

Barnsley Youth Zone

Construction Environmental Management Plan (CEMP): Biodiversity

OnSide Youth Zones

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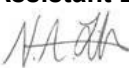
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1. Introduction

1.1 Background

1.1.1 Ecus Ltd (Ecus) was commissioned in December 2023 by OnSide Youth Zones to produce a Construction Environmental Management Plan (CEMP): Biodiversity for a proposed development associated with land west of Harborough Hill Road, Barnsley centred on Ordnance Survey National Grid Reference (OSNGR): SE 34835 06631, hereafter referred to as ‘the Site’.

1.1.2 Proposals for the Site involve the construction of a Youth Zone and associated infrastructure in the town centre of Barnsley (Planning Application Reference: 2022/0434), as displayed in the HB Architects ‘*Proposed Youth Zone Site Plan*’ Ref: (BAR-HBA-V1-00-DR-A-P54), dated April 2022. Landscape proposals for the Site are taken from the TBA Landscape Architects ‘*Landscape Management Plan*’ (Ref: HS/7339/RevA/LMP/Feb24) and associated ‘*Landscape Proposal*’ drawing (Ref: 7339.01, rev B), both dated February 2024. This report should also be read in conjunction with the Preliminary Ecological Appraisal (PEA) (Ecus Ltd, ‘*Land at Schwabisch Gmund Lane, Barnsley – Update Preliminary Ecological Appraisal*’, ref. 16656, v2.0, dated March 2021) and Biodiversity Net Gain Assessment (Ecus Ltd, ‘*Barnsley Youth Zone, Update Biodiversity Net Gain Assessment*’, ref. 19682, v2.0, dated September 2022) reports by Ecus Ltd.

1.1.3 The CEMP has been produced to inform the discharge of a planning condition for Application 2022/0434 from the Barnsley Metropolitan Borough Council Local Planning Authority. Planning Condition number 31 states:

“Prior to commencement, a Construction Environmental Management Plan (CEMP: Biodiversity) detailing precautionary measures to be adopted on site during construction works to protect retained habitats and to avoid harm/disturbance to protected and priority species such as nesting birds, amphibians, reptiles, foraging and commuting bats and hedgehogs shall be submitted to, and approved in writing by the Local Planning Authority.

Thereafter the development shall be carried out in accordance with the approved measures.

Reason: In the interests of the visual amenities of the locality and in accordance with Local Plan Policy BIO1.”

1.1.4 The measures set out in this CEMP: Biodiversity serve to discharge the relevant planning condition/s and will be adhered to from commencement on Site until the completion of the development.

1.1.5 Potentially damaging impacts of the works are assessed within section 3.2, a method statement

for protection against potentially damaging construction activities is discussed in Section 4 and Appendix 2 with a Toolbox Talk site guide provided at Appendix 1.

2. Existing Site Condition and Features of Interest

2.1 Overview

- 2.1.1 The Site condition and habitats have been assessed based on the Ecus Ltd Biodiversity Net Gain Assessment (Ecus Ltd, '*Barnsley Youth Zone, Update Biodiversity Net Gain Assessment*', ref. 19682, v2.0), dated September 2022.
- 2.1.2 The Site is situated to the west of Harborough Hill Road, in the town centre of Barnsley and covers approximately 0.5 hectares (ha) of the wider hybrid application site which totals approximately 1.7 ha. The Site sits at the western side of this wider site.
- 2.1.3 Habitats present at the Site upon survey in April 2021 include hardstanding, introduced shrub, scattered bramble and mixed scrub and neutral grassland (as shown in Figure 1).
- 2.1.4 The Site is surrounded on all sides by urban development, with residential dwellings to the north and Harborough Hill Road with residential dwellings beyond to the east, and infrastructure and industrial buildings to the south and west. The wider area is highly urbanised with residential buildings, industrial units, car parks and recreational buildings dominating the north, south and west. Further east lies the River Dearne and the Dearne Valley Park LNR, an area of woodland and parkland. These and the fishing lake "The Fleets" to the north are the closest areas of semi natural and natural habitats, located approximately 750 m from the Site.

2.2 Designations

- 2.2.1 One statutory designated site which is a Local Nature Reserve (LNR) was identified using MAGIC and three Local Wildlife Sites (LWS) were returned by Barnsley Biological Record Centre (BBRC) for locations within 2 km of the Site. Details are provided in Table 1 below.

Designated Site	Description from Citation	Approximate Distance and Direction from Site
Statutory		
Dearne Valley LNR	No citation provided, however upon review of areal imagery the site is approximately 80 ha in size and comprises woodland, wet woodland, riparian, canal and grassland habitats.	850 m south.

Non-Statutory		
Old Mill Lane LWS	No citation provided, however upon review of aerial imagery description provided. Large water feature (The Fleets) surrounded by scattered broadleaf trees and woodland	660 m north
Cliff Wood LWS	No citation provided however, upon review of aerial imagery, approximately 32 ha of Broadleaf woodland habitat is present.	1.50 km east
Barnsley Canal at Withorpe LWS	No citation provided however, upon review of aerial imagery, a canal is present surrounded by modified/semi-improved grassland and scattered trees	1.85 km north-west

2.2.2 The non-statutory designated sites are considered to be of importance to nature conservation at between the local and county level.

2.3 Ecological Summary

2.3.1 The below provides a summary of the habitats present on the Site (pre-development), their value and sensitivity based on the guidance given in 'Guidelines on Ecological Impact Assessment' (CIEEM, 2018) and their associated suitability to support protected species.

Habitats

2.3.2 The majority of the Site is dominated by developed land; sealed surface (i.e. hardstanding), these areas are considered to be of negligible botanical value. The remaining habitats comprise of areas of ephemeral/short perennial vegetation present around the edges of areas of hardstanding and adjacent to the areas of introduced shrub. Scattered scrub sparsely but extensively distributed in the northern part of the Site, including on the rubble pile and hard standing. Areas of poor semi-improved grassland towards the west of the Site. One large area of bricks and rubble is present in the northern part of the Site which stretches half the width of the Site (see Figure 1).

2.3.3 All habitats within the Site were considered to be of no greater than site level importance to nature conservation.

