Biodiversity Enhancement Plan	
For:	Tilbury Douglas
Site	Tulip Academy Spalding, Waterside Campus, Neville Avenue, Spalding, PE11 2EH
Report Date:	12th September 2024
Report Reference:	SQ-2449
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Client:	Tilbury Douglas
Site Name:	Tulip Academy Spalding, Waterside Campus, Neville Avenue, Spalding, PE11 2EH
Report:	Biodiversity Enhancement Plan
Planning Application:	H16-0373-23, Condition 10 (South Holland District Council)
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Whilst every effort has been taken to ensure the accuracy of this report and its contents in view of potential ecological constraints to development or the likely presence or absence of species it must only be viewed as a snapshot in time and therefore not be viewed as definitive. Due to external factors, such as seasonality, weather etc. having the potential to affect survey results no liability can be assumed for omissions or changes that may or may not occur after the date this report was produced.

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1 Introduction and Background to the Site

1.1 Estrada Ecology Ltd was commissioned to prepare a Biodiversity Enhancement Plan to satisfy the requests relating to application number H16-0373-23, South Holland District Council.

1.2 The following report details the provisions for bat and bird provisions, in line with condition 10 of the decision notice:

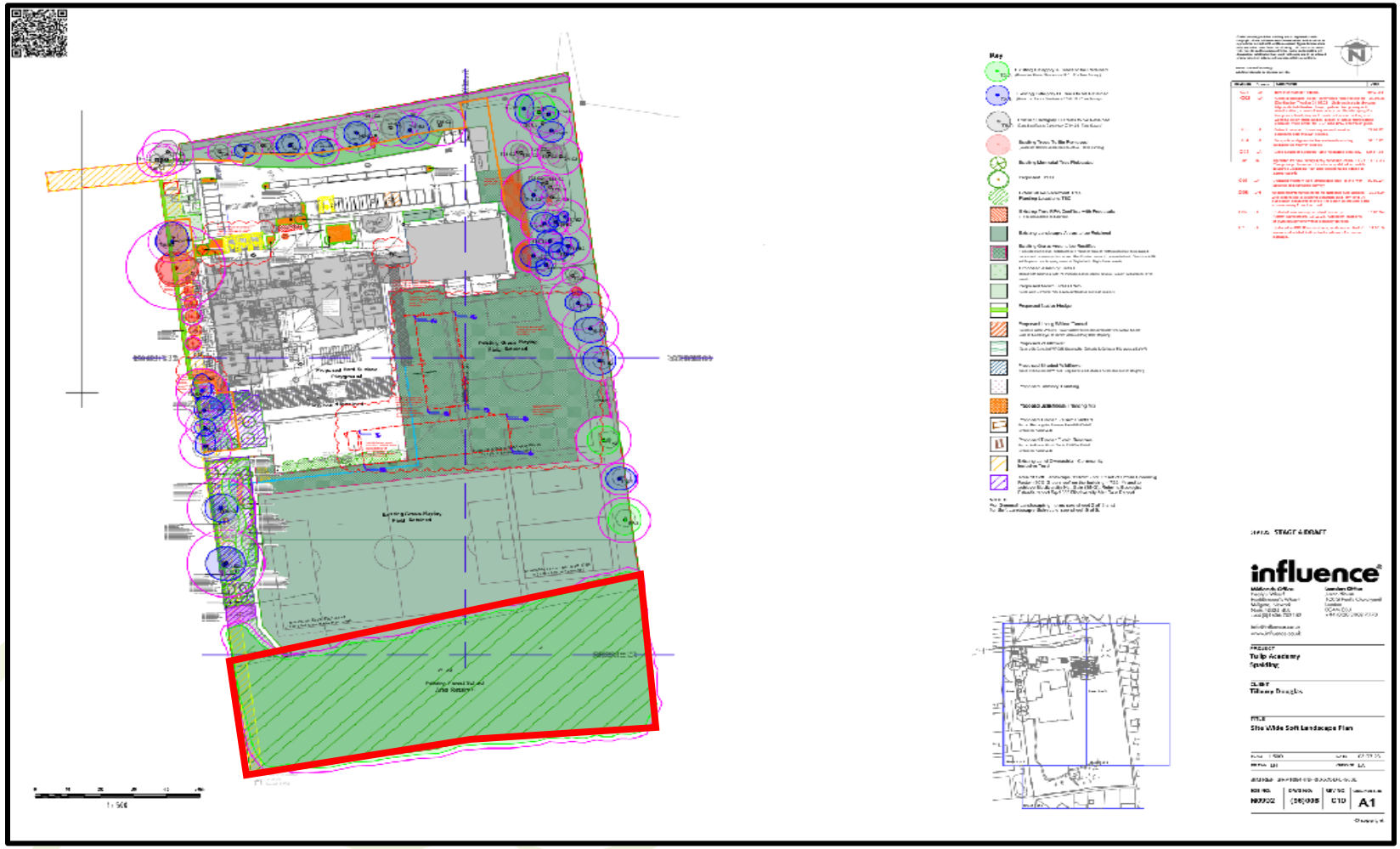
Prior to the occupation of the development hereby permitted, a scheme shall be submitted to and agreed in writing by the Local Planning Authority for the location of bat and bird boxes within the application site to encourage wildlife development. The agreed scheme shall be implemented prior to the completion of the development.

