

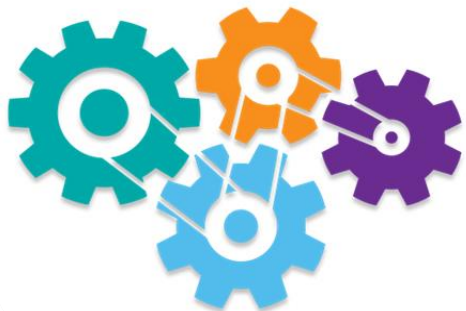


Former Mepal  
Outdoor Centre,  
A142 Ireton's  
Way,  
Ely,  
Cambridgeshire

# Preliminary Ecological Appraisal Report

July 2021

Ref: 19-6364



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Revision	-	2	3	4
Date	22/11/2019	04/12/19	10/01/2020	14/07/2021
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### Note

The advice which we have prepared and provided within this report is in accordance with the CIEEM Code of Professional Conduct. We confirm that the opinions expressed are our true and professional opinions. Opinions and information provided in the report are based on Syntegra Group Ltd using reasonable skill, care and diligence in the preparation of the same in compliance with the CIEEM Code of Professional Conduct.

### Validity of Data

The findings of the site survey are valid for a period of 24 months from the date of the survey. If approved works have not commenced by this date, then an updated site survey could be required to inform any changes to the habitats present on site in order to inform any updated mitigation and or precautionary measures required on site.

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## Executive Summary

Land at the Former Mepal Outdoor Centre, A142 Ireton's Way, Ely, CB6 2AY (Grid Ref: TL 42274 82982), is being promoted for development by CDSL. The proposed development is for the, 'Construction of a crematorium and associated service and administration building, function building, memorial garden, natural burial areas, pet cemetery, car parking, new vehicular access from the A142 and landscaping'. To accommodate the proposals, the existing site will undergo demolition of the existing buildings on site along with selective clearance and ground works.

The proposed development site comprises of a large lake which was a previously a gravel pit, derelict outbuildings, the boundaries consist of hedges with mature trees with broken areas. The majority of the hedgerows show little signs of active management. The site itself forms part of the Mepal Gravel Pits, a County Wildlife Site. One lake and a drainage ditches are within 500 metres of the site, the lake is separated by the A142, a major land barrier.

Habitats on the site are considered to be of moderate to high ecological value and the presence of protected species is of moderate to high potential. Grassland present on site consists of disturbed poor semi-improved grassland with patches of encroaching scrub. The site has hedgerows with mature trees and margins consisting of a mixture of ruderal and scrub. The mature trees and outbuildings on site were subject to a ground level roost assessment and noted eleven trees and five outbuildings that ranged from low to moderate potential for roosting bats. The onsite habitats provide good foraging and traversing grounds for bats. The sites boundary habitats provide potential foraging and shelter sites for hedgehogs. The site and boundaries provide suitability for use by brown hare and suitability for use by harvest mice. The scrub and hedgerows provide moderate to high suitability for nesting birds. The lake has high suitability for visiting wintering birds and foraging on the grassland present on site. The lake contains national scarce pondweed and rich biodiversity, with the potential to be a breeding area of amphibians such as toads and great crested newts. Potential presence of barn owls and confirmed presence of tawny owls using the site for foraging and possible nesting/roosting. Otters and water voles may be using the lake and site surroundings. The sites boundary habitats and dead wood provide potential use by local invertebrates and Saproxyllic invertebrates. The sites boundary habitats provide some suitability for use by reptiles. Bare earth areas consisting of sand, shows signs of mining bees and to support rich biodiversity for invertebrates. The hedgerows are of lower potential for support dormice. No evidence of any invasive species identified under Schedule 9 of the Wildlife and Countryside Act (1981 as amended) were identified on or adjacent to the site.

On the 9<sup>th</sup> January 2020, the site was revisited by the ecologist and Siân Williams of the Cambridgeshire Wildlife Trust. Changes on site were noted and the report has been updated to reflect these changes. Building 1 has been vandalised and stripped of all corrugated metal reducing the overall potential for use by nesting birds to negligible potential. Buildings are being disturbed and destroyed by unlawful public use and both ecologists agreed to buildings with low potential to have endoscope surveys and then demolished under a watching brief (ECoW). The lakes have been likely stocked with fish and the Environmental Agency have been contacted to determine what if any species have been stocked within the lakes, once received, some recommendations in terms of eel surveys could change.

The nature of the proposed development (i.e. demolition of existing buildings, selective clearance and levelling to provide a new Cafe/ Function Rooms, play area, Crematorium, pet cemetery, woodland burial, lakeside walk, remembrance and memorial spaces), and the size of the site are all factors which will combine to result in a minor impact upon surrounding habitats, protected species and wildlife in general, which can be further compensated with further surveys, mitigation measures, precautionary measures and enhancements in place. With targeted recommendations to enhance biodiversity, the

development of the site will increase its ecological value and provide net gains to biodiversity in accordance with section 15 of the National Planning Policy Framework (NPPF) (DfCLG, 2019), and Policy ENV 7: Biodiversity and geology of The East Cambridgeshire Local Plan (East Cambridge District Council, 2015), along with the relevant wildlife legislation. The following further surveys, mitigation measures and precautionary methods are recommended:

- As the site forms part of the Mepal Gravel Pits, a County Wildlife Site, works must ensure that the pondweed onsite is protected during the construction phase and operational phase.
- The site could host a rare species of pond weed (*Potamogeton spp*), further botanical surveys on the lake are recommended. Given the late season survey the botanical survey will also review the rest of the site to inform of any listed species on site.
- Given the on-site presence of potential bird nesting habitat, any clearance of vegetation, should be timed to avoid the bird breeding season (avoid March-August inclusive). If this is not possible, these habitats should only be removed following confirmation by a suitably qualified ecologist that they are not in active use by nesting birds.
- A Breeding Bird Survey (BBS) should be undertaken between April and June and comprise of three site visits in April, May and June respectively.
- A Wintering Bird Survey (WBS) should be undertaken between November and March and comprise of three site visits in December, January and February respectively.
- The areas on site provide moderate suitability for use by reptiles, no records have been provided by the CPERC, but it is advised that a presence/absence survey is undertaken to establish a baseline condition for this species, before any clearance works is carried out.
- Seven trees and five buildings on site noted low to high potential to support roosting bats, it is recommended that should at any time any works be required on these trees that further echolocation surveys are carried out to determine likely absence or confirmed presence during the active bat survey season (May to August inclusive).
- The surrounding fields provide suitability for use by brown hare and harvest mice, precautionary measures must be in place for the site works.
- Dead wood was found on site and provide suitability for use by Saproxyllic invertebrates including stag beetle, works to these suitable features will require mitigation measures in place.
- Due to the bare earth on site and large sandy areas and the presence of mining bee burrows observed on site an invertebrate survey is recommended to establish a baseline of species on site.
- Given the high numbers of rabbits on site and the impact to the mining bees on site, a humane control programme is recommended prior to site works.

- Given the mobile nature of badgers, it is recommended that a pre-commencement survey is undertaken at least a month prior to clearance of the woodland habitat, to check the woodland for any signs or evidence of recent badger usage.
- Otters may be present within or adjacent to the development site, surveys such as presence/absence need to be undertaken as part of the planning application process.
- A dormouse visual survey is advised should hedgerows be removed to establish a baseline presence on site.
- A water vole survey should be undertaken at the same time of the otter survey to establish a baseline condition for the species on site.

