area.

2.11 Interrogation of the MAGIC website for nearby European Protected Species (EPS) mitigation licenses confirms that a such licence was obtained for works affecting a bat roost approximately 100m to the south of the Site near Petersham Road. The licence was obtained in 2019 and related to brown long-eared (*Plecotus auritus*) and soprano pipistrelle (*Pipistrellus pygmaeus*) bats.

2.12 The Site contains very few habitats capable of supporting breeding sites for protected or priority species. The main exception to this is the boundary hedges which could potentially support nesting birds, albeit the Site is frequented by large numbers of people during the day such that disturbance levels would deter many species.

2.13 The boundary hedges could also support foraging and dispersal by birds, amphibians and mammals, including badgers and bats. However, the Site is not in a strategically important location i.e. linking up other important habitats, and the hedges are fragmented in many places, such that such foraging and dispersal is likely to be incidental rather than being critical to supporting any local species populations.

3 DEVELOPMENT IMPACTS

3.1 The development in question comprises extending the operating hours of the café/restaurant into the evening up to 11pm for several days of the week.

3.2 It is EDP's opinion that, owing to the nature of the proposed development and the spatial relationship/degree of separation between the Site and the nearest designated sites, no direct impacts on any statutory or non-statutory designations would occur as a result of the proposed development.

3.3 However, potential indirect impacts on Petersham Meadows (Site of Borough Importance, Grade II) require further consideration owing to its proximity to the Site. These impacts relate to potential disturbance of nocturnal mobile species of wildlife within, or originating from, Petersham Meadows, rather than any impacts on the habitats in the Meadows that are the reason for its designation. The species potentially at risk are foraging/commuting bats and foraging badgers.

3.4 A small section of the southern boundary of Petersham Meadows, approximately 20m in length, lies directly opposite the northern boundary of the Site. The boundary of Petersham Meadows at this location comprises a post and rail fence lined with semi-mature oak (*Quercus robur*) and sycamore (*Acer pseudoplanatus*) trees, beyond which lies grassland and scattered trees. The boundary of the Site at this location comprises a dense yew (*Taxus baccata*) hedge, and it is separated from Petersham Meadows by an unsurfaced road approximately 5m wide.

3.5 Owing to this physical separation, and the presence of intervening hedges and trees between the Site and Petersham Meadows, the risk of indirect impacts is extremely low even in the absence of any avoidance or mitigation measures. Nonetheless, the following potential impacts warrant further consideration:

- Disturbance from increased noise – primarily from within the restaurant, but also from guests arriving at and leaving the Site at its northern entrance; and
- Disturbance from increased lighting – both on-site/at the northern Site entrance, and from vehicles arriving and leaving after dark.

3.6 Impacts on bats and badgers from vehicle collisions have also been considered but have been ruled out based on the extremely low speeds at which any vehicles approaching the Site will travel. Furthermore, there are no features capable of supporting roosting bats, or any areas capable of accommodating badger setts, in sufficiently close proximity to the Site as to be at risk of disturbance. Thus, no breeding sites or resting places of these species are at risk of negative impacts.

3.7 Based on the GiGL data return, it is also possible that owls, particularly tawny owl (*Strix aluco*) nest within or near Petersham Meadows and hunt for small mammals within the meadow habitats at night. However, any nesting and hunting is very unlikely to occur close to the southern boundary nearest to the Site and therefore impacts on this species can be ruled out.

3.8 In addition to potential indirect impacts on species originating from Petersham Meadows, impacts on bats and badgers need also considering in their own right owing to their legal protection, and because individuals of these species passing by the Site may not necessarily have originated from Petersham Meadows.

3.9 Potential impacts on these ecological features are discussed in more detail below, taking account of the control measures contained within the Appellant's existing Evening Management Plan (see Appendix 11 of the Appellant's Statement of Case), which have been put in place to avoid any adverse socio-economic or environmental impacts.

Bats

3.10 Bat foraging opportunities are significantly greater within Petersham Meadows and along the River Thames than within the Site or at the interface between the Meadows and the Site, as these habitats will support a greater abundance of the flying insects which bats feed on. Therefore, it is reasonable to assume that bat foraging and commuting in the local area is far more concentrated at some distance to the north of the Site.

3.11 However, bats are highly mobile and cover large distances during their foraging flights, and it is likely that they will also occasionally forage over the Site, particularly in the zone above the northern boundary yew hedge which coincides with the southern edge of the canopies of the trees lining the boundary fence of Petersham Meadows.

3.12 That said, bats forage throughout the night and, therefore, any negative effects from the restaurant operating until 11pm. would only occur during a small proportion of the total period when bats are active.