2.3.4 Removal of all habitats is required to facilitate the development works.

Species

2.3.5 The Site and area within 30 m have potential and/or are known to support a range of protected species as well as Invasive Non Native Species (INNS) which have been identified as part of the PEA and are summarized in Table 1 as follows:

Table 1. Protected and Invasive Non Native Species (INNS) Summary

Species/Species Group	Survey Summary	Recommendations
Common Amphibians	BBRC returned a total of 27 records of amphibians for locations within 2 km of the Site. Of these, three pertained to great crested newt (GCN) <i>Triturus cristatus</i>, the closest of which was found approximately 1.90 km south-west of the Site in 2019. The remaining records pertain to common toad <i>Bufo bufo</i>, common frog <i>Rana temporaria</i> and smooth newt <i>Lissotriton vulgaris</i>. The closest record to Site pertained to a common frog approximately 635 m north-east of Site in 2016 No ponds are located within 500 m of the Site and the existing terrestrial habitat is of limited suitability for GCN and other common amphibians, as reported in 2021 (Ecus, 2021). Whilst the rubble piles and scrub provide some suitability for sheltering GCN and common amphibians, given the lack of aquatic habitat within 500 m and the location of the Site within an urban area, with significant barriers to amphibian dispersal, GCN are considered unlikely to be associated with the Site. Site habitats are considered to be of no more than site level value for common amphibians.	Best Practice Measures (BPM) were recommended to protect common amphibians during site clearance and construction.
Badger	A total of four records of badgers dating between	Best Practice Measures (BPM) were

	1983 and 2019 were supplied by BBRC for locations within 2 km of the Site. The exact location of the records is not provided within this report to safeguard badgers from persecution; however, all records are located greater than 200 m from Site. No evidence of badger activity at the Site has been recorded. The habitats present on Site are of poor suitability for badgers due to dominance of hardstanding, and the lack of sheltering opportunities and the dominance of bricks and other rubble within the rubble piles, which significantly limits their value to badgers as sett building habitat. Badger are not currently considered to be a receptor at the Site. The Site was considered to be of no more than site level value for badger based on the limited extent and value of habitats available on Site.	recommended to protect badgers during site clearance and construction.
Bats	BBRC returned a total of 171 bat records for locations within 2 km of Site, of which 12 records of bat roosts were returned. SYBG returned a total of 274 bat records for locations within 2 km of Site, of which 11 records of bat roosts were returned with six of these having bats present, with one additional record returned that pertained to a potential bat roost. No buildings are present on site and all other trees were assessed to no suitability to support roosting bats. Based on the habitats present and the location of the Site in an urban environment, it is considered to be of limited value to foraging and commuting bats as identified by Ecus in 2021. Works were not considered to result in any impacts on suitable roosting habitat The main	Best Practice Measures (BPM) were recommended to protect bats during site clearance and construction.

	impacts were considered to be indirect impacts to foraging/commuting bats for example via increased levels of lighting (e.g. during construction /development).	
Birds	BBRC returned a total of 3124 records comprising of 101 species for locations within 2 km of Site. A total of 17 Schedule 1 bird species, as listed within the Wildlife and Countryside Act 1981 (as amended), are included within the records. During the 2022 survey (Ecus, 2022), a dunnoek <i>Prunella modularis</i> was recorded using the Site. This species and other commonly occurring bird species are likely to use the scrub present at the Site for foraging and nesting. Based on the habitats present and those of higher or similar ecological value found within the nearby area the importance of the Site to birds is considered to be at the site level only, as identified in 2021 by Ecus.	Best Practice Measures (BPM) were recommended to protect nesting birds during site clearance and construction.
Reptiles	BBRC provided a total of three records for locations within 2 km of Site and were dated between 2018 and 2019. These related to two records of common lizard <i>Zootoca vivipara</i> and one record of grass snake <i>Natrix helvetica</i>, the closest of these records pertaining to a common lizard approximately 350 m east of Site. Reptiles are considered unlikely to be found	Best Practice Measures (BPM) were recommended to protect reptiles during site clearance and construction.

	within the Site due to the Site being isolated from suitable surrounding habitat. Rubble piles in the Site have the potential to offer shelter and possible hibernacula for reptiles, however they are isolated from other areas of suitable habitat by areas of open hard standing. Slow worm <i>Anguis fragilis</i> is the species most likely to utilise urban habitats, however given the presence of gardens in the surrounding area, it is considered unlikely that this species would be associated with the Site. The Site habitats, disturbance from human activities and isolation from other suitable habitats are considered likely to deter reptiles from using the Site. Therefore, was considered to be of no more than site level value for reptiles.	
Riparian Mammals	BBRC returned five records for European otter <i>Lutra lutra</i> for locations within 2 km of Site. The closest was approximately 380 m north-east from 2011. Three records of water vole <i>Arvicola amphibious</i> were returned by BBRC for locations within 2 km of Site and were all dated from 2002. The closest of these records was located approximately 1.08 km west from Site. No waterbodies are present within 30 m of the Site and the closest waterbody, the River Dearne is 830 m from Site and separated from it by several main roads, therefore otter and water vole are considered highly unlikely to occur on Site.	General pollution prevention measures and safeguards with regards to off-site waterbodies/watercourses as well as BPM were recommended in tandem with BPM for other mammals such as badger.
White clawed Crayfish	BBRC returned no records of white-clawed crayfish <i>Austropotamobius pallipes</i> for locations within 2 km of the Site and no records were identified in this search area within the public	No specific measures appropriate due to likely absence of the species on Site and within 30m.

	domain. No waterbodies are present within 30 m of the Site and the closest waterbody, the River Dearne is 830 m from Site and separated from it by several main roads, therefore white-clawed crayfish are considered highly unlikely to be encountered on Site.	
Hedgehog	BBRC returned a total of 10 records for hedgehog <i>Erinaceus europaeus</i> recorded between 2012 - 2019. The closest record was a sighting approximately 100 m south-east of Site from 2016. Areas of introduced shrub along the western boundary of Site and scattered scrub at the north of Site provide some limited suitability for use by hedgehog. However, given the availability of more suitable habitat in the surrounding area comprising residential gardens, it is considered unlikely that hedgehog would be wholly dependent on the Site and so they are considered to be of importance at no greater than the site level.	Best Practice Measures (BPM) were recommended. BPM for badgers will work to safeguard hedgehog in the unlikely event they are present on Site at the time of site clearance or construction works.
Invasive Non Native Species (INNS)	BBRC returned no records for invasive and non-native plant species within 2 km of Site. No records for invasive bird species were returned by BBRC for locations within 2 km of Site. Cotoneaster <i>Cotoneaster</i> sp. species were recorded at numerous locations on Site (Figure 1, TN1) Cotoneaster species can be difficult to differentiate and as a precaution the species recorded on Site should be treated as if they are a Schedule 9 species.	Best Practice Measures (BPM) were recommended in regard to the removal of all INNS species on Site at the time of site clearance.