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## 1. Introduction and Aims

- 1.1. Syntegra Group was commissioned by The CDS Group, to undertake a Preliminary Ecological Appraisal (PEA) at Land at the Former Mepal Outdoor Centre, A142 Ireton's Way, Ely, CB6 2AY (Grid Ref: TL 42274 82982).
- 1.2. This report has been prepared in support of planning application, submitted by CDSL on behalf of 'Applicant', to East Cambridgeshire District Council ('the Council') for the development of The Former Mepal Outdoor Centre, Ely ('the site').
- 1.3. The objectives of this PEA were to:
  - Map the main ecological features within the site and compile a plant species list for each habitat type;
  - make an initial assessment of the presence or likely absence of species of conservation concern, survey mature trees and hedgerows on site, and identify the presence or likely absence of bats and nesting birds;
  - identify any legal and planning policy constraints relevant to nature conservation which may affect the development;
  - determine any potential further ecological issue;
  - determine the need for further surveys and mitigation; make recommendations for minimizing impacts on biodiversity and providing net gains in biodiversity, where possible, in accordance with Section 15: Conserving and Enhancing the Natural Environment, of the National Planning Policy Framework (NPPF) (DfCLG,2019) and Policy ENV 7: Biodiversity and geology of The East Cambridgeshire Local Plan (East Cambridge District Council, 2015).
- 1.4. The site survey was undertaken by suitably qualified ecologist John Johnson BSc (Hons) on the 5th November 2019. Weather conditions at the time of the survey were wet and 80% overcast, with an air temperature of approximately 11°C. The timing of the survey was within a sub-optimal surveying period. The survey allows for the ecologist to make a robust assessment of the habitats present and their overall potential to support protected species.
- 1.5. The current site comprises of former recreational grounds, in a state of disuse with no signs of regular management. The lake on site has regular and frequent recreational use by anglers which trespass on site, through broken areas of hedgerow.



## 2. Methodology

- 2.1. The methods outlined in the CIEEM Guidance for Preliminary Ecological Appraisals (2017) were used for this survey. The field survey comprised of an extended Phase 1 survey (JNCC, 2010) of the proposed development site. This is a standard technique for obtaining baseline ecological information for areas of land, including proposed development sites.
- 2.2. Incidental records of fauna were also made during the survey and the habitats identified were evaluated for their potential to support legally protected species, other species of conservation concern and any listed species of principal importance under the NERC Act (2006). When appraising the overall potential of protected species during the survey, the habitat(s) on site were assessed as present, high, moderate, low and negligible.
- 2.3. Invasive species listed under Schedule 9 of the Wildlife Countryside Act (1981 as amended) were searched for and recorded.
- 2.4. The survey was undertaken by John Johnson BSc (Hons) student CIEEM, as a student member, follow the institutes Code of Professional conduct when undertaking ecological surveys (CIEEM 2016).

### *Desktop Study*

- 2.5. Syntegra Consulting undertook a basic internet-based search of statutory designated sites within 2km of the site using the Natural England/DEFRA web-based MAGIC database ([www.MAGIC.gov.uk](http://www.MAGIC.gov.uk)) for MAGIC. The applicant has also commissioned a local biological records search carried out by Cambridgeshire and Peterborough Environmental Records Centre, CPERC, due to sensitivity of records, the exact locations of protected species are not disclosed in this report.
- 2.6. Ordnance survey maps and aerial images of the site were examined online using [bing.com/maps](http://bing.com/maps) and [maps.google.co.uk](http://maps.google.co.uk).
- 2.7. The East Cambridgeshire Local Plan (East Cambridge District Council, 2015) was consulted for details on policies relevant to designated sites, protected species and general ecology protection.

### *Zone of Influence (Zol)*

- 2.8. The Zol is used to assess any potential direct and indirect impacts or risks to the site and the immediate surrounding habitats. The Zol is also used to determine the feasibility for enhancements for the site and within the surrounding areas/habitats. The Zol is based on the following: the site itself, the areas directly adjacent to the site and areas up to 2 km outside of the site including statutory and non-statutory designated sites. The Zol looks for potential impacts to habitats and species with possible connectivity to the site itself.

*Preliminary Roost Assessment and Preliminary Ground Level Tree Roost Assessment*

2.9. The surveys were carried out by John Johnson BSc (Hons) Student CIEEM Member and overseen by Patricia Holden (Bat Licence # upon request), the Director of Ecology Services at Syntegra Group, a licenced and experienced ecologist who has undergone professional training in bat surveying techniques and undertaken numerous preliminary roost assessments. The survey followed guidelines by the Bat Conservation Trust (2016) Bat Surveys Good Practice Guidelines 3rd edition. The buildings and trees were assessed as either negligible, low, moderate, high or confirmed, refer to table 1 below. The tree inspections were carried out during the sub-optimal period for surveying as the trees have foliage.

**Table 1: Roost Classification, adapted from Collins 2016**

Category	Description of Roosting Habitat	Number of Surveys Required
Negligible	Little to no suitable locations for roosting, not ideal for supporting bats	No further surveys
Low	A structure with one or more potential roosting spaces that could be used by opportunistic individual. The features and surrounding habitats do not provide enough suitable conditions and or space for use as a maternity or hibernation roost. A tree that could contain potential roosting features but not observed from ground.	One Survey carried out between the May and August (dusk or dawn)
Moderate	A structure or tree with one or more potential roosting spaces that could be use by individuals based on the features (size, shelter, conditions and surrounding habitat) but unlikely to support a roost of high conservation value	Two further surveys (one dusk and one dawn, spaced two weeks or more) between May-September with one survey between May and August.
High	A structure or tree with one or more potential roosting spaces that are suitable for use regular use and or larger numbers of bats for a more prolonged period due to the conditions and surrounding habitats. A tree with one or more potential roost sites suitable for use by a larger number of bats.	Three further surveys (at least one dawn) carried out between May to September with two undertaken between May to August. The surveys must be undertaken two weeks apart, spaced surveys are preferred

Confirmed	Positive evidence of bats - i.e. droppings, individuals or bat records	
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### 3. Constraints

- 3.1. The surveys were undertaken within the sub-optimal period in the year for botanical surveys, although some short-lived annual species may not have been identified. It is considered that no rare or threatened plant species are present on the site and therefore the timing of the survey does not significantly impact upon the findings detailed in this report as the ecologist was able to classify and assess the value of the habitats on site. It is possible that certain flowering herbs and or ephemerals may have not been recorded during the autumn survey and an extensive species list was not obtained but it is considered that the species characteristic to the habitats on site were recorded. The survey provides a snapshot of the site and does not show seasonal differences.
- 3.2. The tree inspections were undertaken during the sub-optimal surveying times as most trees still contain foliage making features less identifiable. The building and tree inspections were undertaken during a time when bats are beginning to hibernate and remain in periods of torpor for longer periods, potentially active on suitable condition evenings. Whilst every effort was made to complete a full tree roost assessment, potential roosting features and/or signs of bat presence may not have been visible from the ground. As such it is possible that not all trees offering bat roost potential and/or actual bat roosts were recorded. However, the potential for use within the onsite trees were established. Whilst evidence of roosting can be confirmed by a daytime inspection, very often features that could support bats cannot be searched thoroughly to confirm whether bats are indeed roosting.
- 3.3. Due to the sensitivity of the protected species records, exact locations cannot be disclosed in this report. The local biological records results are a list of known species reported within 2km but this should not be considered a definitive list.
- 3.4. The client is responsible for reading and understanding the advice given in this report. The client must ensure that, where recommended, mitigation is followed through.