Reason: In the interests of the protection of local wildlife. This Condition is imposed in accordance with Policy 28 of the Southeast Lincolnshire Local Plan, 2019.

1.3 The purpose of this strategy is to set out a framework for enhancing biodiversity on site. Enhancements associated with the plan will ensure that the development impacts positively on the surrounding environment. The strategy is to focus attention on sustainable ecological management, maintenance, and enhancement of the wildlife value of the site. The plan has been produced in accordance with Chapter 11 of British Standards 42020.

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Figure 1: Site Proposals (Target Area for provisions in Red)



2 Biodiversity Enhancements

2.1 Bats

2.1.1 It is understood that provisions are not desired within the main fabric of the new building. It has been proposed that all biodiversity provisions are to be incorporated within the woodland area to the south of the site.

2.1.2 As a result, surface mounted bat boxes on the trees within the woodland, at a minimum height of 3 meters are to be proposed within the scheme.

2.1.3 To enhance roosting opportunities for bats, it is proposed that five 2F Schwegler bat boxes or similar are to be erected on the trees within the woodland. The proposed trees must be semi-mature in age as a minimum and positioned within the woodland to ensure no light splay from surrounding developments can encroach.

2.1.4 The 2F Schwegler bat box is a solid box made of insulating concrete with an internal roost space, which can be incorporated onto established trees. This bat box is well insulated providing consistent temperatures and contains a single narrow cavity at the base, so can be used throughout the year by crevice-dwelling species of bat.

2.1.5 The boxes should be erected at a height of at least 3 metres high. The flight path to the boxes should not have any light overspill in the vicinity which could deter bats from using the boxes. No vegetation should be allowed to grow that could impede the flight line to the integrated boxes.

2.1.6 As the boxes are to be surface mounted, it is reasonable to suggest that the provisions would not be considered permanent. As a result, if the boxes are to become damaged or fall from the proposed trees, they must be replaced as a like for like at the earliest opportunity. This should be conducted for a minimum of 25 years.

2.2 Lighting

2.2.1 Illuminating habitat used for foraging and commuting bats can affect the way bats respond to features in the landscape. Artificial light can act as a barrier to bats and disrupt flight paths of some species.

2.2.2 Different species of bats have differing light tolerances when commuting and foraging, with bat species that emerge later in the evening such as *Myotis* or *Plecotus* species being more sensitive to increased light levels (Stone, 2014). Species such as *Pipistrellus*, *Nyctalus* and *Eptesicus* are thought to be less affected.