3. Proposals and Potential Impacts

3.1 Proposals

- 3.1.1 The proposals for the Site, are displayed within the '*Proposed Youth Zone Site Plan*'. The development includes the construction of a Youth Zone and associated infrastructure. All existing habitats on Site will be lost to facilitate the development with amenity grassland and wildflower grassland as well as tree planting, native and ornamental hedge and shrub planting to be created around the Youth Zone building and hardstanding.
- 3.1.2 Landscaping proposals, including the planting schedule are displayed within the '*Landscape Proposal*' drawing. Proposals include native tree, shrub and hedge planting as well as ornamental shrub planting. Areas of close mown, amenity grassland as proposed, to be seeded with 'A22 – Hard wearing, Low maintenance' mix, as well as an area of wildflower grassland, to be seeded with 'EM2 – Standard General Purpose Meadow Mixture'.

3.2 Potential Impacts

- 3.2.1 Based on the PEA summary, pre-construction/construction operations with potential to damage the Site and other potential sources of ecological impact arising from the development are considered to include:
- Ground compaction, disturbance and damage to trees/scrub and roots as a result of bringing machinery and materials on Site and storage of materials;
 - Pollution through accidental fuel spills during the construction period including potential to pollute off-site waterbodies/watercourses;
 - Adverse impacts to common amphibians and reptiles during their terrestrial phase, if present, as a result of ground and vegetation clearance or dismantling of the spoil/rubble piles;
 - Minor disturbance resulting from general construction presence and activities to foraging/commuting birds, badgers, hedgehogs and other small animals which may pass through the Site;
 - Minor adverse impacts to invertebrates during site clearance and construction;
 - Adverse impacts to individual birds/active nests as a result of clearance of ground vegetation if this is undertaken during the bird nesting season (typically recognised as March - August inclusive);
 - Minor disturbance to foraging or commuting bats due to increased lighting at night; and,

- Adverse impacts to badger, hedgehog and common mammal species during ground and vegetation clearance as well as during the creation of excavations on Site during development which have potential to injure or trap mammals.

4. Construction Management and Implementation

4.1 Construction Management

- 4.1.1 During construction and in accordance with best practice, the following working methods and considerations specific to habitats and species/species groups will be undertaken by the contractor. The methods proposed are based on legal requirements in relation to wildlife legislation, best practice, and the requirements for the Site development.

4.2 Habitat Protection

General Measures

- 4.2.1 Construction practices will follow best practice in terms of dust and noise. This will include but is not limited to ensuring unsealed surfaces are kept damp during dry weather conditions and ensuring that machines are not idling when not in use. All machine refuelling will be carried out in designated areas on Site where spill mats have been installed to prevent any pollution on Site and within adjacent habitats.

Watercourse/Waterbody Protection

- 4.2.2 General principles of pollution prevention should be adhered to in order to protect off-site habitats.
- 4.2.3 Guidance for Pollution Prevention (GPP) documents produced by Natural Resources Wales (NRW), Northern Ireland Environment Agency (NIEA) and Scottish Environment Protection Agency (SEPA) should be referred to for Site works which may impact the local environment. Relevant examples include:
- GPP5 – works and maintenance in or near water (NRW, NIEA and SEPA, 2018),
 - GPP21 – pollution incident response planning (NRW, NIEA and SEPA, 2017) and
 - GPP22 – dealing with spills (NRW, NIEA and SEPA, 2018).
- 4.2.4 Pollution Prevention Guidelines 1 (NRW, NIEA and SEPA, 2013), is now withdrawn but provides a general overview for good practice environmental measures in construction and where followed will assist with protection of the running water and pond habitats;
- Materials shall not be stored within 10 m of any running water or aquatic habitat; and
 - Details of the Environment Agency (EA) should be stored in the site office during construction works should any pollution incident occur which may warrant contacting the EA.

4.3 Species Protection

- 4.3.1 To protect species associated with the Site during the pre-construction and construction phases of the works, Best Practise Measures (BPM) will be adhered to during the ground/vegetation clearance works and construction works. These measures are tabulated in the method statement table at Appendix 2.

4.4 Invasive Non Native Species

- 4.4.1 Cotoneaster species can be difficult to differentiate and as a precaution the species recorded on Site should be treated as if they are a Schedule 9 species.
- 4.4.2 Following best practice, it is recommended that if any of the cotoneaster on Site is to be removed, it should be cleared, grubbed out and chipped, with care taken to avoid spread through transfer of berries in particular. Chipped arisings should be transported to a licenced composting/green waste facility in a covered container to avoid inadvertent spread of plant material. The receiving waste facility should also be made aware of the nature of the green material.
- 4.4.3 Where invasive are encountered works in the immediate area should cease and the ecologist/licenced contractor contacted for advice.

4.5 General Measures

Toolbox Talk

- 4.5.1 An Ecological Clerk of Works (ECoW) will be appointed prior to works at the Site. The appointed ECoW will provide a Toolbox Talk (TbT) to all site personnel working on the Site prior to the start of vegetation clearance and prior to commencement of activities where ECoW attendance is considered to be appropriate, as described in 4.5.3. The TbT will be used to outline the key habitats/protected species that are present or potentially present on the Site, how to identify them, legislation associated with them, BPM and/or mitigation that should be in place at the Site throughout. All measures set out in the TbT are to be adhered to during clearance/construction.
- 4.5.2 The TbT will also form part of the site induction process for site personnel involved in activities where ECoW presence is required (site clearance works), or there is a residual risk but where ECoW attendance is not considered to be essential. For new staff that begin work on the Site after the initial TbT has been given by the ECoW, the TbT as part of the site induction process should be given by the site manager once an ECoW has briefed the site manager. A copy of the TbT documents and identification sheets will be kept on the Site at all times in the site office and will be signed by site personnel to demonstrate that they have been briefed on the ecological features associated with the Site prior to working on the Site. A TbT site guide document is provided in

Appendix 1.

Ecological Clerk of Works

4.5.3 The appointed ECoW will be present to complete pre-works site checks and supervise as follows:

- To complete a pre-works, check for badger setts on Site and within 30m of the Site prior to the start of vegetation clearance or construction works;
- To complete a pre-works, check for the establishment of any new hibernation habitats for reptiles/amphibians on Site prior to works;
- To complete nesting bird checks of vegetation prior to removal, where removal is scheduled during the nesting bird season i.e. between March - August inclusive.
- To check all relevant fencing has been deployed to create the BPZ;
- To deliver the relevant TbT as required;
- To attend the Site in an emergency capacity, in the unlikely event protected species are unexpectedly encountered when the ECoW is not in attendance; and
- To ensure all materials (construction materials and arisings) on the Site are being stored in a suitable location within designated areas and are not creating habitat piles for wildlife to colonise where these must then be disturbed at a later date upon removal.

