JACOBS

Memorandum

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Subject	**Hedgehog Impact Assessment**	**Project Name**	M11 J7a
Attention	Helen Kemm (Jacobs)		
From	Nicky Park (Jacobs)		
Date	27 April 2017		
Copies to	**N/A**		

1. Background

Essex County Council (ECC) Major Programmes and Infrastructure is developing a proposal for improving access to and from the M11 near to Harlow. The project is for the provision of a new motorway Junction (7A) for the M11 between Junctions 7 and 8, new roads linking the proposed junction to the existing B183 (Gilden Way) and widening of Gilden Way itself. This work is hereafter referred to as the 'Proposed Scheme'. This memorandum has been prepared in response to consultation comments received on the planning application for the Proposed Scheme regarding effects to the hedgehog, *Erinaceus europaeus* and sets out to clarify the likelihood of works adversely affecting hedgehogs.

2. Legislation

The hedgehog was listed as a Biodiversity Action Plan (BAP) Priority Species in 2007, which has since been succeeded by the UK Post-2010 Biodiversity Framework (2012). This recognises the hedgehog as a threatened species requiring conservation action. It is also a species partially protected under Section 11(1) of Schedule 6 of the Wildlife and Countryside Act (1981), making it an offence to kill or take a hedgehog by certain methods, and it is protected from cruelty under The Wild Mammals Protection Act (1996).

The hedgehog is not a European Protected Species (EPS) and therefore does not receive any other protection under European law. No licence is required for works involving this species.

3. Desk Study

Desktop records were requested from Essex Ecology Services Limited (EECOS) in 2015 and the Essex Field Club, also in 2015. Seven records of hedgehog were recorded by the Essex Field Club within 2km of Gilden Way, the latest record being in 2014.

No records of hedgehog within 2km of the Proposed Scheme around Harlow have been recorded by EECOS. It must be noted, however, that the absence of a recorded species within a certain area should not be taken as confirmation of its absolute absence, and may in fact just represent paucity of data.

4. Habitat Suitability

A Phase 1 Habitat survey conducted by suitably experienced Jacobs ecologists in 2013-2015 has been used to identify the following areas of suitable habitat for hedgehog (Jacobs 2016). Habitat types are provided below, along with a description of the areas in which they relate to the Proposed

Scheme (all within 2km). The Phase 1 survey encompassed two areas: the Link Area and Gilden Way.

- **Deciduous woodland**
    - The Mores Wood is a large area of deciduous woodland located centrally within the site. Edge habitats of this type of woodland are especially favourable to hedgehogs.
    - Pincey Brook Meadows Local Wildlife Site (LoWS) partially consists of lowland mixed deciduous woodland.
    - Where Sheering Road meets Lower Sheering Road there is a small area of mature deciduous woodland with species including elder (*Sambucus nigra*), ash (*Fraxinus excelsior*), horse chestnut (*Aesculus hippocastanum*), pedunculated oak (*Quercus robur*), blackthorn (*Prunus spinosa*), sycamore (*Acer pseudoplatanus*), holly (*Ilex aquifolium*) and field maple (*Acer campestre*). It holds a dense herb layer with species including lords-and-ladies (*Arum maculatum*), cleavers (*Galium aparine*), broad-leaved dock (*Rumex obtusifolius*), ground ivy (*Glechoma hederacea*), dog's mercury (*Mercurialis perennis*) and nettles.
    - There are several discrete and limited areas of deciduous woodland adjacent to Gilden Way. These include species such as horse chestnut, sycamore, elm (*Ulmus* sp.), hawthorn (*Crataegus monogyna*), oak, hazel (*Corylus avellana*), ash, poplar (*Populus* sp.), sycamore, a scrub layer with elder (*Sambucus nigra*) and rose (genus *Rosa*), and a ground flora including cow parsley (*Anthriscus sylvaticus*), hedge woundwort (*Stachys sylvatica*), cleavers, stinking iris (*Iris foetidissima*) and locally dominated by ivy.
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- **Tall ruderal vegetation** – located at the point where 'Woodland South of Pincey Brook' meets the Pincey Brook. Species include willowherb (*Epilobium* sp.), Yorkshire fog (*Holcus lanatus*), spear thistle (*Cirsium vulgare*) and nettles. Tall ruderals are also present along arable field margins adjacent to Gilden Way, although the arable fields themselves do not provide suitable hedgehog habitat due to the lack of shelter during active months and the lack of material for the construction of winter nest during winter months. Use of pesticides in arable habitats is also likely to result in a lack of suitable prey.
- **Hedgerows**
    - The arable fields within the Link Area are bordered by mature, intact hedgerows, most of which are likely to provide suitable habitat for hedgehogs. It was recorded during the Phase 1 survey that the hedgerows were generally tall and dense and without significant gaps, making them suitable to support hedgehog (Hoff and Bright 2010). A lack of gaps would enable hedgehogs to move freely through the connected landscape, and the density of the recorded hedgerows would provide suitable cover for daytime shelter, foraging opportunities and winter hibernation. It is also worthy of note that hedgehogs build nests under the dense, and low, cover of bramble recorded within some of the identified hedgerows.
    - There are a number of hedgerows along Gilden Way containing woody species such as oak, beech (*Fagus sylvatica*), elm, plum (*Prunus* sp.), blackthorn, hawthorn, field maple, sycamore, horse chestnut, Leylandii (x *Cupressocyparis leylandii*), hazel, elder, ash, ivy, dog rose (*Rosa canina*) and guelder rose (*Viburnum opulus*). Ground flora species such as common nettle (*Urtica dioica*), hogweed, cow parsley (*Anthriscus sylvestris*), common mallow (*Malva sylvestris*), cocksfoot (*Dactylis glomerata*), perennial rye-grass (*Lolium perenne*), and annual meadow grass (*Poa annua*) were all recorded.

