

7.0 BROADFORD BRIDGE ECOLOGY ADDENDUM

Introduction

- 7.1 This Environmental Statement (ES) Addendum reviews the likely significant effects on ecology and nature conservation arising from the proposed development, with particular regard to the programme of development work for the proposed temporary Broadford Bridge wellsite development (hereafter referred to as the Site).
- 7.2 The original assessment dated June 2012 assumed that development would be completed between October and February. This is no longer the case and this addendum reviews likely effects on the basis of no fixed development programme, including whether the amended scheme materially effects the conclusions of the original Ecological Impact Assessment (EcIA) as presented in *Chapter 7: Ecology* of the original ES.
- 7.3 This chapter also includes the full results of a dormouse survey, which was reported in part within the original ES.
- 7.4 This ES Addendum Chapter has been prepared by URS Infrastructure and Environment Ltd (URS) and should be read in conjunction with *Chapter 7: Ecology* of the original ES. As in the ES, all information on badgers can be located in confidential **Appendix 1**.

Summary of the Original ES

- 7.5 Chapter 7: Ecology of the original ES summarised the conclusions as follows:

“The Application Site is not within 1km of any areas designated for their nature conservation value and the Application Site was assessed as being of land of low ecological value.

Pocock’s Wood directly north of the Application Site had low bat foraging activity and is likely to support an assemblage of woodland birds. There is also some potential for hazel dormouse to be present and a low population of great crested newts within a pond approximately 130m from the proposed wellsite.

The timing of construction and operational works between October and February mitigates for any significant effects on these species with works occurring

predominantly during the hibernation period for hazel dormouse (November- late April) and great crested newts (October- March).

The timing of works is also outside of the peak bat activity season which is between May and September and also the breeding bird season which is from Late February to September so that no significant effects are predicted on these faunal groups during this temporary and reversible development."

7.6 The original Ecological Impact Assessment Table of Significance is shown below in **Table 1.1.**

Table 1.1: Table of Significance – Ecology (From Chapter 7: Ecology of ES)

| Potential Effect | Nature of Effect (Permanent/ Temporary) | Significance (Major/Moderate /Minor) (Beneficial/Adverse / Negligible) | Mitigation / Enhancement Measures | Geographical Importance* | | | | | | | Residual Effects (Major/Moderate/ Minor) (Beneficial/Adverse / Negligible) |
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| | | | | I | UK | E | R | C | B / D | L | |
| Phase 1 – Construction | | | | | | | | | | | |
| Removal of small sections of species-poor habitats | Temporary | Minor Adverse | Enhancements recommended to improve hedgerow during the construction stage (H1 in Figure 7.3). | | | | | | | * | Minor Beneficial |
| Damage to woodland edge | Permanent | Minor Adverse | As a precaution the site construction (installation of plant and infrastructure) and decommissioning extents would be clearly marked prior to commencement in order to reduce the risk of accidental damage to woodland edge vegetation or compression of tree roots. Trees and woodland would be marked as no go areas for both workers and machinery in order to reduce disturbance. Areas used for materials and storage would be clearly defined within the Application Site and away from the woodland edge. | | | | | | | * | Negligible |
| Pollution to adjacent habitats through run-off and dust | Temporary | Minor Adverse | Standard pollution prevention controls over site establishment, operation and | | | | | | | * | Negligible |

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| | | | decommissioning would be implemented to avoid surface run-off and dust emissions from the site to the adjacent habitats. | | | | | | | | | | | |
| Potential effects of landtake on badger (See Confidential Appendix 7.3) | - | - | - | | | | | | | | | | | - |
| Potential effects of landtake on bats | Temporary | Negligible | No mitigation required | | | | | | | | | | * | Negligible |
| Direct disturbance to breeding birds during vegetation removal | Temporary | Negligible | No mitigation required | | | | | | | | | | * | Negligible |
| Impacts on hazel dormouse during landtake. Removal of low quality habitat | Temporary | Negligible | Enhancements to hedgerow (H1 on Figure 7.3) would benefit this species. | | | | | | | | | | * | Minor Beneficial |
| Impacts on great crested newts during migration to and from breeding pond. | Temporary | Negligible | No mitigation required | | | | | | | | | | * | Negligible |
| Effect of noise disturbance on breeding birds | Temporary | Negligible | No mitigation required | | | | | | | | | | * | Negligible |
| Effect of noise disturbance on badger (See Confidential Appendix 7.3) | - | - | - | | | | | | | | | | | - |
| Phase 2 – Mobilisation and Drilling | | | | | | | | | | | | | | |
| Effects of noise and lighting disturbance on bats | Temporary | Negligible | No mitigation required | | | | | | | | | | * | Negligible |
| Effects of noise and lighting disturbance | Temporary | Negligible | No mitigation required | | | | | | | | | | * | Negligible |