2.2.3 It has also been shown that insect prey can be attracted to artificial lighting drawing insects away from their natural habitat creating a 'vacuum effect' (Eisenbeis, 2006), disadvantaging light sensitive bat species, and leading to a competitive advantage of those species able to take advantage of artificially lit areas (Artettaz, et al., 2000 and Davies, et al 2012).

2.2.4 Lighting causes direct mortality of insects and gives bats a competitive advantage over insect prey, such as moths, which are attracted to lights changing the predator prey relationship (Svensson & Rydell, 1998).

2.2.5 Where feasible, no artificial lighting should be installed adjacent to or above the bat boxes to avoid artificial light splay.

2.2.6 Any external security lighting should be set on motion-sensors and short (1min) timers. All luminaires should always be mounted on the horizontal, eliminating upward tilt and splay.

2.2.7 During construction and general site works, artificial lighting should not be used between thirty minutes before dusk and thirty minutes after sunrise or during sensitive foraging or commuting times from April-September.

2.3 Passerine species

2.3.1 To enhance breeding opportunities for passerine species it is proposed that bird boxes will be implemented within the existing woodland to the south of the site. The woodland is deemed beneficial for the enhancements due to the habitat acting as a good source of insect food for the nestlings when they hatch.

2.3.2 To attract most common species the nest box should be hung at a height of 1.5 metres or higher. Nest boxes should be angled so that they face away from the prevailing wind (usually south-westerly in the UK).

2.3.3 Two of each of the following bird boxes are proposed:

- Schwegler Nest Box 1B (32 mm hole) capable of supporting Great, Blue, Marsh, Coal and Crested Tits, Redstarts, Nuthatches, Collard and Pied Flycatchers, Tree and House Sparrows
- Schwegler 2M Nest Box (26mm hole) capable of supporting Blue-, marsh-, coal- and crested tit and possibly wren. All other species are prevented from using the nest box due to this smaller entrance hole.
- Schwegler 3S Starling Nest Box capable of supporting both starlings and woodpeckers.

2.3.4 As stated with the bat boxes, the nest boxes are to be surface mounted, it is reasonable to suggest that the provisions would not be considered permanent. As a result, if the boxes are to become damaged or fall from the proposed trees, they must be replaced as a like for like at the earliest opportunity. This should be conducted for a minimum of 25 years.

2.4 Hedgehogs and Invertebrates

2.4.1 The woodland is considered to provide suitable habitat for hedgehogs and invertebrates. The ground flora was considered dense in pockets with an abundance of fruit baring species present.

2.4.2 Furthermore, as the woodland area is to be used for woodland crafts by the users of the school, it is deemed a viable opportunity to utilise the woodland to provide suitable education for biodiversity.

2.4.3 As a result, it is recommended that an area within the woodland is to be delegated for hedgehog and invertebrates, outside of the area in which site users congregate. This will provide a lack of disturbance and potentially promote usage of the area for the target species.

2.4.4 The utilisation of the woodland for the target species will also aid with the management of the woodland, with all fallen deadwood from the trees having the potential to provide suitable refugia for both hedgehogs and invertebrates, as rotting vegetation such as wood, is deemed highly suitable.

2.4.5 It is however, recommended that the log piles are assessed every 2 years to ascertain their condition and record presence of target species to ensure the provisions are successful.

3 Conclusions and Recommendations

3.1 As a general biodiversity enhancement measure, all codes of good practice for wildlife should be undertaken whilst development is underway on the site. For example, trenches should be covered or, where left open, ramps provided for hedgehogs and other small mammals to use as a means of escape. Pest control products such as slug pellets should be avoided where feasible and the use of herbicides should be limited where practical to spot on treatments to prevent drift.

3.2 If the recommendations outlined in this report are followed, then it is envisaged that there should be an enhancement in the overall biodiversity of the site.

3.3 All bat and bird boxes are commercially available from www.nhbs.com.

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