Timing of Works

4.5.4 Ecological considerations which will constrain the timing of the proposed works primarily concern the bird breeding season. Further information is also provided with regards to timing of works for reptiles and hedgehog. Other timing considerations relate to the avoidance of nighttime works to safeguard foraging/commuting bats and commuting badger.

Common Amphibians and Reptiles

4.5.5 Ground disturbance works on potentially suitable reptile habitat within the hibernation season for reptiles /amphibians is, as practicable, to be avoided (key period November to February, weather dependent in October and March) as reptiles/amphibians may lose significant energy resources if disturbed during hibernation and will further be less able to move away to safety of their own volition. In this case, given the small extent of suitable habitat and overall limited presence of suitable hibernation habitat works were considered highly unlikely to impact upon hibernating reptiles.

4.5.6 The ECoW will nonetheless attend site prior to ground and vegetation clearance to confirm that no new suitable hibernation habitat for reptiles/amphibians has established since Ecus' last site visit. Where suitable hibernation habitat is identified then works impacting these habitats will need, as practicable, to occur within the active season for reptiles/amphibians (i.e. works will ideally need to avoid the hibernation season between November and February inclusive and is weather dependent in March and October).

4.5.7 Where works are completed in the active season (March to October, weather dependant March and October) they must take place in suitable condition with temperatures between 10-18°C, and no rain as below this threshold reptiles are likely to be less mobile and unlikely to be able to move away from disturbance on their own. Early mornings (unless temperatures are above 10°C) will be avoided in order to allow temperatures to rise above 10°C, below this threshold animals may be basking and immobile.

Bats

4.5.8 Night working (hours between and including dawn and dusk) will be avoided to reduce disturbance to foraging /commuting bats. This will also protect commuting badgers and otter in the unlikely event they are present at the time of works.

Nesting Birds

4.5.9 Vegetation clearance works should ideally avoid the key nesting bird season wherever possible (i.e. March to August inclusive).

4.5.10 Where vegetation clearance works are necessary within the nesting bird season, i.e. within March to August inclusive, nesting bird checks will be required to be conducted by an ecologist no more than 24 hours in advance of vegetation removal.

4.5.11 If an active bird nest is identified during the checks (or at any time), any works in progress must be stopped and a suitable buffer established by an ecologist. Once a suitable buffer is in place an update nesting bird survey should be conducted by a suitably qualified ecologist ahead of works resuming to confirm that the nest is no longer in use.

Hedgehogs

4.5.12 Any suitable shelter and hibernation for hedgehogs (e.g. long grasses, dense scrub, brash piles) should be cleared using hand tools, preferably between April and October in milder weather when hedgehogs are not hibernating. Avoid disturbing key features where hedgehog may be hibernating such as dense piles of leaves/ brash piles/ tree hollows during November to March.

4.5.13 If hedgehog nesting/hibernation sites are encountered the area will be buffered with a 10m no works zone and works in the areas may need be postponed until after the hibernation season.

Good Site Housekeeping

4.5.14 Good general housekeeping of the Site will be employed to ensure there is no build-up of debris.

4.5.15 All materials (construction materials/arising) on Site will be stored in a suitable location at least 10 m away from vegetation, ideally risen off the ground (e.g. on pallets) or on hard stand/bare ground away from vegetation. Materials arising from the works should be removed from the Site as quickly as possible or placed in a skip or other sealed container immediately if stored on Site. This will avoid colonisation by common amphibians and other wildlife and will ensure there is no build-up of debris or other waste which may create suitable habitats for protected species that then has to be disturbed at a later date.

Biosecurity Measures

4.5.16 Biosecurity measures will be implemented, as practicable, during the construction stage and post-development to reduce the possibility of spread of invasive species on to the Site and prevent the spread of diseases (e.g. Chytridiomycosis, an infectious disease in amphibians) (ARG UK 2017).

4.5.17 The TbT delivered by the ECoW prior to works will include information regarding biosecurity measures for contractors to adhere to during the works.

4.5.18 Standard practices such as cleaning and disinfecting equipment and boots, when leaving the Site should apply to reduce the risk of transferring diseases (ARG UK 2017). To disinfect equipment in the field the following will be required:

- a bucket or washing up bowl;
- a brush;
- disinfectant (bleach (4% diluted solution) or Virkon4 (as per supplier's instructions));
- disposable or washing up gloves (to wear while disinfecting);
- a source, or container, of clean water; and,
- bin bags for waste and wrapping field equipment.

4.5.19 Use a brush to scrub off any debris, plant fragments, mud etc. then rinse with water. Soak footwear/equipment in bleach solution for at least 5 minutes, or Virkon for at least one minute. Rinse with clean water. If possible, allow to dry for before next use. Keep smaller

equipment/footwear inside plastic bags during transit and storage (after thorough drying) to reduce the chance of transmitting pathogens.

- 4.5.20 Larger equipment i.e. small plant and vehicles should be washed before arriving at the Site particularly if they have been used at other sites where the presence of invasive species or diseases is known. Larger equipment should also be washed before they leave the Site.
- 4.5.21 Should invasive species or diseases be identified at any point then these would need to be managed through a management plan to be implemented by appointing a suitably experienced contractor/specialist.

Contact Details

- 4.5.22 The overall responsibility of the Site during the construction phase should be clearly identified before construction and Site clearance. The person in charge of day-to-day site activities will be the appointed Site Manager.
- 4.5.23 Ecus Ltd has prepared this document and can be the main point of contact for ecological advice and the provision of ECoW, as required.
- 4.5.24 Project Appointed Ecologist Natasha Firth (Principal Ecologist) should be contacted immediately in the event that protected or notable species (i.e GCN, bats, badgers, birds, reptiles or hedgehogs) are encountered during the works. Phone: 07535727436. If Natasha is not available, request to speak to a Senior or Principal Ecologist from the YEMECO team. Phone: 0114 266 9292.

5. References

ARG UK. (2017). 'ARG UK Advice Note 4: Amphibian Disease Precautions: A Guide for UK Fieldworkers.' Amphibian and Reptile Groups of the United Kingdom.

British Standard, 5837 (2012). 'Trees in Relation to Design, Demolition and Construction-Recommendations'. National Joint Utilities Group (NJUG) publication Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees, No. 4.

Chartered Institute of Ecology and Environmental Management (CIEEM). (2018). 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater Coastal and Marine'. CIEEM, Winchester.

Ecus Ltd. (2021). *Land at Schwabisch Gmund Lane, Barnsley – Update Preliminary Ecological Appraisal*. Ref. 16656. v2.0.

Ecus Ltd. (2022). *Barnsley Activity Park – Update Ecological Walkover*. Ref. 19682.

Ecus Ltd. (2022). *Barnsley Youth Zone, Update Biodiversity Net Gain Assessment*. Ref. 19682. v2.0.