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| on breeding birds | | | | | | | | | | | | | | | | | | | |
| Effects of noise and lighting disturbance on hazel dormouse | Temporary | Negligible based on the current but incomplete surveys. | No mitigation required | | | | | | | | | | | * | | | | | Negligible |
| Effects of noise and lighting disturbance on badger (See Confidential Appendix 7.3) | - | - | - | | | | | | | | | | | | | | | | - |
| Potential vehicle collision risk with nocturnal wildlife | Temporary | Negligible | No mitigation required | | | | | | | | | | | * | | | | | Negligible |
| Phase 3a – Testing (gas) | | | | | | | | | | | | | | | | | | | |
| Effects of noise and lighting disturbance on bats | Temporary | Negligible | No mitigation required | | | | | | | | | | | * | | | | | Negligible |
| Effects of noise and lighting disturbance on breeding birds | Temporary | Negligible | No mitigation required | | | | | | | | | | | * | | | | | Negligible |
| Effects of noise and lighting disturbance on hazel dormouse | Temporary | Negligible based on the current but incomplete surveys. | No mitigation required | | | | | | | | | | | * | | | | | Negligible |
| Effects of noise and lighting disturbance on badger (See Confidential Appendix 7.3) | - | - | - | | | | | | | | | | | | | | | | - |
| Phase 3b – Testing (oil) | | | | | | | | | | | | | | | | | | | |
| Effects of noise and lighting disturbance on bats | Temporary | Negligible | No mitigation required | | | | | | | | | | | * | | | | | Negligible |
| Effects of noise and | Temporary | Negligible | No mitigation required | | | | | | | | | | | * | | | | | Negligible |

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| lighting disturbance on breeding birds | | | | | | | | | | | | | | | | | | |
| Effects of noise and lighting disturbance on hazel dormouse | Temporary | Negligible based on the current but incomplete surveys. | No mitigation required | | | | | | | | | | | | | * | | Negligible |
| Effects of noise and lighting disturbance on badger (See Confidential Appendix 7.3) | - | - | - | | | | | | | | | | | | | | | - |
| Phase 4a – Restoration | | | | | | | | | | | | | | | | | | |
| Effects on the site's vegetation, habitats and wildlife | Permanent | negligible | Enhancement recommended to improve hedgerow during construction stage (H1 in Figure 7.3). | | | | | | | | | | | | | * | | Minor Beneficial |
| Phase 4b – Retention | | | | | | | | | | | | | | | | | | |
| Small loss of ecological value land. | Permanent/Temporary | negligible | Enhancement recommended to improve hedgerow at construction stage (H1 in Figure 7.3). | | | | | | | | | | | | | * | | Minor Beneficial |

* Geographical Level of Importance

I = International; UK = United Kingdom; E = England; R = Regional; C = County; B = Borough; D = District; L = Local

Updated Field Survey Results

- 7.7 Following an Extended Phase 1 Survey dated 5th September 2011, further protected species surveys were recommended and conducted for great crested newt, bat activity and dormouse. The results of the Phase 1 Habitat Survey, bat activity and great crested newt surveys can be found in the Results Section of *Chapter 7: Ecology* of the ES. The updated dormouse results are described below.
- 7.8 A high density of dormouse tubes (75) were positioned in the woodland surrounding the proposed site and these were checked by a licensed dormouse worker between September 2011 and July 2012. At the time of the ES submission, not all checks had been completed; therefore precautionary mitigation for this species was included.
- 7.9 All surveys are now complete and the recommended survey index was exceeded using this method with a resulting figure of 37.5. Hazelnut searches were also completed during a number of survey visits. After eight survey visits no evidence of dormouse has been found and therefore there is strong evidence that they are absent from this site.