#### *Site Specific Limitations*

- 3.5. Whilst there were no access restrictions to the site, it was not always possible to inspect inside areas of dense scrub and brambles. This is considered to be a minor limitation as inspections around the outside of these areas would have identified mammal tracks or pathways into these areas and would suggest potential usage.

## 4. Results

### *Extended Phase 1 Survey*

- 4.1. The site is best described as disturbed and poor semi-improved grassland, bare ground, and sandy soil with hedgerows, a small woodland, and areas of ruderals and scattered shrub. A large lake is situated within the site, that historically was a gravel pit. Derelict buildings are also present on site, with hard standing areas. The site accessed via gate off the A142.
- 4.2. The site comprises of one detached dwelling, one large activity centre and ten outbuildings, set within areas of hardstanding. The sites main habitat consists of a lake, with patches of poor semi-improved grassland, dense areas of shrub, bare soil, a large sand heap, hedgerow with mature trees surrounding the Southern, Northern, Western and Eastern boundary of the site with broken gaps throughout. The wider landscape comprises of a mixture of agricultural land, roads and drainage ditches.



Figure 1: Indicative site boundary (red line) Map data: Google 2019

- 4.3. One further lake is located to the west, a reservoir and drainage ditches are all located within 500m radius of the site.
- 4.4. The survey identified the following habitats present on site:
  - Buildings
  - Hardstanding
  - Rock & waste: artificial exposure, spoil heap
  - Bare ground
  - Scrub
  - Introduced Shrub with trees
  - Scattered trees

- Cultivated/disturbed land: Ephemeral/short perennial
- Woodland: broadleaved, semi-natural
- Grassland: poor semi-improved
- Open water: standing water
- Marginal/inundation
- Hedgerow with mature trees and scrub

*Buildings*

4.5. There are 12 buildings on-site which were subject to preliminary bat roost assessment (Table 5). Descriptions of each of these buildings are provided in Table 2 below, with photographs of each building presented below the table. Table 1: Roost Classification, adapted from Collins 2016

**Table 2. Building descriptions**

Ref. No.	Description
Building 1	Canoe hut consists of overlapping corrugated metal and sheet metal, fascia, raised by steel beams. The canopy was lit by natural light. There were no visible cracks or crevices. The canoe hut showed signs of owl activity, Tawny owl and possible barn owl. Splashes (faeces) were located on the floor, no owl pellets were in or within the surrounding area where faeces were noted. On further investigation a Tawny owl feather was found and 4 pellets. Egg remnants were observed on the floor, which looks to be stock dove. Three nests were in the corners of the building, which appear to be pigeon. <b>UPDATED 9<sup>th</sup> January 2020 – building now stripped off all corrugated and sheet metal</b>
Building 2	Shooting range, consists of metal mesh, and wooden roof it appears to be in state of repair. The canopy was well-lit and there were no visible cracks or crevices.
Building 3	Toilet block, reasonably old building with wooden cladding and cement tiles on the roof. The building is in poor condition, which has been vandalized. Cement roof tiles missing, wooden cladding broken. Tiles and cement removed from the valley on the roof.
Building 4	Raised portable cabin, prefabricated, has been vandalised, no visible cracks or crevices. Rabbits warren present below structure in void.
Building 5	Residential property constructed in brick, in good condition, with boarded up windows. Missing ridge tiles could lead to crevices. The property is unsafe to enter due to the damaged caused by vandalism. Ceilings have been pulled down which consist of Artex, Artex may contain asbestos it is recommended that an asbestos survey is carried out before entering the property. There are broken tiles and damaged verges on the two apex porches on the front of the building.

Building 6	Activity Centre - consists of a brick build, metal soffits and two large domes (material unknown), the structure supports fire damaged. Internally there is a basketball court and an inside climbing feature. This well-lit within the basketball court, but dark within the climbing area. There are two gaps on the apex of the two dome features, allowing birds to enter, droppings can be found at the base of two central steel poles supporting the structure. Birds maybe nesting on these features, nesting material was found around the base of the steel poles.
Building 7	Indoor climbing house is constructed from wood, possible asbestos tiles, with an internal metal climbing feature. Vandalism has taken place and there are broken and slipped tiles. Cement asbestos, fibrolite, was found around the base of the structure. Crevices and cracks can be found on all four corners of the building. It appears pigeons/ stock doves have been using this structure to possible nest in, due to the number of droppings found, unable to see any signs of nests within.
Building 8	Small portable cabin, prefabricated, – in average condition, windows are broken. Well-lit no visible cracks or crevices.
Building 9	Shipping container 2 – seems in good condition, slight areas of rust. Well-lit no visible cracks or crevices. Used for storage.
Building 10	Outdoor climbing frame stands roughly 35-foot-high, with supporting wooden beams with rope features throughout. This appears to be in good condition, there were no visible cracks or crevices. Area below consists of a wood mulch.
Building 11	Pump station – consisting of overlapping corrugated metal and sheet metal, fascia, raised by steel beams. The skylight window was broken, and a small section of metal cladding was damaged, exposing the lagging insulation creating a void into the building. The broken skylight has potential to allow entry for owls in the building.
Building 12	Wooden shed with a felt roof. Damaged has occurred, wooden cladding has been removed creating openings, well-lit with natural light.



**Photo 1.** Building 1 - Canoe hut



**Photo 2.** Building 2 – Shooting range



**Photo 3.** Building 3 – Toilet block



**Photo 4.** Building 4 – Portable cabin



**Photo 5.** Building 5 – Residential property



**Photo 6.** Building 6 – Activity centre



Photo 7. Building 7 – Indoor climbing house



Photo 8. Building 8 -Portable cabin



Photo 9. Building 9 – Shipping container



Photo 10. Building 10 – Outdoor climbing frame





Photo 11. Building 11 – Pump house



Photo 12. Building 12 – Wooden shed

*Hardstanding*

- 4.6. Car parks and footpaths on site are comprised of hardstanding, as well ballast consisting of granite and 2mm pea shingle in areas. Vegetation that has been colonised by a mixture of mosses, common mullein, and ground ivy.



Photo 13. Photograph of carpark consisting of pea shingle



Photo 14. Brick wall surrounding the carpark.

*Rock & waste: artificial exposure, spoil heap*

- 4.7. A large sand heap is located near and area the shooting range and canoe hut. This feature is south facing, with a mosaic of habitats vegetation consisting of dense shrub, bramble patches, bare sandy soil, ground ivy (*Glechoma hederacea*), common mullien (*Verbascum thapsus*), hemlock (*Conium maculatum*), hogweed (*Heracleum mantegazzianum*), nettles (*Urtica dioica*), and mosses. This area noted numerous rabbit warrens. On the western area of the site boundary, there is a south facing bund with dense and light areas of shrub and grass, pass this feature there is a spoil heap of hardcore. An Earth bank runs along the southern boundary, where small mammal holes can be observed.



