



ACJ *ecology*

Wildlife Sensitive Lighting Strategy

Land at Dalefield Way (West), Gravesend, Kent, DA12 2FL

February 2026

Project: Land at Dalefield Way (West), Gravesend, Kent, DA12 2FL

Date: 10/02/2026

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Version: Final

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1.0 Executive summary

1.1 This Wildlife Sensitive Lighting Strategy has been prepared to discharge planning condition 10: “A detailed lighting plan must be submitted to and approved in writing by the Local Planning Authority, showing the location and types of lighting (downward facing and on motion sensors) and details of light spill”.

1.2 This strategy includes specifications for sensitive lighting, locations of lights on the existing fence posts, and highlights sensitive habitats for bats. The strategy aims to minimise disturbance to nocturnal species while meeting operational and safety needs.

2.0 Introduction

Purpose of the report

2.1 This Wildlife Sensitive Lighting Strategy aims to ensure sensitive lighting is successfully established and functioning as designed. The objectives include the following:

- Identify potential bat features on site i.e. roosts and foraging routes to be kept dark to reduce disturbance;
- Provide suggestions for lighting least disturbing to bats; and,
- Show where external lighting will be installed.

Scope of works

2.2 All British bat species are fully protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 as European Protected Species (EPS). This makes it an offence to kill or injure a bat or damage or destroy a place of shelter or protection. Individual bats are also protected from ‘intentional’ or ‘reckless’ disturbance.

2.3 Artificial lighting is thought to increase the chances of predation by avian predators, delay emergence from roosts and affect foraging and commuting behaviour of bats.¹ Insects may also be attracted to lit areas, resulting in adjacent foraging habitats supporting a reduced number of insects.² Keeping these habitats dark will contribute to the conservation of these species.

¹ Bats and Artificial Lighting at Night, Guidance Note 08/23, Institution of Lighting Professionals, 2023

² Bats and Lighting in the UK, Bats and the Built Environment Series, Bat Conservation Trust, 2013

Guidance

2.4 This Sensitive Lighting Strategy has been prepared in accordance with the Institution of Lighting Professionals Guidance Note 08/23 Bats and Artificial Lighting at Night, and applies the mitigation hierarchy of avoidance, mitigation and enhancement as required by national planning policy and biodiversity legislation, including Policy CS12 of the Gravesham Local Plan Core Strategy 2014.

2.5 In line with GN08/23, the design process has prioritised the avoidance of artificial lighting on key bat habitats, including bat roosts, associated flight paths, commuting routes and primary foraging areas. Where lighting is necessary for operational or safety reasons, it has been confined to areas of lower ecological sensitivity and designed using best-practice mitigation measures.

2.6 All identified key habitats will be retained as dark areas with no direct or indirect illumination.

Qualifications and Competence of the Ecologist

2.7 The Ecologist has over 25 years of conservation experience. They are the founder of a new conservation charity and have previously worked as Head of Conservation for a Wildlife Trust, Director of Studies for the Field Studies Council and Course Director and Lecturer for the University of Essex and Cambridge.

2.8 The Ecologist has been nationally recognised by respected organisations and awarded various fellowships for their *outstanding or significant contribution* to these disciplines, including conservation and biodiversity for landscape-scale conservation projects.

2.9 They are currently on the external advisory board for the University of Essex and represent the Chartered Institute of Ecology and Environmental Management at the University of Southampton, judge national ecological projects and are an ecological expert for the Southwood Foundation.

3.0 Wildlife Sensitive Lighting Strategy

Sensitive Lighting Strategy

3.1 The site comprises open previously developed land that has been subject to regular disturbance and is characterised by bare ground, rubble, agricultural waste materials and early successional plants. The main vegetated habitats are limited to areas of neutral grassland and ruderal/ephemeral species.

3.2 The Preliminary Ecological Appraisal (ECOassistance, 2025) confirmed that there are no buildings or trees present on site and therefore no potential bat roosting features. The on-site habitats were assessed as having low suitability for foraging bats, primarily due to the limited extent and low-quality habitat for invertebrate prey populations.

3.3 Despite the low suitability of the application site for bats, the habitats immediately adjacent to the north and west could provide foraging and commuting opportunities. This includes Westcourt Marshes and Great Clane Marshes, which are identified as Coastal and Floodplain Grazing Marsh Priority Habitats. Specific habitats include marshland, saltings, and a network of tributaries and drainage ditches, which can support high invertebrate abundance and diversity. Wetland habitats are recognised as important bat foraging resources due to the availability of emergent aquatic insects and other invertebrate prey species. The network of tributaries and drainage ditches could also function as linear commuting routes, providing corridors and navigation features for bats moving between roosting and foraging areas, particularly as this area connects to the Thames and Medway Canal which creates a functional link to the surrounding landscape.

3.4 The PEA identified that the adjacent watercourse and associated habitats provide moderate suitability for commuting and foraging bats and are therefore considered ecologically sensitive to artificial lighting. Maintaining the functionality of these habitats for protected and notable species, including bats, is an important consideration in lighting design. Accordingly, mitigation measures must be implemented to prevent artificial light spill from impacting these areas, ensuring that the watercourse and boundary habitats continue to provide suitable dark corridors for nocturnal and crepuscular species.