Assessment of the Impacts of Scheme Changes on Previous Impact Assessment, Mitigation and Conclusions

- 7.10 The following assessment re-evaluates the potential impacts of the three phases of the Proposed Development as described in *Chapter 4: Project Description* and *Chapter 6: Construction* without the previous embedded timing constraints. The method of assessment, legislation and planning policy utilised are consistent with those described in *Chapter 7: Ecology* of the ES.

Likely Significant Effects**Construction Impacts (Phase 1)***Potential Effects of Temporary Land-take*

- 7.11 No additional temporary land-take effects are anticipated by proposed changes to the timings of works to the site habitats or any other protected species other than those described below.

Birds

- 7.12 The removal of two small sections of hedgerow (~14m) offers some low potential to disturb or harm breeding birds if the work were undertaken within the breeding season (March to September/October inclusive). Without mitigation the effect of land take and habitat loss on bird species is assessed as a minor adverse effect significant at local level.
- 7.13 In addition, the destruction of bird nests could represent an offence under the provisions of the Wildlife and Countryside Act 1981 (as amended).

Hazel dormouse

- 7.14 The dormouse survey has now been completed with a survey index of 37.5 according to the Dormouse Conservation Handbook. It is now considered unlikely that dormice are present within the sites hedgerows and therefore no significant effects caused by the low level of hedgerow removal to this species is anticipated.

Great crested newt

- 7.15 A low population of great crested newts has been shown to be present within a pond approximately 130m from the Application Site. The Application Site is of negligible value to this species as it is heavily grazed, improved grassland. The grazed, improved grassland does not currently offer any cover from predation. The pond and immediately adjacent grassland field (within an adjacent field separated by a tree line and ditch) which has high value (foraging and shelter) for GCN in the terrestrial phase, will not be affected by the Proposed Development. The Site does not lie between this pond and other ponds so migration across the Site between breeding sites is unlikely to occur. Consequently there is very low risk that great crested newts would migrate across the Application Site between the pond and woodland when entering and leaving hibernation or during other times of dispersal. This risk could increase if the grassland within the Application Site is left unmanaged, so some precautionary mitigation has been recommended (see below) in order to prevent the Site becoming more suitable for this species.

Run-off

- 7.16 No further potential effects of run-off are anticipated by the proposed scheme changes.

Dust

- 7.17 No further potential effects of dust emissions are anticipated by the proposed scheme changes.

Soil Compaction

- 7.18 No further potential effects of soil compaction are anticipated by the proposed scheme changes.

Noise Disturbance

- 7.19 Chapter 9 of the ES contains the noise assessment by Royal Haskoning which was used in evaluating any noise impacts on adjacent receptors.
- 7.20 During the construction period noise levels would be restricted to daylight hours. The noise isopleth for construction noise (**Figure 9.4** in Chapter 9: Noise) illustrates that the majority of Pocock's Wood would have a noise level lower than 60dB with areas of both Pocock's and Prince's Wood showing areas with no significant increase in noise at all. Considering that the effect is temporary and reversible, this suggests a low potential for noise impacts on birds and other woodland fauna during the construction period. However specific assessments of noise impacts on sensitive receptors are given below.

Badger

- 7.21 Refer to the Confidential Badger **Appendix 1**.

Bats

- 7.22 Construction noise would be temporary and limited to daylight hours and no features with potential to be used as bat roosts were found within 100m of the Application Site. Therefore no significant effects on the conservation status of bats from noise disturbance are anticipated from Phase 1 of the Proposed Development.

Birds

- 7.23 There is potential for some localised displacement effects to birds during the construction period, limited to woodland fringes adjacent to the proposed wellsite. However, this would be temporary and most areas of adjacent woodland are shown in

the noise isopleths to have no significant increase in noise at all during this period, so whilst there may be localised displacement this is reversible and unlikely to adversely effect the conservation status of breeding bird populations.