TBA Landscape Architects. (2024). '*Barnsley Youth Zone, Barnsley - Landscape Management Plan*'. Ref: HS/7339/RevA/LMP/Feb24.

Appendix 1. Ecology Toolbox Talk

Legislation

Amphibians

- Smooth newt, common frog and common toad are included in Section 9(5) of the WCA 1981 (as amended) which prohibits sale, barter, exchange, transporting for sale and advertising to sell or to buy these species.
- It is considered best practice to avoid impacts and harm to common amphibians.

Reptiles

- Six reptile species, of which four comprising grass snake *Natrix helvetica*, common lizard *Zootoca vivipara*, slow worm *Anguis fragilis* and adder *Vipera berus* may be encountered in this geographical location, are **protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) against intentional killing or injuring.**

Badgers

- Badgers and their setts are protected under the Protection of Badgers Act 1992. It is an **offence under the act to kill, injure or take a badger. It is also an offence to destroy, damage or obstruct a currently active badger sett, or to disturb animals within the sett.**

Birds

- All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended) against destruction of the nest during the bird nesting season, which falls between March and August, inclusive. **It is an offence under the Act to kill, injure or take any wild bird, with certain exceptions.**
- Some species (e.g Barn owls) are afforded additional protection under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). **It is an offence to intentionally or recklessly disturb a Schedule 1 species while it is building a nest, is on or near a nest containing eggs or young, or to intentionally or recklessly disturb dependent young of such a species.**

Bats

- All species of bat occurring within the UK are included in Schedule 2 of the Conservation of Habitats and Species Regulations 2017 as amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (“the Habitats Regulations”) and are **protected from deliberate capture, injury or killing, from deliberate disturbance and from deliberate damage or destruction of a breeding site or resting place (roost).**
- All UK bats are also included on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), however, their protection is limited to certain offences. Under the 1981 Act (as

amended) **it is an offence to intentionally or recklessly disturb bats while they are occupying a structure or place used for shelter or protection, or to obstruct access to any such place.**

Other Notable Species

- Hedgehog is a terrestrial mammal species listed on the UK Biodiversity Action Plan 2007 and is a species of principal importance under Section 41 of the NERC Act 2006.

Invasive Non Native Species (INNS) i.e. Cotoneaster

- Cotoneaster are listed on Schedule 9, Part II of the Wildlife and Countryside Act 1981 making it an offence Under Section 14 (2) (a) of the Act to *“plant or otherwise cause Cotoneaster to grow in the wild”*. The police and local authorities have enforcement functions under the Act. Penalties for a Section14 offence have been modified by the Countryside and Rights of Way Act 2000 for England and Wales.

Where to find them & What do they look like?

Amphibians

- Amphibians spend much of their time on land and are generally found in close proximity to ponds;
- Amphibians are present within and around ponds during March to June for breeding;
- Amphibians may shelter/hibernate for long periods under rocks, dead logs, debris and mud, and may venture out in milder conditions to forage. The key hibernation period is November-February. Amphibians begin to come out of hibernation and move to breeding ponds with consecutive minimum nighttime temperatures of 5 degrees Celsius or more.

Male Great Crested Newt



Female Great Crested Newt



Smooth (Common) Newt



Palmate Newt



Common Toad



Common Frog



Reptiles

- Reptiles need to bask in the sunshine each day before they become active, which puts them at risk from human impacts in the early mornings or on cooler days as they are unable to flee threats. Reptiles hibernate from November-February, concealed in rubble or spoil piles or in below ground features such as rabbit burrows.

Common lizard



Adder



Grass Snake



Slow worm



Badgers

- Badgers live underground in setts often on sloping ground, at the base of hedgerows or woodland edge. Sett entrances are identified by a D-shaped hole usually accompanied by a large spoil heap.
- Badgers are rarely seen but their presence at a site can be determined by looking for the following field signs: setts, spoil heaps, footprints, trails through vegetation, latrines, hairs and scratch marks on trees.
- Badgers are active at dusk and dawn and during the night.

- Badgers are generally active from April- November. The key breeding period for badgers runs between July to December inclusive. They do not hibernate but are commonly less active between November- March, i.e. they become more reliant on/are more likely to stay within the sett for prolonged periods during this time.

Badger sett entrance



Badger footprint



Birds

- Several common species of birds may use the Site for foraging (e.g. grassland) and there is a risk of nesting in scrub and shrubs on Site.
- If you are unsure what a bird's nest may look like, then please contact the ecologist for advice.

Bats

- UK bats are very small animals, and the bodies of the smallest bats are able to fit inside a match box. Several species of UK bat are able to conceal themselves in gaps and crevices little wider than 10mm.
- Bat droppings appear similar in size and shape to mouse droppings but if rolled between your thumb and forefinger will crumble to dust, unlike mouse droppings.
- A small number of bats in the UK have been found to carry rabies viruses called European Bat Lyssaviruses (EBLVs). EBLVs are transmitted through a bite or a scratch or from a bat's saliva coming into contact with your mucous membranes (your eyes, mouth or nose). Construction staff should not handle bats.



A pipistrelle bat which is approximately 5 cm in length

Other Notable Species

- Hedgehogs may be found moving across the Site at any time and within tall vegetation on Site or close to Site.
- They are a small mammal (150-300mm head and body length, dependant on age; tail: 10-20mm) with a coat of several thousand spines along the back which are speckled brown and cream. They have a brown pointed furry face with small black eyes and nose.
- Hedgehogs create nests which serve different purposes at different times of year. They may be used and constructed to sleep/rest in during the day (spring/summer), used for breeding (April-September) and hibernation (winter month typically November through to March). Nests are often made of leaves and tend to be located somewhere that offers support and protection (e.g. amongst dense vegetation/below scrub/hedgerows or log piles/below building or in hollows below tree roots).

Invasive Non Native Species (INNS) i.e. Cotoneaster

- It is recommended that any of the cotoneaster on Site should be removed from the Site during clearance works. These should then be grubbed out and chipped, with care taken to avoid spread through transfer of berries in particular.
- Chipped arisings should be transported to a licenced composting/green waste facility in a covered container to avoid inadvertent spread of plant material. The receiving waste facility should also be made aware of the nature of the green material.