Noise

3.13 The main source of noise from the proposed development is the restaurant, however, the restaurant does not play amplified music and therefore it is just noise from guests talking etc. The restaurant is situated in the south-eastern portion of the Site, c.35m south of its northern boundary where bat foraging is most likely to occur, and noise levels can therefore be expected to fall away significant over this distance. Guests arriving on foot or by vehicle are another source of intermittent noise, however, the Evening Management Plan includes a number of measures to minimise this, including directing new arrivals to walk to the restaurant area via the shop i.e. within the glasshouse building.

3.14 A Noise Assessment has been undertaken of the proposed development by Blue Sky Acoustics between 03 and 09 May. The assessment included continuously logging ambient noise levels on the north western edge of the Site over a period when the restaurant was in operation on three evenings and closed on four evenings, thus enabling a comparison between the two activity scenarios. The assessment found that the Site experiences a noise profile typical of a suburban location influenced by road traffic and, most notably, average noise levels were no greater when the restaurant was in operation in the evening compared to when it was not.

3.15 Notwithstanding the above, bats are not known to be especially sensitive to noise when foraging, particularly the type and level of noise generated from a restaurant or occasional vehicles arriving or leaving at low speeds, all of which is generated at a height below which bats will be flying. Noise impacts on bats foraging close to the Site would therefore be negligible, and noise impacts on bats foraging within Petersham Meadows would be non-existent.

3.16 Adverse noise impacts can therefore be ruled out in the absence of any further avoidance/mitigation measures.

Lighting

3.17 The main source of light from the proposed development is the restaurant itself and lighting on the northern boundary to direct guests to the entrance. Light from the restaurant will be screened by the buildings and the boundary hedge, so it is only lighting on the northern boundary that has potential disturb foraging bats.

3.18 Vehicles arriving at the Site are also a source of light along the road separating the Site from Petersham Meadows, however, such light is directed primarily horizontally or downward, typically at a height of less than 1m above ground level, which is below the height at which bats usually fly when foraging. For this reason, coupled with the very intermitted and limited duration of any lighting from vehicles, lighting impacts from vehicles on foraging bats can be ruled out.

3.19 Bats are sensitive to high levels of artificial light when foraging after dark, with different species displaying different levels of tolerance. With reference to Guidance Note 8 of the Institute of Lighting Professionals (ILP)[2], low level lighting to maintain suitable conditions for bats can be described as that which restricts light spill to between 0.5 and 2 lux, which is the equivalent of the levels generated by a full moon on a clear night.

3.20 A lighting assessment for the proposed development has been undertaken by Buro Happold. This confirms that the level of light generated by the existing festoon lighting which is in place along the northern boundary is as follows:

- 8 lux at the immediate northern boundary;
- 1.2 lux on the southern side of the fence bordering Petersham Meadows; and
- 0.3 lux within Petersham Meadows.

3.21 From this information, impacts upon bats foraging within Petersham Meadows can be ruled out without the need for further mitigation. Impacts on bats foraging just south of the Meadows are negligible, however, there is potential for bats foraging directly along the northern boundary of the Site to be disturbed by the festoon lighting where the levels are likely to exceed 2 lux in the zone where bats are likely to be occasionally foraging.

3.22 Buro Happold's assessment recommends reducing the light spill on the northern boundary of the Site through replacing the existing festoon lighting with a more controlled form of lighting at low level with no light emitted above the 90-degree horizontal plane. It is EDP's opinion that this relatively straightforward measure would mitigate any impacts on foraging bats, and further minimise any impacts on Petersham Meadows.

3.23 A fully detailed sensitive lighting scheme can secured by a condition attached to the planning consent.

[2] Guidance Note GN08/23. Bats and Artificial Lighting At Night. ILP 2023

Badgers

3.24 Badger foraging opportunities are significantly greater within Petersham Meadows than at the interface between the Meadows and the Site, i.e. the unsurfaced road, which will reduce their incentive to disperse in the direction of the Site. However, badgers may still occasionally disperse along this road to access residential gardens beside the Site, and indeed these individuals may or may not originate from Petersham Meadows.

3.25 For the reasons explained above, both noise and light levels from the proposed development fall to very low levels by the time they reach Petersham Meadows. Indeed, the Noise Assessment found that average ambient noise levels are no greater when the restaurant is in operation in the evening compared to when it is not. It can therefore be confidently concluded that the proposed development will have no impact on badgers foraging within Petersham Meadows. Any potential impacts therefore relate only to badgers forging close the Site's northern boundary.