- 7.24 There is one record of a Schedule 1 bird species within 1km of the Site. This is fieldfare *Turdus pilaris* and is rarely known to breed in the UK. Though not within the search area, one record of barn owl *Tyto alba* was recorded approximately 2.5-3km from the Site. No suitable nesting or foraging habitat for this species or other Schedule one species was recorded during the Extended Phase 1 Survey. It is assessed that the changes to the Proposed Development would have no significant effect on the conservation species of Schedule 1 species.

Lighting

- 7.25 During the construction period, lighting would be limited to emergency situations; therefore no significant adverse lighting effects are anticipated.

Operational Impacts (Phase 2 and 3)

Noise Disturbance

Adjacent Woodland

- 7.26 The noise isopleth (**Figure 9.4** in *Chapter 9: Noise* of the ES) illustrates that the majority of Pocock's Wood during the operational drilling phase would have a continuous noise level lower than 60dB (24 hours throughout a ~12 week operation period), with the majority of adjacent woodland showing low or negligible increases in noise. This increase in noise is temporary and reversible.
- 7.27 The greatest effect is on a small section of Pocock's Wood to the north which shows a predicted level of approximately 70dB which could lead to a temporary displacement of noise sensitive species from this woodland edge. Princes's Wood shows a predicted noise level of under 50 dB, even at the woodland edge. Specific assessments for the impact of operational noise on sensitive receptors are given below.

Bats

- 7.28 Temporary noise disturbance during the operation period could cause localised short-term displacement or a reduction in foraging activity of bats (particularly gleaning bats)

within and on the woodland fringe. However, no roosts would be affected and the short-term and reversible disturbance of this small section of foraging habitat is unlikely to have significant adverse impacts on the conservation status of local bat populations given the large area of woodland habitat available in the immediate locality. No significant effects on the conservation status of bat species are predicted by the Proposed Development.

Badger

7.29 Refer to the Confidential Badger **Appendix 1**.

Birds

7.30 There is potential for nesting birds to be present within adjacent woodland during the operational phase. Noise increases are anticipated during this operational phase (over a period of ~12 weeks) and impacts on this area would be temporary and reversible. This section of woodland is already subject to noise related to agricultural practices. It is therefore assessed that significant adverse effects from operational noise on the conservation status of breeding birds are unlikely.

7.31 As with construction noise, it is possible that the temporary noise increase associated with the drilling period will cause some short term, localised displacement of birds from the woodland edge in Pocock's Wood. However this impact would be temporary and reversible and is therefore assessed that there would be no significant effect on the conservation status of local bird populations. Noise habituation is likely to occur relatively quickly given that current land-uses within the Application Site include recreational shooting and agricultural practices. As in the construction period it is assessed that the changes to the Proposed Development would have no significant effect on the conservation species of Schedule 1 species which are not known to be breeding in the area and no good quality habitat was recorded.

Hazel Dormouse

7.32 A dormouse survey has been completed within the Site woodland and hedgerows and no evidence of dormouse has been found. There is therefore strong evidence that dormice are not present and no significant impacts on the conservation status of dormouse are predicted to result from the Proposed Development and anticipated changes to the timings of works.

Lighting Disturbance

- 7.33 Potential lighting effects are associated with the drilling phase (Phase 2, ~10 weeks) and are both temporary and reversible. Lighting during this period would be continuous throughout the night. The Application Site has been assessed as being an E2 lighting environmental zone under the Institute of Lighting Engineers (ILE) Guidelines (Ref. 1.1). The obstructive light limitations for this project as described in *Chapter 12: Lighting* are shown in **Table 1.2**.

Table 1.2: Obtrusive Light Limitations for an E2 Environmental Zone

| Environmental Zone | Sky Glow ULR (Max) % | Light Trespass (Into windows) Ev Lux | | Source Intensity I Kcd | | Building Lumina nce L (cd/m2) |
|--|----------------------|--------------------------------------|-------------|------------------------|-------------|-------------------------------|
| | | Pre-curfew | Post-curfew | Pre-curfew | Post curfew | Pre-curfew |
| E2 Low distinct brightness Rural, small village, relatively dark urban location | 2.5 | 5 | 1 | 7.5 | 0.5 | 5 |

- 7.34 The lighting assessment in Chapter 12 of the ES considers the directional lighting to result in minimal spill to the surrounding agricultural land and woodland.