**Photo 17.** Sand heap, showing bare soil, and scattered shrub areas



**Photo 18.** Numerous rabbit holes on sand heap close to shooting range

*Bare soil*

- 4.7. Can be found in numerous areas around site, western area of the lake a small part of the shoreline here is composed of an unvegetated sand and gravel beach. Sandy paths are located around site, appears to be used by vehicle access, off road bikes. Three sand pits are located south of the residential building and activity centre, show signs of mining bees and mammal holes.

*Cultivated/disturbed land: ephemeral/short perennial*

- 4.8. Areas of ephemeral/short perennial vegetation were located within the site. Species recorded within the site included; abundant common nettle, teasel, occasional hogweed, hemlock, thistle, broad-leaved dock (*Betula pendula*), and ragwort (*Jacobaea vulgaris*). The vegetation typically comprised dense stands of common nettle along with teasel.

*Dense Scrub*

- 4.9. Dense scrub can be located within the site boundaries, the southern boundary, eastern boundary and sections of the western boundary.



**Photo 21.** Dense scrub consisting of brambles



**Photo 22.** Dense bramble patch close to shooting range

#### *Introduced shrub with trees*

- 4.10. Introduced shrub within the car park area, a medium size area of hardstanding/waste ground which consisted of a mixture of native and introduced species likely part of original landscaping, consisting of native species hazel (*Corylus avellana*), wild cherry (*Prunus avium*), field maple (*Acer campestre*), holly (*Ilex aquifolium*), and horticultural/amenity planting such as laurel, dogwood (*Cornus spp*), privet (*Ligustrum spp*), and honeysuckle (*Lonicera pileate*).

#### *Scattered Trees*

- 4.11. The scattered trees can be found throughout the site. They consisted of a mixture of silver birch (*Betula pendula*), ash (*Fraxinus excelsior*), hawthorn (*Crataegus monogyna*), oak.

#### *Woodland: broadleaved, semi-natural*

- 4.12. Willow (*Salix spp*) and Birch woodland on damp ground can be found West of building 1.

#### *Open water: standing water*

- 4.13. Lake consists of a flooded gravel pit, with a shoreline of roughly 1500m. Fish are present within consisting of carp (*Cyprinus carpio*), roach (*Rutilus rutilus*) and rudd (*Scardinius erythrophthalmus*) more species maybe present. It is possible that European eels (*Anguilla anguilla*) may also be present. Waterfowl were observed. At the southeast corner of the lake is an area well used for outdoor activities.

#### *Marginal/inundation*

- 4.14. Vegetation surrounding the lake, consists of common reed (*Phragmites australis*), water mint (*Mentha aquatica*), and jointed rush (*Juncus articulatus*). Submerged vegetation appears to be very sparse and floating vegetation is almost entirely absent. Within the south western corner lesser bulrush (*Typha angustifolia*), which is locally abundant.
- 4.15. The western side of the lake is backed by steep banks dominated by mature white willow (*Salix alba*) and hawthorn. A small part of the shoreline here is composed of an unvegetated sand

and gravel beach. At the southeast corner of the lake is an area well used for outdoor activities. A narrow intermittent fringe of marginal vegetation is present along the majority of the shore, particularly along the western and south-eastern sides of the lake.

- 4.16. Common Reed (*Phragmites australis*), Gipsywort (*Lycopus europaeus*), Great Willowherb (*Epilobium hirsutum*), Water Figwort (*Scrophularia auriculata*), Purple Loosestrife (*Lythrum salicaria*), Jointed Rush (*Juncus articulatus*) and Brookweed (*Samolus valerandi*).



**Photo 24.** Lake surrounded by marginal plants

*Grassland: poor semi-improved*



**Photo 25.** Grass gradual slope into lake with marginal plants

- 4.17. Poor semi-improved grassland can be found to the southern and eastern boundary and behind the activity centre.
- 4.18. Species include Cocksfoot (*Dactylis glomerata*), Yorkshire Fog (*Holcus lanatus*), False Oat Grass (*Arrhenatherum elatius*), meadow foxtail (*Alopecurus pratensis*) Associated species include; frequent broad-leaved dock, occasional hogweed (*Heracleum mantegazzianum*) and dandelion (*Taraxacum officinale agg.*). Occasional creeping buttercup (*Ranunculus repens*), broad-leaved dock, white clover (*Trifolium repens*), teasel (*Dipsacus fullonum*) and creeping cinquefoil (*Potentilla reptans*).

**Hedgerow with mature trees**

- 4.19. Hedgerow containing mature trees were present creating a boundary for the site with broken gaps throughout. The Shrub were a mixture of Hawthorn included Dog Rose (*Rosa canina*) and Bramble. The trees that dominate are white willow and silver birch with a few scattered Elder (*Sambucus nigra*), field maple a few introduced horticultural/amenity planting such as conifer and Holm oak (*Quercus ilex*).
- 4.20. The table below details the hedgerows on site and their features.

**Table 3: Hedgerows on Site with Characteristics and Features**

Hedgerow Location	Characteristics	Species	Other Notable Features
Southern boundary	Unmanaged with mature trees, 2 metres plus, gap for path, broken in places	White willow, hawthorn, Birch, dog rose	Scrub/ruderal mix extends 1-2 metres, hogweed, teasel, mallow. Scattered dead willow x 3 moderate to high potential for roosting bats. Fallen willow trees, dead wood. Fence line consisting of wire
Eastern boundary	Unmanaged, heights of 2 metres plus	Hawthorn, elder, field maple, holm oak, conifer, dog rose	Scrub/ruderal, dock, teasel, ground ivy, willow herb, nettles, thistle, brambles, hogweed. Dead wood found throughout, fallen trees. Willow potential for roosting bats. Fence and brick wall
Northern boundary	Unmanaged, heights of 2 metres plus  Metal fencing with neighbouring offsite trees, large broken gaps throughout	Hawthorn, white willow	Scrub/ruderal, bramble, saplings, nettle patches, dock, cleaver, ground ivy, thistle. Hardstanding, pump house location here. Rabbit warrens
Western boundary	Broken gaps steep banks to lake	Hawthorn, white willow	Scrub/ruderal, bramble, saplings, nettle patches, dock, cleaver, ground ivy, bare earth, rabbit warrens, fly tipped rubbish near western/southern boundary

**Preliminary Ground Level Roost Assessment**

4.21. The ground level roost assessment was carried out in November when the trees still contain dense leafed canopies and therefore visibility is sub-optimal, optimal timings are December to March. Trees were examined from the ground and evidence indicating the presence of bat roosts (i.e. droppings, scratch marks and/or staining) and potential features (i.e. holes, peeled bark, rot, dead wood, dense ivy) were searched for by use of binoculars. All trees were

assigned a level of bat roost potential based upon the roost potential criteria defined in Table 4 and professional judgement. Trees with no suitable roosting features were not recorded.