3.26 Badgers are known to be adaptable to suburban/urban environments, such that is very likely that any badgers moving close to the Site will be habituated to noise and lighting commensurate with its suburban/urban fringe location and would not be deterred from dispersing through the area as a result of the proposed development. Furthermore, as with bats, badgers forage throughout the night and, therefore, any negative effects from the restaurant operating until 11pm would only occur during a small proportion of the total period when badgers are active.

3.27 Taking the above into account, together with the proposal for a sensitive lighting scheme to mitigate impacts on bats, EDP concludes that no adverse impacts on badgers would occur.

4 CONCLUSIONS

4.1 EDP has completed a detailed assessment of the potential ecological impacts of the proposed development, informed by a site visit and desk study.

4.2 A very limited number of ecological features are at risk of impacts, with all other features scoped out. These are foraging/commuting bats and foraging badgers, which require consideration in their own right as legally protected species but also due to their potential association with the nearby Petersham Meadows Site of Borough Importance, Grade II.

4.3 The potential impacts from the proposed development relate to disturbance from increased noise and lighting, however neither species is likely to be significantly affected by the level and type of noise generated by the proposed development and a detailed Noise Assessment found that average noise levels were no greater when the restaurant was in operation in the evening compared to when it was not.

4.4 Lighting impacts are very unlikely to negatively affect badgers in this suburban context, and lighting levels would be sufficiently low within Petersham Meadows as to have negligible impacts on foraging bats at this location.

4.5 Bats foraging close to the northern boundary of the Site could be disturbed by lighting associated with the proposed development, however, such impacts can be avoided through

implementing a sensitive lighting scheme to reduce the intensity of the lights, their height above ground and to avoid any upward light spill. Such a sensitive lighting scheme can be readily achieved and can be secured by planning condition.

4.6 Taking all of the above into account, EDP's overall conclusion is that no adverse ecological impacts will arise from the proposed development, subject to implementation of the sensitive lighting scheme.

Appendix EDP 1
Non-Statutory Designations within 1km of the Site

Reference	Name	Grade	Distance from Site	Summary of Ecological Interest
Sites of Importance for Nature Conservation				
M082	Richmond Park and associated areas	Metropolitan	150m (E)	Range of wildlife habitats, including grassland, woodlands, ponds and some very old trees. Of great importance for insects, especially beetles.
M031	River Thames and tidal tributaries	Metropolitan	270m (NW)	The River Thames and the tidal sections of creeks and rivers. The mud-flats, shingle beach, inter-tidal vegetation, islands and river channel itself support many species from freshwater, estuarine and marine communities which are rare in London.
RiBII06	Petersham Meadows	Borough II	5m (N)	Traditionally managed meadows with seasonal flooding beside the River Thames. Key habitats are semi-improved neutral grassland, wet ditches and wet grassland.
RiBII12	Petersham Lodge Wood and Ham House Meadows	Borough II	140m (NW)	A small wood and two grassy fields beside the River Thames. Key habitats are semi-improved neutral grassland, wet grassland and wet woodland/carr.
RiBII10	The Copse, Holly Hedge Field and Ham Avenues	Borough II	190m (S)	Meadow and copse with ancient oak trees. Key habitats are semi-improved neutral grassland and veteran trees.
RiL02	Marble Hill Park and Orleans House Gardens	Local	415m (NW)	Landscaped grounds of two 18th century houses. Key habitats are semi-improved neutral grassland and veteran trees.
RiL05	Terrace Field and Terrace Garden	Local	485m (N)	Hay meadow and park. Key habitats are semi-improved neutral grassland, scrub and scattered trees.
Proposed Sites of Importance for Nature Conservation				
pM082	Richmond Park and associated areas	Metropolitan	150m (E)	Almost identical to M082 above, with some minor variations to the site boundary.
pM031	River Thames and tidal tributaries	Metropolitan	270m (NW)	Almost identical to M031 above, with some minor variations to the site boundary.
pRiB10	Petersham Meadows	Borough	5m (N)	Almost identical to RiBII06 above, with some minor variations to the site boundary.

Reference	Name	Grade	Distance from Site	Summary of Ecological Interest
pRiB16	Petersham Lodge Wood and Ham House Meadows	Borough	140m (NW)	Almost identical to RiBII12 above, with some minor variations to the site boundary.
pRiB17	The Copse, Holly Hedge Field and Ham Avenues	Borough	190m (S)	Almost identical to RiBII10 above, with some minor variations to the site boundary.
pRiB26	Terrace Field and Terrace Garden	Borough	485m (N)	Almost identical to RiL05 above, with some minor variations to the site boundary and with a higher grade of importance.
pRiL02	Marble Hill Park and Orleans House Gardens	Local	415m (NW)	Almost identical to RiL02 above, with some minor variations to the site boundary.