Badger

- 7.35 Refer to the Confidential Badger **Appendix 1**.

Bats

- 7.36 Increased lighting levels directly adjacent to the wellsite during the operation period would occur on the woodland fringe of Pocock's Wood. This could temporarily displace bat foraging and displace bats to other adjacent woodland. However, this would be temporary and reversible and not all bat species exhibit avoidance of artificial lighting. This woodland edge did not represent an isolated area of foraging habitat as alternative areas were available throughout the surrounding woodland. Lighting disturbance was therefore assessed as having no significant effect on conservation status of bats.

Birds

- 7.37 Increased light spill on the fringes of Pocock's Wood could displace some bird species during the night. It could also displace some crepuscular and nocturnal species further into woodland or toward other alternate habitats. However, the changes in lighting are described in the lighting chapter as temporary, reversible and limited to a small area. Therefore it is assessed that there would be no significant effect on the conservation status of local bird populations.

Hazel Dormouse

- 7.38 No evidence of hazel dormouse has been recorded during extensive survey and therefore no significant effects on the conservation status of hazel dormouse due to operational lighting are predicted.

Vehicle Collisions

- 7.39 No further impacts due to the changes in the Proposed Development are anticipated.

Decommissioning Impacts (Phase 4a and Phase 4b)

Habitat Loss or Degradation

- 7.40 No further potential effects of habitat loss or degradation are anticipated by the proposed scheme changes.

Run-off

- 7.41 No further potential effects of run-off are anticipated by the proposed scheme changes.

Dust

- 7.42 No further potential effects of dust emissions are anticipated by the proposed scheme changes.

Noise

- 7.43 As with the construction period noise disturbance would be limited to daylight hours for a minimal amount of time. No significant effects on flora and fauna are likely to occur.

Lighting

- 7.44 Artificial lighting would only be used during an emergency and therefore is unlikely to have a significant effect on flora and fauna.

Cumulative Effects

- 7.45 No further cumulative effects based on changes to the Proposed Development are anticipated.

Summary of Revised Assessment

- 7.46 There is a low potential for the disturbance of nesting birds during the removal of two small sections of hedgerow (~14m in total). All birds, their eggs and nests are protected during nesting under the Wildlife and Countryside Act 1981 (as amended).
- 7.47 Due to the low population of GCN in a pond approximately 130m away from the Site, some precautionary mitigation has been recommended to prevent harm to this species retaining the Site as a poor quality habitat with negligible likelihood of presence.
- 7.48 No further significant adverse effects on the ecological integrity of sites or the conservation status of protected or notable flora or fauna populations have been identified.
- 7.49 Some low level noise and lighting disturbance effects to fauna are possible; however these affect small areas in the immediate vicinity of the Application Site and are short term and reversible. It is recommended that this should be further evaluated in a further planning application if the Site was to be utilised in the long term. Where necessary, further protected species surveys should be conducted.
- 7.50 The following additional potential effects have been identified during the assessment and, although no significant effects on conservation status are likely, it will be addressed through specific measures:
- Disturbance of nesting birds during vegetation removal; and
 - Harm to great crested newts migrating across the site.

Additional Mitigation Measures

- 7.51 The sections of hedgerow proposed for removal have potential to be used by nesting birds. All birds, their eggs and nests are protected during nesting under the Wildlife and Countryside Act 1981 (as amended). It is therefore recommended that the vegetation removal is undertaken October – end February i.e. outside the breeding bird season to avoid disturbance to nesting birds. If this is not possible then it should be ascertained that birds are not nesting prior to work commencing and if birds are found then works in this location must be stopped until the nestlings have fledged. If there is any uncertainty as to whether a bird is nesting or not then an ecologist should be sought for further advice.
- 7.52 It is considered highly unlikely that GCN would travel across the Site in its current condition and therefore no significant impacts on this species are predicted. However, as precautionary mitigation to prevent harm to GCN it is recommended that the Site is kept grazed at its current level with a short sward (<50mm) prior to commencing the Proposed Development. If grazing is not possible then this should be achieved through a regular cutting regime.
- 7.53 For details of all other mitigation measures and enhancements as required under the National Planning Policy Framework see *Chapter 7: Ecology* of the ES.