3.5 Lighting design principles:

- Use only the minimum amount of light needed for safety.
- No artificial light or light spills onto the watercourse, Coastal and Floodplain Grazing Marsh Priority Habitats, or the proposed trees to the north and west of the site.
- All external lighting should use motion-sensitive timers to prevent unnecessary lighting. The duration of the timers should be kept to 1 minute to limit the duration of lit periods.
- A warm white or amber LED luminaire should be used due to its sharp cut-off, lower intensity, good colour rendition and dimming capability. The luminaire should feature a

peak wavelength higher than 550nm to avoid the blue spectrum of light most disturbing to bats.

- A specialist downward directional luminaire should be used. Directional lighting will use LED bulbs and angle the light fully downward to avoid an upward tilt. A hood should be installed on the lights to ensure no upward light distribution.
- Narrow spectrum lighting should be used to reduce the range of species affected by lighting. The lights used should emit only minimal ultraviolet and blue light, to avoid attracting insects.
- Lighting should be mounted at the lowest practicable height to minimise light spread.

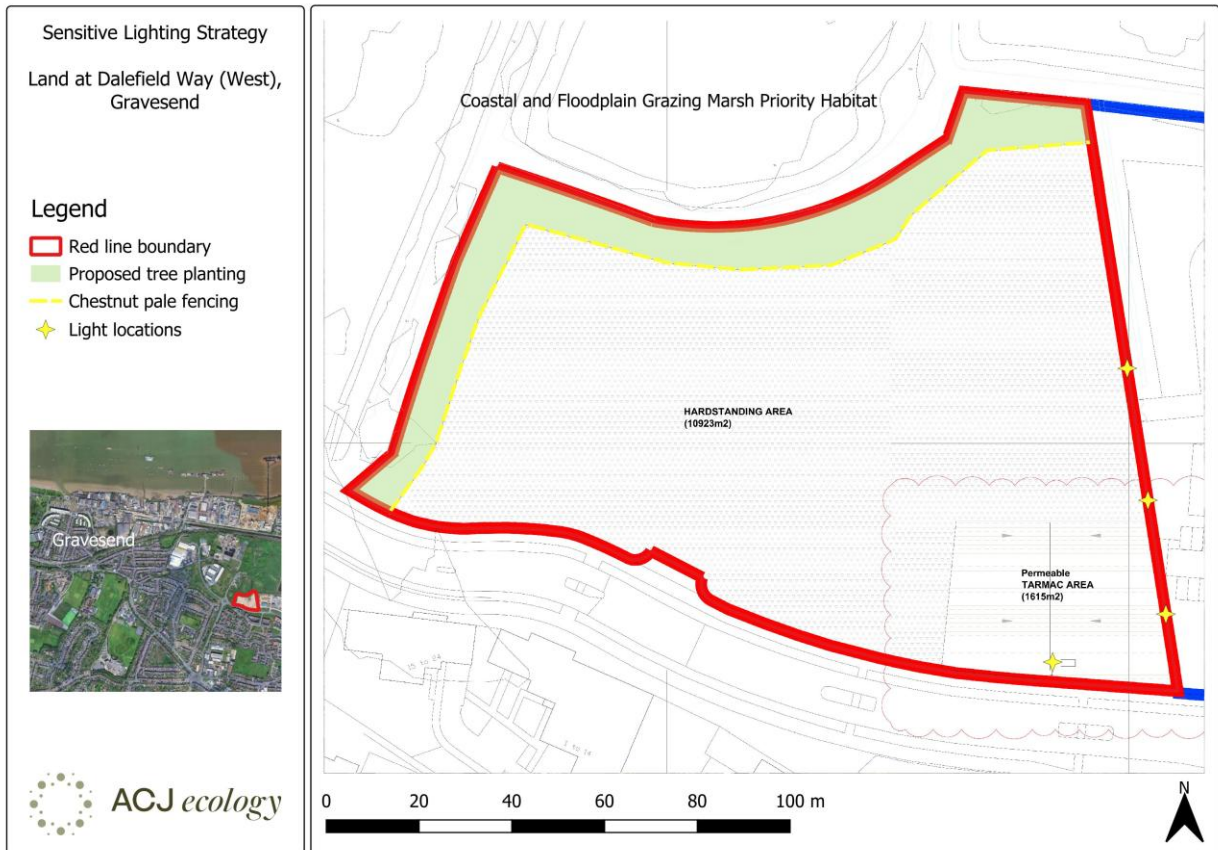
3.6 The proposed lighting scheme comprises luminaires mounted on the existing fence posts only, facing away from areas of ecological sensitivity. No artificial lighting is proposed within planted areas, the buffer zone, or the wider landscape. As such, the proposed lighting will be designed to avoid illumination of potential dark corridors suitable for foraging and commuting bats.

4.0 Ongoing Monitoring and Remedial Measures

4.1 The occupier will maintain the sensitive lighting. This will include site visits and meetings with the contractor to ensure any lighting installed meets the requirements set out in the strategy and has received approval from the local planning authority.

4.2 The lighting shall be retained and maintained thereafter in accordance with the approved scheme. Any future replacement of bulbs or fixtures should maintain the same spectral and directional characteristics to ensure continued compliance.

Appendix 1: Site plan showing location of lighting



Appendix 2: Lighting specifications recommendation

Forge XL CCT Wall Pack 16W/20W/24W

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lighting



- All lighting will be set to the lowest suitable lumen output and warmest colour temperature ($\leq 2700\text{K}$) to minimise blue/short-wavelength light.
- Fixtures will be angled and shielded to direct light only where operationally required.
- Motion sensors will be integrated to ensure lights are off or at a lower output outside of active use, consistent with GN08/23 guidance on reducing unnecessary lighting.