4.22. In summary, **seven** trees had potential features suitable for use by roosting bats. The table 4 & 5 below details the species, features, potential and location. (Refer to **Appendix III** for location maps)

**Table 4: Ground Level Tree Roost Assessment Summary**

Location on Site	Species	Features	Potential
Hedge row end of Eastern boundary	Willow (TN1)	Dead crevices, some cracks, woodpecker holes	Moderate Potential
West of building 4	Willow (TN2)	Dead mature, crevices, cracks, raised bark	High potential
Hedge row Southern boundary	Willow x 3 (TN3 & 4 & 5)	<p>1<sup>st</sup> - Mature tree, dead, raised bark, crevices, several woodpecker holes</p> <hr/> <p>2<sup>nd</sup> - Dead, raised bark, crevices, woodpecker hole</p> <hr/> <p>3<sup>rd</sup> - Mature tree, dead, raised bark, cracks, several woodpecker holes</p>	High, low, moderate potential
Shooting range	Willow x 2 (TN6 & TN7)	<p>1<sup>st</sup> - Mature, several woodpecker holes, crevices, dead, raised bark.</p> <hr/> <p>2<sup>nd</sup> –Crevices, dead wood, raised bark</p>	Moderate, low potential



Photo 26. TN1



Photo 27. TN2



Photo 27. TN3

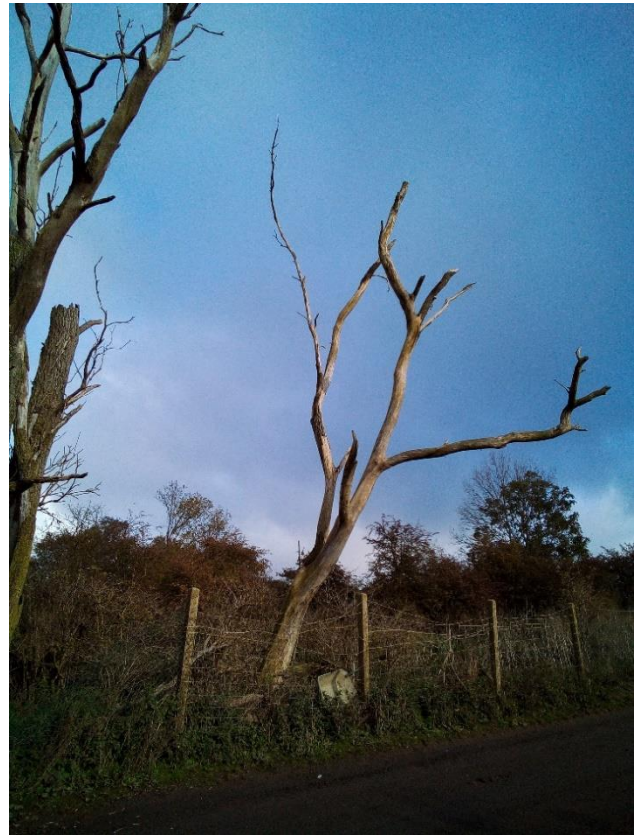


Photo 28. TN4



Photo 29. TN5



Photo 30. TN6



Photo 31. TN7



**Preliminary Roost Assessment**

4.23. The daytime external inspections consisted of 11 derelict outbuildings and one wooden climbing frame set within hard standing. The exteriors of the building and climbing frame were inspected for access points, crevice roosting opportunities, and evidence of bats and or nesting birds. Five of the eleven outbuildings showed roosting potential, the remaining six outbuildings and climbing frame were negligible, showing no potential importance for roosting bats. These outbuildings and structures showed no signs of crevices, broken tiles, were too well-lit or the structure was too open this creating a draft. Table 5 below details the buildings with notable features and overall roosting potential.

**Table 5: Preliminary Roost Assessment Summary**

Location on Site	Features	Potential
Building 3 (B3) – Toilet block	Broken and slipped tiles, damaged valley. Wooden cladding damaged	Moderate Potential
Building 5 (B5) – Residential property	Ridge tiles missing possible leading to crevices. Damaged tiles on porch apex areas	Moderate Potential
Building 6 (B6) - Activity centre	Damaged hoarding, hole exposing lagging insulation creating feature	Low potential
Building 7 (B7) - Indoor climbing house	Broken tiles, crevices and openings throughout building, around the four turrets	Low potential
Building 11 (B11) – Pump station	Broken skylight, metal cladding opening creating void into building	Low potential



Photo 32. B3 – Toilet block



Photo 33. B5 – Residential property



Photo 34. B6 – Activity Centre



Photo 35. B7 – Indoor climbing house



Photo 36. B11 – Pump house

## 5. Impact Assessment and Recommendations

### Statutory and Non-Statutory Sites

5.1. Within 2km of the site, there is one statutory site of nature conservation, Ouse Washes, listed as a RAMSAR, SPA, SAC and SSSI. Ouse Washes, is one of the country's few remaining areas of

extensive wash land habitat. The area contains one of the UK's most extensive network of wetland habitats dominated by lowland meadow, reedbeds and fen, together forming the expanding 'Great Ouse Wetland' network of wetland nature reserves. It is notable for its large numbers of wildfowl and waders, with a large area of unimproved neutral grassland, and the rich aquatic fauna and flora within the associated watercourse. Wintering water birds regularly exceed 20,000 individuals, including nationally and internationally important numbers of wintering swans and various duck species. The site is of national importance for breeding ducks and waders. Of particular note in the winter are the large numbers of teal *Anas crecca*, pintail *Anas acuta*, wigeon *Anas penelope*, shoveler *Anas clypeata*, pochard *Aythya ferina* and Bewick's swan *Cygnus bewickii*. Given the location of the site within 2km of the proposed development, Natural England must be consulted to determine if a Habitat Regulation Assessment would be required. The site should retain the hedgerow habitat and incorporate further native and wildlife planting within these boundaries. The proposals can also incorporate further native and wildlife planting within both the proposed cemetery. Lighting proposals will also retain dark corridors within the site boundaries. The site has potential to enhance the area for local wildlife by incorporating nest boxes, bat boxes, insect boxes and the creation of log piles. Enhancing the site with planting of further native trees, additional shrubs, and trees would ensure further foraging grounds for local birds, amphibians, reptiles, bats, hedgehogs, and invertebrates. The site should retain areas of bare earth to support invertebrate populations and mining bees present on site. These areas are advised to have exclusion zone with a 5m buffer if possible, this reducing disturbance to species present.