Residual Effects

- 7.54 No significant residual adverse effects on flora and fauna are anticipated after mitigation. A high level of confidence is given to the ecological assessment of most of the Application Site's sensitive receptors including protected species and habitats. Now that extensive dormouse survey has been completed the ecological assessment on this species has been increased from moderate to high.

Summary

- 7.55 **Table 1.3** contains a summary of the mitigation and likely significant residual effects of the Proposed Development with the removed constraints to the timing of works.

Table 1.3: Updated Table of Significance – Ecology

| Potential Effect | Nature of Effect (Permanent/ Temporary) | Significance (Major/Moderate /Minor) (Beneficial/Adverse / Negligible) | Mitigation / Enhancement Measures | Geographical Importance* | | | | | | | Residual Effects (Major/Moderate/ Minor) (Beneficial/Adverse / Negligible) |
|---|---|---|---|-----------------------------|----|---|---|---|-------------|---|---|
| | | | | I | UK | E | R | C | B / D | L | |
| Phase 1 – Construction | | | | | | | | | | | |
| Removal of small sections of species-poor habitats | Temporary | Minor Adverse | Enhancements recommended to improve hedgerow during the construction stage (H1 in Figure 7.3 in <i>Chapter 7: Ecology of ES</i>). | | | | | | | * | Minor Beneficial |
| Damage to woodland edge | Permanent | Minor Adverse | As a precaution the site construction (installation of plant and infrastructure) and decommissioning extents would be clearly marked prior to commencement in order to reduce the risk of accidental damage to woodland edge vegetation or compression of tree roots. Trees and woodland would be marked as no go areas for both workers and machinery in order to reduce disturbance. Areas used for materials and storage would be clearly defined within the Application Site and away from the woodland edge. | | | | | | | * | Negligible |
| Pollution to adjacent habitats through run-off and dust | Temporary | Minor Adverse | Standard pollution prevention controls over site establishment, operation and | | | | | | | * | Negligible |

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|--|-----------|---------------|--|--|--|--|--|--|--|--|--|---|------------------|
| | | | decommissioning would be implemented to avoid surface run-off and dust emissions from the site to the adjacent habitats. | | | | | | | | | | |
| Potential effects of landtake on badger (See Confidential Appendix 1) | - | - | - | | | | | | | | | | - |
| Potential effects of landtake on bats | Temporary | Negligible | No mitigation required | | | | | | | | | * | Negligible |
| Direct disturbance to breeding birds during vegetation removal | Temporary | Minor Adverse | Vegetation removal should be limited as far as possible to outside of the nesting bird season (i.e not within March to September). Where this is not possible a check for nesting birds should be completed immediately prior to works starting. | | | | | | | | | * | Negligible |
| Impacts on hazel dormouse during landtake. Removal of low quality habitat | Temporary | Negligible | No dormouse presence identified. Enhancements to hedgerow (H1 on Figure 7.3 in <i>Chapter 7: Ecology of ES</i>) could benefit this species. | | | | | | | | | * | Minor Beneficial |
| Impacts on great crested newts during migration to and from breeding pond. | Temporary | Negligible | As a precautionary measure it is recommended that grass is kept short (>50mm) either by the current grazing cattle or cutting regime. | | | | | | | | | * | Negligible |
| Effect of noise disturbance on breeding birds | Temporary | Negligible | No mitigation required | | | | | | | | | * | Negligible |
| Effect of noise disturbance on badger (See Confidential Appendix | - | - | - | | | | | | | | | | - |