What you need to know

A risk of encountering amphibians and reptiles, badgers, nesting birds, and other small mammals has been identified at the Site. It should be noted that any wildlife within the Site will likely be well concealed. To safeguard the above protected species in the event that they are present at the time of works, the following key points will be followed (Section 4 of the CEMP and associated Appendix 2 should be consulted for full details):

- The appointed ECoW/ecologist will have briefed all key site personnel via a toolbox talk prior to the start of site /vegetation clearance and construction works. The Toolbox Talk will include relevant detail on ecology/identification, legislation and best working practices. All Site contractors will have been shown a copy of this guide which will be made available for reference on Site at all times;
- All Site personnel to keep a high level of vigilance for protected species and Invasive Non Native (INNS) during works;
- Always check where you are walking and maintain good housekeeping across the Site, including the storage of all materials on hard standing/bare ground well away from vegetation or ideally on pallets raised from the ground;
- A pre-works badger check will need to be completed by the ECoW 24h ahead of clearance or construction works;
- Should badgers be encountered on Site then works should temporarily cease and the animal allowed to move away of its own volition and the ecologist contacted. If a suspected sett is recorded on Site or within 30m of the Site then a 30m exclusion zone should be established around it and the ecologist contacted for advise immediately;
- Food/litter will not be left on Site;
- Deep excavations (i.e. 1m or more) should be covered overnight during construction works. Any shallow excavations (less than 1m) should have a scaffold board or equivalent placed in them overnight to allow any riparian mammals, badgers, hedgehog and other species to exit, should they fall in. Trenches and excavations will also be inspected each morning to ensure that no animals have become trapped overnight;
- Night working (hours between and including dusk dawn and dawn dusk) will be avoided;
- Should any signs of riparian mammals (e.g. otter) be recorded then works will stop and the ecologist will be contacted for advice;
- No artificial lighting (during the construction or operational stages) will be placed near to any potential bat roost features (any new bat boxes) or focus on existing foraging/commuting/roosting habitat to be retained;
- Unnecessary light spill would be controlled through a combination of directional lighting, low lighting columns (reduced wattage lamps and louvres), hooded/shielded luminaires and/or strategic screening planting. All luminaires will lack Ultra Violet (UV) elements and metal halide, fluorescent sources should not be used. LED luminaires should be used where possible with a warm white spectrum adopted (<2700 Kelvin (oK));
- Vegetation clearance will avoid the key nesting bird season (March to August inclusive). If clearance must occur within the nesting season and ecologist will complete a check for nesting birds before clearance no more than 24 hours prior to clearance, to check for the presence of active bird nests. An active nest would require an exclusion zone to be established and adhered to until chicks had fledged and/or the nest is no longer in use (to be monitored and confirmed by the ECoW).

- Avoid disturbing key features where hedgehog may be hibernating such as dense piles of leaves/ brash piles/ tree hollows during November to March. If hedgehog nesting/hibernation sites are encountered the area will be buffered with a 10 m no works zone and works in the areas will be postponed to after the hibernation season. If hedgehog is encountered between November and March or juveniles are encountered the ecologist will be contact for advice immediately.
- Suitable hibernation habitat for reptiles/amphibians has not been recorded on Site as part of the to date. A pre-work check 9ikjm by the ECoW will occur ahead of site clearance and construction to identify the presence of any suitable reptile/amphibian hibernation habitat to be cleared. Should the pre-works check completed by the ECoW identify presence of suitable hibernation habitat for reptiles/common amphibians then works impacting the identified hibernation habitat will be completed in the active season (i.e. March to October, weather dependant March and October) in suitable condition with temperatures between 10-18°C, and no rain as below this threshold reptiles are likely to be less mobile and unlikely to be able to move away from disturbance on their own. In the unlikely event that any torpid/hibernating reptiles/amphibians are found they should be left in situ wherever possible and works should cease and the ecologist contacted for advice;
- Any tall vegetation requiring clearance is to be reduced to 100 mm initially, left for a minimum of 2 hours and then subject to a further cut (e.g. to 50 mm or bare ground as appropriate) to safeguard reptiles and common amphibians in the event they are present on Site during clearance;
- If reptiles are encountered when the ECoW is not on Site works in the area will stop and the ecologist contacted. Reptiles will not be handled by staff and will be allowed to move away of their own volition. Incorrect handling of reptiles can cause injury/death to the reptiles;
- Any common amphibians (smooth newt, common frog, common toad) encountered during works will be moved carefully by gloved hands to an area of shelter outside the footprint of works, preferably within the woodland adjacent the Site away from the works area. This can be undertaken by contractors and the ecologist does not need to be informed if common frogs or toads are encountered;
- Good general housekeeping of the Site will be employed. All materials (construction materials/arising) on Site will be stored in a suitable location at least 10m away from vegetation ideally risen off the ground (e.g. on pallets) or on hard stand/bare ground away from vegetation. Materials arising from the works should be removed from the Site as quickly as possible or placed in a skip or other sealed container immediately if stored on Site. This will avoid colonisation by reptiles and other wildlife and will ensure there is no build-up of debris or other waste which may create suitable habitats for protected species that then has to be disturbed at a later date;
- Contained designated areas will be used for the washing of vehicles. Designated areas will also be used for refuelling (ideally on an impermeable surface). Bunded tanks should be used for the storage of any fuel, oil or other potential pollutants;

- Stockpiling of materials on Site will be avoided and waste materials or spoil from excavation will be removed from the Site and disposed of at the earliest opportunity;
- Biosecurity measures will be implemented during construction;
- Use a brush to scrub off any debris, plant fragments, mud etc. then rinse with water (pond water will suffice). Soak footwear/equipment in bleach solution for at least 5 minutes, or Virkon for at least one minute. Rinse with clean water. If possible, allow to dry for before next use. Keep smaller equipment/footwear inside plastic bags during transit and storage (after thorough drying) to reduce the chance of transmitting pathogens;
- Larger equipment i.e. small plant and vehicles should be washed before they leave Site and before arriving at the Site; and,
- Project Appointed Ecologist Natasha Firth (Principal Ecologist) should be contacted immediately in the event that protected or notable species (i.e GCN, bats, badgers, birds, reptiles or hedgehogs) are encountered during the works. Phone: 07535727436. If Sarah is not available, request to speak to a Senior or Principal Ecologist from the YEMECO team. Phone: 0114 266 9292.