- 5.2. The proposed development could potential cause impacts of disturbance, collision and displacement to wintering birds, and breeding birds. In regard to the lakeside walk, the raised walkways and slits around and across the lake, this could cause potential collisions with large waterfowl those these may be minor, but this should be taken into consideration. The development of these structures and the proposed playground situated next to the lake will cause noise disturbance and displacement for wintering bird species and breeding birds, mitigation measures, precautionary measures should be put into place.
- 5.3. Disturbance caused during construction on wintering bird species (assuming construction is undertaken in winter) as well as breeding birds would impact all species (including raptors, wildfowl, waders and passerines) this must be taken into consideration before development, mitigation measures and precautionary measures should be put in place to reduce disturbance during the construction period.
- 5.4. Due to the site potentially hosting pondweeds, including the nationally rare species, *Potamogeton trichoides* mitigation and precautionary measures are to be put into place so that water quality are aquatic life are not effect. No chemicals or material leakage that harm aquatic life or water quality should not be used on site. Spill kits must be present, and a bund/barrier must be present around construction zones.
- 5.5. The CPERC record search returned three County Wildlife Sites within 2km of the site. The details of the Country Wildlife Sites are within the table below and details the site name, location, area and reasons for designation. County Wildlife Sites are non-statutory areas of local importance for nature conservation that complement nationally and internationally

designated geological and wildlife sites. The site itself forms part of the Mepal Gravel Pits, this site makes up the western side of the pits. The site is noted for hosting pondweeds, including the nationally rare species, *Potamogeton trichoides*. The 2005 survey undertaken by Alastair Ross, states that pits had/have some ornithological (species include Great Crested Grebe, Cormorants and Kingfishers) and amphibian interest; however further investigation is required to quantify this. Given that the site is listed, it is afforded some level of protection from proposed developments. The Wildlife Trust will review the proposed development and make recommendations of further surveys, required enhancements and also recommend further mitigation measures within the final Ecological Impact Assessment (EclA). With further surveys, mitigation and precautionary measures in place, it is considered that the proposals can enhance the current sites overall value for protected and notable species. Without further surveys, the overall mitigation measures and enhancement measures can not be recommended within this PEA Report. From an initial perspective, the lake must be protected from the proposals and during the operational phase. Given the pondweed on site measures must be in place to ensure that the water quality is not impacted, along with a long-term management plan in place to ensure that these notable species continue to thrive. The site in the long-term can provide new habitats that will provide additional foraging, traversing, and sheltering opportunities. The further protected species surveys on site will highlight the existing and overall value of the site and ensure to retain and enhance the site for any notable or protected species.

County Wildlife Sites

Site Name	Grid Ref	Area (ha)	Reasons for Designation
Block Fen Gravel Pits	TL4384	62.33	The site qualifies because it contains waterbodies supporting at least 3 species of Pondweed ( <i>Potamogeton</i> spp.); because it supports populations of Nationally Scarce vascular plant species and vascular plant species which are rare in the county.
Mepal Gravel Pits	TL4283	34.43	Supports at least three species of pondweed ( <i>Potamogeton</i> spp.).
Sutton & Mepal Pumping Station Drains	TL4382	16.82	Contains at least 5 species of submerged, floating and emergent vascular plant per 20 metre stretch; at least three species of <i>Potamogeton</i> ; populations of Nationally Scarce vascular plant species; and groups of at least 20 mature pollard willows.

**Protected Habitats**

- 5.6. As the site is a County Wildlife Site, developments that negatively impacts on a CWS will only be permitted in exceptional circumstances and where mitigation can be proven from the beginning. Management of these sites should as a first priority seek to maintain and enhance their interest. The CWS is designated for its important assemblage pondweeds as well as the potential of supporting of both breeding and overwintering bird species. To ensure no direct or indirect impacts to the lake, mitigation and precautionary measures must be in place. It is recommended that erosion guard/barriers are in place during the construction phase to ensure no debris, spills or materials enter into this area.
- 5.7. The hedgerows that run along the Northern, Western, Eastern and Southern boundaries of site are considered Important under the Hedgerow Regulation Act 1997. Should the proposals require removal of any of these hedgerows the applicant must apply for a hedgerow removal notice. All trees on and adjacent to the site that are scheduled for retention under the development proposals should be protected during the demolition and construction phases of the development following BS5387:12 (Trees in relation to design, demolition and construction – Recommendations). If hedgerow removal is required, a balance of new hedgerow

strengthening/planting can occur to ensure no net loss. These infilling will include new species, to increase the diversity within the hedgerows. The use of the hedgerows as linkages across the landscape will be maintained, with trees planted either side of the access road to ensure no large gaps, restricting movement by potential species. Given the lack of management at the time of the survey, these areas can be enhanced by appropriate management and supplementary planting with a hedgerow wildflower and grassland mix. Hedges should not be overmanaged, there should be dense, tall and broad, and merge into grassland via scrambling vegetation and tall herbs. The longer the period between management, the more dramatic the management may have to be, but the greater the niches supported in the meantime.

### **NPPF and Local Plan**

- 5.8. The planning policies look to paragraphs 170-183 of the National Plan Policy Framework (2019), in particular paragraph 170, ‘minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures’; as well as paragraph 175, ‘development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity’. In line with Local Plan Policies, Policy ENV 7: Biodiversity and geology:

*‘All development proposals will be required to: Protect the biodiversity and geological value of land and buildings and minimise harm to or loss of environmental features, such as trees, hedgerows, woodland, wetland and ponds. Provide appropriate mitigation measures, reinstatement or replacement of features and/or compensatory work that will enhance or recreate habitats on or off site where harm to environmental features and habitat is unavoidable; and Maximise opportunities for creation, restoration, enhancement and connection of natural habitats as an integral part of development proposals.’*

*‘Proposals which have an adverse impact on a site of international importance will not normally be permitted unless there are exceptional overriding reasons of public interest (human health, public safety or environmental benefit). Proposals which have an adverse impact on a site of national importance will not normally be permitted unless the benefits of development at the site significantly outweigh the impacts. Proposals which would cause harm to County Wildlife Sites, Ancient Woodland, aged and veteran trees, Local Nature Reserves, Protected Roadside Verges, any other irreplaceable habitats, and green corridors or important species will not be permitted unless the need for, and benefits of development in that location outweigh the potential harm to nature conservation interests.’*

- 5.9. The site is situated within Mepal Gravel Pits and within 2km of Ouse Washes SSSI, SAC, SPA and RAMSAR. The site has high potential for use by nesting sites for local birds, moderate potential for use by traversing and foraging bats, high potential for use by foraging, sheltering, and breeding invertebrates, moderate potential for use by otters and water vole, moderate potential foraging and sheltering sites for hedgehogs and hares, moderate potential for reptiles. In line with the East Cambridgeshire Local Plan, the application site must ensure prescribed mitigation measures are in place along with compensatory measures and

enhancements for local biodiversity. The proposals must ensure to minimise the impacts to the County Wildlife Site as well as indirect impacts to the RAMSAR, SSSI, SAC and SPA and to ensure to avoid impacts to biodiversity and ensure enhancement measures. Given the qualifying features of the CWS, as long as the works do not cause harm to the pondweed then the development could go ahead under the policy. As the proposals have vegetation clearance, the works will cause physical changes on site, resulting in potential impacts to potential biodiversity to the CWS, the further recommendations for protected species surveys including reptiles, badgers, invertebrate, bats and birds will inform the final mitigation measures required for the proposals. Use of erosion guards and construction mats will ensure no debris, materials or spills enter the onsite lake and also ensure no further spills, debris or materials entering any watercourse that could cause impacts to connecting features to the Ouse Washes. Operational impacts could cause direct and indirect impacts to the lake, wastewater/ drainage must be directed away from the lake and any boundary ditches. The playground, where welcomed, the placement must be well thought out to ensure no potential impacts to both breeding and overwintering birds utilising the site. Educational boards and information must be provided to visitors to ensure they understand the reason of designation of the CWS and to ensure that they reduce any impacts by using the future raised walkways. Use of bird hides with educational boards within the hides, can highlight the importance of the site use by breeding birds and overwintering birds. It is recommended that dogs are not allowed within the site given their overall potential for disturbance to birds. Works outside of the nesting bird season will ensure to mitigate against the disturbance of individuals directly using the scrub and trees and ensure no disturbance to any breeding species. Lighting proposals must ensure no direct impacts to potential foraging and traversing bats. The bareground that supports a variety of invertebrates, including burrowing bees must be maintained and further invertebrate surveys are recommended to determine the level of mitigation required along with enhancement measures. Future enhancements to ensure net gain include maintaining areas of bare ground and hedgerows and supplementary planting of trees, and species rich grasslands. Further shelter habitats can be incorporated by placement of log piles, nesting boxes, bat boxes and placement of insect hotels/ bug boxes. These recommended further surveys, mitigation measures and enhancement measures would ensure a net gain and would also meet the aims of biodiversity policies in the East Cambridgeshire Local Plan.