- **Amenity Grassland**
    - Several small areas of amenity grassland are located within the Propose Scheme boundary, and these areas are either short mown grassland or residential gardens located within the Campions, at Sheering Hall (north of Pincey Brook) or at Morgans Farm (north of Moor Hall Road). Amenity grassland can be rich in earthworms and other invertebrate prey, making it favourable to hedgehogs (MacDonald, 2010). It can also offer refuge habitat from badger predation. Gardens can provide hedgehogs with a plentiful supply of food, both natural and supplementary.
    - The Gilden Way carriageway is bordered on both sides by grass verges and there are several playing fields immediately adjacent. Areas of amenity grassland recorded appeared to be well maintained, having short sward heights.

The remaining habitats identified during the Phase 1 Survey provide unsuitable and/or less favourable habitat for hedgehogs. These are as follows; deciduous plantation, arable fields, bare ground and ephemeral/short perennial, swamp, semi-improved grassland, standing water and running water.

5. Other Impacts to Hedgehogs

Sound barriers (temporary acoustic fencing) are to be installed along the Pincey Brook and along Gilden Way during construction works. As hedgehogs are sensitive to noise, these should reduce the disturbance to nearby individuals during works. They will also act as a physical barrier to prevent hedgehogs crossing a potentially dangerous road.

However, this may also prevent movement of hedgehogs between areas. As part of the mitigation measures large multi-species underpasses are to be erected under each of the two link roads to provide a safe route for mammals to cross below the roads. A study has shown that hedgehogs can successfully utilise a variety of underpasses, and whilst the extent of such use is still under investigation, these should provide an opportunity for hedgehogs to cross the road, and hence permit their movement between areas (Froglife, unknown).

There will be no installation of street lighting on Sheering Road Bridge during works, and hence there is no concern with regards to increased lighting and impact on hedgehogs within this area. The sensitive lighting design in the area of Princey Brook, however, cannot avoid increasing night-time light levels in the general area. However this is not considered to be of concern as the majority of the habitat around the Brook is arable land and hence unsuitable for hedgehogs. Whilst there is a small section of amenity grassland within this area and a small corridor of woodland running alongside the brook, the area as a whole is isolated by this arable land.

6. Habitat Enhancement/Creation

A Biodiversity Statement and Mitigation Plan with respect to this project was produced in 2016, the purpose of which was to meet the requirement of the Essex County Council (ECC) that planning applications fulfil their Biodiversity Checklist (ECC, 2015; Jacobs, 2016b). In accordance with the ECC checklist, an offsetting assessment for the Proposed Scheme was also undertaken, to include habitat creation to be established upon completion of the Scheme.

As part of the Proposed Scheme's mitigation strategy, 8ha of priority habitat species-rich grassland would add significant ecological value to area and would provide direct benefits to hedgehogs. Hedgehogs favour grassland rich in species, and closely cut, to provide opportunities to forage and commute and therefore it is recommended the grasslands are suitably managed for this species. Landscape planting would also create approximately 4.5km of species-rich hedgerows, providing further suitable habitat for hedgehogs (Jacobs, 2016c).

Furthermore with specific respect to the hedgehog, there is also a net increase in scrub, tall ruderals, and deciduous woodland. These are all favourable habitats for this species as they provide shelter, foraging opportunities, and materials with which to build summer and winter nests.

7. Conclusion

Whilst at least some suitable hedgehog habitat will be impacted by the Proposed Scheme in the form of tall ruderals, deciduous woodland and hedgerows, the net increase in suitable habitat to hedgehogs is so great that the works are not considered to be detrimental to the long term population of hedgehogs within the area. Furthermore, most of the Proposed Scheme concerns widening of an already existing road and the majority of the offline route will be within unsuitable arable fields, limiting any potential impacts to hedgehogs.

The acoustic fencing to be erected is not considered to negatively impact upon hedgehogs during construction, and there will be no significant increase in street lighting during works to cause concern.

It is considered that given the legal status of this species, the proposed habitat enhancements are considered more than adequate in offsetting any potential impacts to hedgehogs within the area.

8. References

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Hoff, A.R. & Bright, P.W. (2010). The value of agri-environment schemes for macroinvertebrate feeders: hedgehogs on arable farms in Britain. *Animal Conservation*, 467-473.

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