Record of Toolbox Talk:

Signature	Name	Organisation

Appendix 2: Protected Species Best Protection Measures

Table 1 – Protected Species Best Protection Measures Method Statement

Mitigation	Species concerned	Reason	Timing
Pre-Works Checks & Ecological Clerk of Works (ECoW)			
A suitably qualified ECoW will be present to complete pre-works site checks and supervise as follows: - To complete a pre-works check for badger setts on Site and within 30m of the Site prior to the start of vegetation clearance or construction works. This will include a pre-works check for badgers within the woodland (i.e. LWS) within 30m of the Site within 24 hours prior to works. Should a badger sett be encountered within 30m of the Site then further survey and mitigation including licencing) is likely to be required. - To complete a pre-works check for the establishment of any new hibernation habitats for reptiles/amphibians/hedgehog on Site prior to works to inform appropriate timing of vegetation clearance; - To complete nesting bird checks of vegetation prior to removal, where removal is scheduled during the nesting bird season i.e. between March - August	Badgers Reptiles, amphibians hedgehog Nesting birds	To ensure protected species are adequately safeguard before construction and vegetation clearance commences and ensure species are safeguarded during vegetation clearance and construction.	Prior to and during vegetation clearance and construction.

inclusive or where works occur within 5m of the LWS; • To deliver the relevant Toolbox Talk as required; • To attend the Site in an emergency capacity, in the unlikely event protected species are unexpectedly encountered when the ECoW is not in attendance; and • Regular checks by the ECoW during construction (i.e. a minimum of once every 6 months) to ensure CEMP measures are being adhered to and advise accordingly.	All wildlife		
Toolbox Talk (TbT)			
All site personnel will be briefed during their site induction by an ECoW on the potential presence of wildlife on the Site. A TbT (see Appendix 1) including an identification guide will be provided and shown to all site personnel and will be made available for reference at all times.	Amphibians, reptiles, badgers, bats, birds, hedgehog, and INNS (cotoneaster).	To ensure all site personnel are aware of the potential presence of wildlife on the Site, identify areas with an increased risk of presence, and explain the relevant legislation and the proposed methods of working as detailed below. To ensure that all site personnel are aware of appropriate precautionary measures to minimise the risk of committing an offence during the works.	Prior to works commencing.

Timing of Works			
Works within the hibernation season for reptiles /amphibians is typically to be avoided (key period November to February, weather dependent in October and March) as reptiles/amphibians may lose significant energy resources if disturbed during hibernation and will further be less able to move away to safety of their own volition. In this case, given the small extent of suitable habitat and overall limited presence of suitable hibernation habitat works were considered highly unlikely to impact upon hibernating reptiles. It is nonetheless recommended that the ECoW attends Site prior to ground and vegetation clearance to confirm that no new suitable hibernation habitat for reptiles/amphibians has established since the PEA. Where suitable hibernation habitat is identified then works impacting these habitats will need to occur within the active season for reptiles/amphibians (i.e. works will need to avoid the hibernation season between November to February inclusive and is weather dependent in March and October).	Reptiles, common amphibians	To minimise the risk of harming wildlife during clearance of the sites, with individuals likely to be concealed below ground or in sheltering habitat during their hibernation phase (from November to February, weather dependent March & October).	Site clearance and construction.
Vegetation clearance works should avoid the key nesting bird season wherever possible (i.e. March to August inclusive). Where vegetation clearance works or works within 5m of the LWS fall into the key bird nesting bird period (i.e. within March to August inclusive), additional surveys for nesting birds will be required to	Birds	To minimise the risk of impacting breeding birds during clearance of the sites	Site clearance and construction.

be conducted within 24 h of works. If an active bird nest is identified during the checks (or at any time), any works in progress must be stopped and a suitable buffer established by an ecologist. Once a suitable buffer is in place an update nesting bird survey should be conducted by a suitably qualified ecologist ahead of works resuming to confirm that the nest is no longer in use.			
Any suitable shelter and hibernation for hedgehogs (e.g. long grasses, dense scrub, woodland, brash piles) should be cleared using hand tools, preferably between April and October in milder weather when hedgehogs are not hibernating. Avoid disturbing key features where hedgehog may be hibernating such as dense piles of leaves/ brash piles/ tree hollows during November to March. If hedgehog nesting/hibernation sites are encountered the area will be buffered with a 10 m no works zone and works in the areas will be postponed to after the hibernation season.	Hedgehog	To minimise the risk of harming wildlife during clearance of the sites, with individuals likely to be concealed below ground or in sheltering habitat during their hibernation phase (key period from November to February, weather dependent March & October).	Site clearance and construction.
Night working (hours between and including dawn and dusk) will be avoided to reduce disturbance to foraging /commuting bats and hedgehogs. This will also protect commuting badgers in the unlikely event they are present at the time of works.	Bats, hedgehogs, badger.	To rescue disturbance to species during their main active period.	Throughout clearance and construction works.
Vegetation Clearance			

Clearance of suitable shelter/hibernation habitat (i.e. tall grass/grass tussocks, habitat piles (leaves, brash, rubble etc.) will avoid the winter hibernation period (which runs from November to March inclusive and is weather dependant in March and October. Any suitable hibernation habitat will be identified by the ECoW via a pre-works check. If hedgehog nesting/hibernation sites are encountered the area will be buffered with a 10 m no works zone and works in the areas will be postponed to after the hibernation season.	Hedgehog	To minimise the risk of harming wildlife during clearance of the sites, with individuals likely to be concealed below ground or in sheltering habitat during their hibernation phase (from November to February, weather dependent March & October).	Site clearance and construction.
Clearance of suitable shelter/hibernation habitat for amphibians/reptiles were identified during the pre-work check will avoid the winter hibernation period (which runs from November to March inclusive and is weather dependant in March & October). Where vegetation clearance works are completed in the active season (March to October, weather dependant March and October) they must take place in suitable condition with temperatures between 10-18°C, and no rain as below this threshold reptiles are likely to be less mobile and unlikely to be able to move away from disturbance on their own. Early mornings (unless temperatures are above 10°C) will be avoided in order to allow temperatures to rise above 10°C, below this threshold animals may be basking and immobile.	Reptiles, common amphibians	To minimise the risk of harming wildlife during clearance of the sites, with individuals likely to be concealed below ground or in sheltering habitat during their hibernation phase (from November to February, weather dependent March & October).	Site clearance and construction.
Site clearance to be completed in a systematic, directional manner towards the LWS (i.e. woodland adjoining the Site). This will ensure that vegetation is cleared towards the most suitable	Amphibians, reptiles, hedgehogs and other wildlife.	To significantly reduce the likelihood of harm to wildlife	Site clearance and

off-site habitat, to allow wildlife in the vegetation to move off in this direction. Any tall vegetation requiring clearance is to be reduced to 100 mm initially, left for a minimum of 2 hours and then subject to a further cut (e.g. to 50 mm or bare ground as appropriate). Excessive trampling and compaction of soil will also be avoided.		during the Site's preparation.	construction.
If vegetation clearance is required during the main nesting bird season (typically March to August, inclusive) there is potential for active bird nests of common species to be destroyed during vegetation clearance works on the Site. Where vegetation clearance takes place during the main bird nesting season, a nesting bird check, to be undertaken by a suitably qualified ecologist will be required no more than 24 hours prior to clearance commencing, to check for the presence of active bird nests. An active nest would require an exclusion zone to be established and adhered to until chicks had fledged and/or the nest is no longer in use (to be monitored and confirmed by the ECoW).	Birds		
Once all clearance of suitable habitat has been completed on the Site in line with the above; construction works can occur and the construction footprint should be maintained as short vegetation (less than 50 mm/bare ground as appropriate) until landscaping works are completed.	All wildlife.	To discourage recolonization by wildlife during the construction stage.	Post Site clearance and to be maintained until construction is complete.