## **Protected Species**

### *Plants*

- 5.10. All plant species recorded on the site are common and widespread and it is considered that no rare or threatened plant species were observed during the time of the survey. It is likely that some short-lived annual species were missed due to the timing of the survey. The site could support at least three species of pondweed (*Potamogeton spp.*) and it supports a population of a Nationally Scarce vascular plant species Hairlike Pondweed (*Potamogeton trichoides*). Further botanical surveys are recommended in the late spring/summer period to determine if the lake supports these species.

Precautionary measures should be put into place to reduce impacts on aquatic species presence in the lake.

- 5.11. No signs of invasive species such as Japanese Knotweed or Himalayan balsam were recorded on or directly adjacent to the site.
- 5.12. There is scope to enhance the site by incorporating wildlife planting within the plot that would be attractive for use and benefit both local invertebrates, hedgehogs, foraging birds and bats. The creation of denser shrub/hedgerow, infilling planting with native trees species would enable further connectivity across both the site and the landscape and be an overall positive impact for local wildlife. Wherever possible, the patches of teasel can be translocated into these surrounding boundaries to enable future foraging grounds for a variety of butterfly species, if not possible the planting of native nectar rich plants. Teasel seed heads during the autumn and winter period are a valuable feed source for birds over the winter period, such as goldfinches (*Carduelis carduelis*) and greenfinches (*Carduelis chloris*). The areas of grassland on site are of importance for foraging birds' species and over wintering species. These could host value and would be welcome to retain or if not created in new areas and managed for wildlife.

#### Bats

- 5.13. All bat species are legally protected under Section 9 of the Wildlife and Countryside Act 1981 (as amended) and Regulation 43 of The Conservation of Habitats and Species Regulations 2017 (from hereon, the '2017 Habitats Regulations'), making bats a material consideration in the planning process.
- 5.14. CPERC provided 12 records of at least four bat species from within the search area: Nathusius's Pipistrelle (*Pipistrellus nathusii*), Noctule Bat (*Nyctalus noctule*), Daubenton's Bat (*Myotis daubentonii*) and Soprano Pippistrelle (*Pipistrellus pygmaeus*) the closest of which was 900m to the South-west of site.
- 5.15. Seven trees and five buildings (refer to Table 4 and 5) noted features suitable for use by roosting bat species. Should at any stage works be required on these trees and buildings then further surveys will be required during the active survey season, May to August inclusive will be required to determine likely absence or confirmed presence. Ground works near these trees must ensure precautionary measures to ensure no disturbance to potential roosting bats, the trees must be protected from ground works with a suitable root protection zone of at least 5 metres, or unless otherwise specified by the arboriculturist report.
- 5.16. The site contains 'moderate to high' quality foraging habitat, as it largely comprises of a large lake, hedgerow, scrub, and scattered trees. Given the wider landscape having further suitable habitats and linear features to support traversing grounds for local bats, it is considered that light sensitive species are likely to be within the local landscape. Future lighting must ensure to incorporate dark corridors to ensure future use for foraging and traversing grounds. The further surveys will inform the overall sites importance for bats but preliminary the site is considered to be of **local importance** for bats given its overall potential for hosting roosts,

traversing grounds and foraging grounds.

- 5.17. The proposed works can ensure future use as potential foraging and traversing grounds for local bats, by a lighting scheme that is low lux, of low level (i.e. bollard with hood design) and direct lighting. A dark corridor must be in place along the boundaries that contain trees with roosting potential or linear features suitable for traversing.
- 5.18. Future enhancements for bats, can be achieved by planting vegetation of native and wildlife friendly species that attract insects to provide future foraging grounds for local bats. The retainment and enhancement of the hedgerow and margins will ensure future foraging grounds. The future management of the hedgerows and will attract a variety of evening invertebrates producing new foraging areas. It is recommended that three Vincent Pro Bat Boxes and three 2F Schwelgler bat boxes are erected on suitable trees on site, these should hang at heights of 3-5 metres, facing easterly, northerly and southerly, to allow for different micro climatic conditions.

### Birds

- 5.19. The site is characterised by buildings, disturbed and species-poor grassland, shrub, trees, and hedgerows surrounding arable fields. The site's hedgerows, trees and shrub are of moderate to high potential to support nesting birds. The site has potential for use as foraging areas for local birds. The site is considered to be of local importance for local birds, however, the recommended further surveys could change this importance. It is advised that further surveys are conducted to; identify the wintering bird species within the survey area and the habitats they use. To highlight notable species including those which receive specific legal protection and those which may be adversely affected by development. To assess the value of the proposed development site for wintering birds.
- 5.20. CPERC provided 45227 records of 91 bird species from within the 2km -radius search area these have been mostly recorded within the Ouse Washes. It is very important to also mention that the site is within 2km of a RAMSAR. Special Protection Areas (SPA) and Ramsar sites are important sites for birds, which are protected under European and/or National legislation and planning policy. Whilst not legally protected, other wintering habitats or migration stopover points can be just as important to bird populations as breeding sites. The habitat on site can support a wide range of native and migrating species. Species that have been recorded on site include; Cetti's Warbler (*Cettia cetti*), Goldeneye (*Bucephala clangula*), Black-necked Grebe (*Podiceps nigricollis*), Common Tern (*Sterna hirundo*), Arctic Tern (*Sterna paradisaea*), Cuckoo (*Cuculus canorus*) Redwing (*Turdus iliacus*), Bittern (*Botaurus stellaris*), Scaup (*Aythya marila*), Kingfishers (*Alcedo atthis*), owls and Turtle doves (*Streptopelia turtur*) which are vulnerable to global extinction (IUCN Red List of Endangered Species).
- 5.21. The versatility of most bird species means they can utilise almost any habitats encountered. The lake can support wetland birds and over wintering species and is an important feature in the area. At the time of the survey no signs of nesting birds were noted. It is recommended



that any tree, hedgerow or scrub clearance works are carried outside of nesting bird season (March to August inclusive) or unless first checked by a suitably qualified ecologist. The loss of potential nesting sites will require compensation.