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| 1) | | | | | | | | | | | | | |
| Phase 2 – Mobilisation and Drilling | | | | | | | | | | | | | |
| Effects of noise and lighting disturbance on bats | Temporary | Negligible | No mitigation required | | | | | | | | * | Negligible | |
| Effects of noise and lighting disturbance on breeding birds | Temporary | Negligible | No mitigation required | | | | | | | | * | Negligible | |
| Effects of noise and lighting disturbance on hazel dormouse | Temporary | Negligible | No mitigation required | | | | | | | | * | Negligible | |
| Effects of noise and lighting disturbance on badger (See Confidential Appendix 1) | - | - | - | | | | | | | | | - | |
| Potential vehicle collision risk with nocturnal wildlife | Temporary | Negligible | No mitigation required | | | | | | | | * | Negligible | |
| Phase 3a – Testing (gas) | | | | | | | | | | | | | |
| Effects of noise and lighting disturbance on bats | Temporary | Negligible | No mitigation required | | | | | | | | * | Negligible | |
| Effects of noise and lighting disturbance on breeding birds | Temporary | Negligible | No mitigation required | | | | | | | | * | Negligible | |
| Effects of noise and lighting disturbance on hazel dormouse | Temporary | Negligible | No mitigation required | | | | | | | | * | Negligible | |
| Effects of noise and lighting disturbance on badger (See Confidential Appendix 1) | - | - | - | | | | | | | | | - | |

| Phase 3b – Testing (oil) | | | | | | | | | | |
|---|---------------------|------------|---|--|--|--|--|--|---|------------------|
| Effects of noise and lighting disturbance on bats | Temporary | Negligible | No mitigation required | | | | | | * | Negligible |
| Effects of noise and lighting disturbance on breeding birds | Temporary | Negligible | No mitigation required | | | | | | * | Negligible |
| Effects of noise and lighting disturbance on hazel dormouse | Temporary | Negligible | No mitigation required | | | | | | * | Negligible |
| Effects of noise and lighting disturbance on badger (See Confidential Appendix 1) | - | - | - | | | | | | | - |
| Phase 4a – Restoration | | | | | | | | | | |
| Effects on the site's vegetation, habitats and wildlife | Permanent | negligible | Enhancement recommended to improve hedgerow during construction stage (H1 in Figure 7.3 of <i>Chapter 7: Ecology of ES</i>). | | | | | | * | Minor Beneficial |
| Phase 4b – Retention | | | | | | | | | | |
| Small loss of ecological value land. | Permanent/Temporary | negligible | Enhancement recommended to improve hedgerow at construction stage (H1 in Figure 7.3 of <i>Chapter 7: Ecology of ES</i>). | | | | | | * | Minor Beneficial |

* Geographical Level of Importance

I = International; UK = United Kingdom; E = England; R = Regional; C = County; B = Borough; D = District; L = Local

References

- 1.1 The Institution of Lighting Engineers (2005) Guidance Notes For the Reduction of Obtrusive Light. ILE.

Appendix 1: Confidential Badger Appendix

Desk-based Study Results

- 7.56 The national biodiversity network gateway showed records of badgers within 1km of the survey site.

Badger Survey Results

- 7.57 An outlier sett containing two active entrances was located within the north-eastern part of Pocock's wood approximately 200m from the Proposed Development. The location of the badger sett is illustrated in Figure 7.4 of *Chapter 7: Ecology* of the ES.

Construction Impacts (Phase 1)

Temporary Landtake

- 7.58 No further significant effects are anticipated.

Noise Disturbance

- 7.59 No construction noise disturbance impacts are anticipated for badgers. The outlier badger sett is located over 200m from the Application Site. The noise levels in this area would be low and construction noise would be restricted to daylight hours, and therefore unlikely to cause disturbance to any badger activity within the woodland. This was therefore assessed as no significant effects on this species.

Operational Impacts (Phase 2 and 3)

Noise Disturbance

- 7.60 The active outlier badger sett identified during the badger survey is over 200m from the Application Site. The temporary noise associated with the 12 week drilling period is unlikely to cause any disturbance in this part of Pocock's Wood and on badger activity. There is potential for a low amount of displacement of badger foraging activity from this area but this is not considered significant due to the high levels of good quality foraging habitat available.

Lighting Disturbance

- 7.61 Light spill from the Proposed Development would not reach the recorded sett. Therefore no significant effects on the conservation status of this species are predicted. As with noise disturbance, there is potential for low amounts of displacement in badger foraging activity from adjacent woodland fringe but this is not considered significant due to the high levels of good quality badger foraging habitat in this area.

Decommissioning Impacts (Phase 4a and Phase 4b)

- 7.62 No further impacts have been identified as significant during this phase of works.