Basic measures during vegetation clearance such as keeping to set access routes will help to reduce impacts on invertebrates. Avoid tree roots and stand-off from mature trees as much as possible. Excessive trampling and compaction of soil will also be avoided	Invertebrates	To help to minimise impacts to common invertebrates which may occur on Site during clearance and construction	A Site clearance and construction.
Lighting & Dust, Noise Control			
Construction practices will follow best practice in terms of dust and noise and control. Some bat species in the UK are known to be deterred by artificial lighting. In order to avoid impacts associated with artificial light spill on bat flight-lines or foraging habitat, mitigation measures will be implemented whereby any lighting (including temporary lighting to be used during the construction phase) will be designed to avoid light-spill onto suitable surrounding area to safeguard these habitats as foraging, commuting and potential roosting resources. This will also safeguard these habitats for foraging and commuting badger and other species such as hedgehog. No artificial lighting will be placed near to any potential bat roost features (retained trees with suitable features). No nighttime security lighting would be used. However, if short term lighting is needed during construction, when daytimes are	Badger, bats, hedgehog	To safeguard badger, bats and other wildlife that is nocturnal that use the sites for foraging/commuting purposes.	At all times.

short, unnecessary light spill would be controlled through a combination of directional lighting, low lighting columns (reduced wattage lamps and louvres), hooded/shielded luminaires and/or strategic screening planting. All luminaires will lack Ultraviolet (UV) elements and metal halide, fluorescent sources should not be used. LED luminaires should be used where possible with a warm white spectrum adopted (<2700 Kelvin (K)). The lighting scheme will be directly informed by the latest guidance available from the Bat Conservation Trust and other relevant bodies including the Institution of Lighting Professionals.			
Good Site Housekeeping			
Good general housekeeping of the Site will be employed to ensure there is no build-up of debris. All materials (construction materials) on the Site to be stored in a suitable location at least 10m away from vegetation and ideally risen off the ground) (e.g. on pallets) or on hard standing/bare ground. Materials arising from the works should be removed from the Site as quickly as possible or placed in a skip or other sealed container immediately if stored on Site. This will avoid colonisation by reptiles and other wildlife and will ensure there is no build-up of debris or other waste which may create suitable habitats for protected species that then has to be disturbed at a later date. If earth spoil arises from the works this should be removed from the Site as quickly as possible or placed in a skip or other sealed	Amphibians, reptiles, badger, hedgehogs and other wildlife,	To avoid colonisation by refuging reptiles or other animals and to ensure there is no build-up of debris or other waste which may create suitable habitats for protected species.	At all times.

container immediately if stored on the Site.			
Food/litter will not be left on the Site.	All wildlife	To prevent wildlife from approaching the sites.	At all times.
Any trenches/ deep excavations (i.e. 1m or more) will be back filled or covered overnight to prevent animals falling in and becoming trapped. The same should apply to any shallow excavations (less than 1m) where possible, however if this is not possible, a sloping ramp (i.e. roughened scaffold board or similar) should be placed within the excavation to permit animals to escape in this event. The latter will act to allow any animals entering the trench to escape which is particularly important if the trench fills with water. Trenches will also be inspected each morning to ensure that no animals have become trapped overnight;	Badgers, hedgehogs.	To prevent injury/killing of wildlife and allow any animals entering the trench to escape which is particularly important if the trench fills with water.	At all times.
Encountering Wildlife			
Any common amphibians (smooth newt, common frog, common toad) during works will be moved carefully by gloved hands to an area of shelter outside the footprint of works. This can be undertaken by contractors and the ecologist does not need to be informed if common herptiles are encountered. As specified in Section 4, GCN are being protected under DLL. In the event GCN are identified during works under the licence, works do not need to stop however the ecologist may be contacted for advice. GCN found to be at imminent risk of harm	Amphibians	To protect animals in the event that they are present at the time of works.	At all times.

on Site may be captured and relocated to an area of land that will not be impacted by works, by any individual working under the licence without direct supervision by an ecologist as per the NE guidance.			
Reptiles in particular any snakes found should not be handled and should be allowed to move away of their own volition. Should reptiles be encountered works in the area will cease and the appointed ecologist/ECoW contacted immediately for advice. It should be noted that the UK supports a venomous species; the adder. Adders will only use their venom as a last means of defence and this typically occurs only when snakes are handled or accidentally trodden on. In the unlikely event adders are encountered on Site, stop works and contact the ECoW immediately. If bitten keep the affected area immobilised as much as possible and proceed to the nearest hospital with an Accident and Emergency (A&E) unit. It should however be noted that adders are considered extremely unlikely to be encountered on Site.	Reptiles		
Should badgers be encountered during works then works should temporarily cease to allow the badger to move away off its own accord and the ecologist contacted for advice. Should a suspected badger sett be encountered on Site or within 30m of the Site then works within 30m of the sett should cease and the ecologist contacted for advice.	Badgers		

In the unlikely event that a bat is identified on the Site, contractors are prohibited from handling bats except in exceptional circumstances whereby a bat is in immediate danger and an ecologist is not present, such as a grounded bat which is at risk of attack from predators. In such cases contractors must wear gloves and place the bat gently in a pre-prepared rescue box, ideally comprising a small box, such as a cardboard shoe box, with ventilation holes no wider than 7 mm, a piece of fabric such as a tea towel and an upturned drinks bottle cap filled with water. An ecologist will attend as soon as possible if they are not already present on the Site. In the event that an injured bat is encountered the bat would be taken by the ecologist to a local bat carer or vet as appropriate. Note that a small number of bats in the UK have been found to carry rabies viruses called European Bat Lyssaviruses (EBLVs). EBLVs are transmitted through a bite or a scratch or from a bat's saliva coming into contact with your mucous membranes (your eyes, mouth or nose).	Bats		
If a hedgehog is encountered between November and March or juveniles are encountered (not whilst clearing the sites as specified above) the ecologist will be contact for advice immediately. If a hedgehog is encountered outside of November – March, the site personnel should allow the hedgehog to move away of its own volition, unless the animal is in immediate danger. If in immediate danger, works should stop and the animal should be moved using a gloved hand away from the footprint of the works (e.g. within BPZ).	Hedgehog		