- 5.22. Due to presence of Tawny owl and possible barn owl on site it is recommended that a barn owl survey is conducted immediately prior to development, this must be carried out by a licenced ecologist. Where there are signs of current occupation any consent should include a condition requiring that no building and construction work should be carried out during the main breeding season (March to August inc.). Under the Wildlife and Countryside Act 1981, it is illegal to disturb breeding Barn Owls at, **on or near** a nest from time the first egg is laid to the time the last dependent young stops returning to the nest. Updated since 9<sup>th</sup> January 2020 survey – no further surveys required due to building be illegally stripped by unlawful trespassing public.
- 5.23. Where there are signs of occupation any consent should include a condition requiring the applicant to provide alternative nesting and roosting places (nest boxes) at least 30 days prior to construction work starting in nearby buildings (or, failing this suitable trees) in accordance with the guidance published by the Barn Owl Trust (with the support of Natural England) in *Barn Owls and Rural Planning Applications “What needs to happen” A Guide for Planners*. Updated – no longer required. Updated measures are recommendations of tawny and barn owl boxes placed within suitable boundary trees, always from main road boundary.
- 5.24. A Breeding Bird Survey (BBS) should be undertaken to establish a baseline condition what Birds of Conservation Concern (BOCC) are using the site and if they will be affected by development works.
- 5.25. A Wintering Bird Survey (WBS) should be undertaken to establish a baseline condition what Birds of Conservation Concern (BOCC), could potentially be using a specified area, with a focus on the lake. This will enable us to determine if the development will have a detrimental effect on wintering birds, due to potential for human and other types of disturbance. This should be carried out between November and March, consisting of three site visits.
- 5.26. It is considered that an appropriately designed landscaping scheme could enhance the site for nesting and foraging birds and that the development will not significantly affect local bird populations. The site will be enhanced by further hedgerow, tree planting and, creating new foraging and nesting sites. The installation of various bird boxes on site, will provide nesting sites for a variety of species post-development, these are to include a variety of boxes with different size entrances.

#### Otters

- 5.27. Otters are fully protected as a European protected species (EPS) and is also protected under sections 9 and 11 of the Wildlife and Countryside Act 1981.

- capture, kill, disturb or injure otters (on purpose or by not taking enough care)
- damage or destroy a breeding or resting place (deliberately or by not taking enough care)
- obstruct access to their resting or sheltering places (deliberately or by not taking enough care)
- possess, sell, control or transport live or dead otters, or parts of otters

5.28. If you're found guilty of an offence you could get an unlimited fine and up to 6 months in prison.

5.29. No evidence of Otter presence was found, following a search of all accessible areas not restricted by dense stands of marginal vegetation along the lake, this is not to say they are not on site. CPERC provided 5 records of the species from within the 2km search and shows a record of an adult female dating 09/01/2018 **on site**. A more in-depth survey should be undertaken to establish baseline condition for this species.

#### *Water voles*

5.30. Water vole (*Arvicola amphibious*) are protected under Schedule 5 of the Wildlife and Countryside Act. Under this Act is in offence to:

- Intentionally kill, injure or take any wild water vole; Possess or control any live or dead wild water vole or any part of, or anything derived from, such an animal;
- Intentionally or recklessly damage or destroy, any structure or place which any wild water vole uses for shelter or protection; or
- Intentionally or recklessly disturb any such animal while it is occupying a structure or place which it uses for that purpose; or
- Intentionally or recklessly obstruct access to any structure or place which any wild water vole uses for shelter or protection;
- Sell, offer or expose for sale, or have in possession or transport for the purpose of sale, any live or dead wild water vole, or any part of, or anything derived from, such an animal; or publishes or causes to be published any advertisement likely to be understood as conveying that you buy or sell, or intend to buy or sell, any of those things.

5.31. No evidence of Water Vole presence was found following a search of all accessible areas not restricted by dense stands of marginal vegetation along the lake. The surrounding areas off site support drainage ditches which could potentially support a population of water voles. The CPERC provided 4 records of water voles from within the 2km -radius search area, the closet being 650m to the west of the site boundary. It is advised that a water vole presence/absence survey should be carried out while undertaking an otter survey, to establish baseline condition for the species. The optimum period for undertaking water voles' surveys is during the water voles breeding season; March to October.

#### *Dormice*

5.32. No evidence of dormice (*Muscardinus avellanarius*) presence was found during the survey and

no known individual records known from CPERC. Dormice are known to use woodland, hedgerows and scrub these are all present on site. The site is considered suboptimal habitat due to the poor species diversity and the poor connectivity to other suitable habitat, and limited extent of woodland.

5.33. Due to the lack of impact to hedgerow habitats from proposed development, it is considered unlikely that impacts will occur, however should hedgerows be scheduled for removal then it is recommended that a visual search survey is advised as a precautionary measure to established if a presence is located on site, this survey will consist of a visual search for nests and feeding activity on site.

#### *Badgers*

5.34. Badgers (*Meles meles*) are legally protected under The Protection of Badgers Act 1992 and, as such, are of consideration when applying the principles of the NPPF (DfCLG, 2019). It is a criminal offence to:

- Wilfully kill, injure, or take any badger;
- Possess or cruelly ill-treat a badger;
- Possess any dead badger or part of one;
- Possess or control a living, healthy badger;
- Intentionally or recklessly damage, destroy or obstruct access to a sett, or disturb a badger whilst it is occupying a sett.

5.35. No evidence indicating that badgers have excavated setts on the site was found during the survey and no evidence of foraging or dispersal activity was found (e.g. snuffle holes, latrines, pathways, hair, feeding remains). No setts were seen in the adjacent habitats surrounding the site. The site is bound by further agricultural land and it is considered of moderate potential that individuals and setts are within the local landscape. CPERC provided 13 records from within the 2km search area, 5 of which were road casualties on the A142, indicating they could potentially be using the site for foraging and traversing.

5.36. Given the local landscape could host badgers' precautionary measures are recommended for the site works. All trenches, holes, and or ditches during the construction phase must provide mammal ladders as a means of escape, these must be checked daily by site operatives. Dark corridors will remain on site allow for potential continued use by badgers.

5.37. Given the mobile nature of badgers, it is recommended that a pre-commencement survey is undertaken at least a month prior to clearance of the scrub, for any signs or evidence of recent badger usage.

#### *Great Crested Newts*

5.38. GCN are legally protected under section 9 of the Wildlife and Countryside Act 1981 (as amended) and regulation 43 of The Conservation of Habitats and Species Regulations (2017) thus making GCN a material consideration of the planning process.

- 5.39. From studying OS maps and aerial photographs, one lake and one reservoir are located within 500 metres of the site, the area is surrounding by drainage ditches. Both the lake and the reservoir are separate to the site by minor roads, and the A142 this creating a boundary. It is considered that newts may be utilising the site. The CPERC provided 2 records of GCN within the 2km search north of the site.
- 5.40. There is suitable habitat on site to support great crested newts (*Triturus cristatus*) in their terrestrial phase, as well as the aquatic stage. Though fish are present, there is thick marginal vegetation creating shelter which may be suitable areas for breeding.
- 5.41. The Habitat suitability Index (HSI) score shows a predicted presence of GCN on site as below average (refer to **Appendix IV**).
- 5.42. Due to the HSI score being below average, and the presence of fish of site, this causing heavy predation, GCN potentially could be using the site for breeding but it is more than likely that any population present will be using the surrounding drainage ditches for breeding. The site contains good terrestrial habitat for overwintering animals, and animals in their terrestrial stage. An absence and presence survey should be undertaken in suitable areas around the lake located onsite and the offsite drainage ditches located 200m south of the site, to establish baseline condition for this species. No drainage ditches were located on site. Timings for this would occur in optimal months during the breeding season when GCN are most active March to June.
- 5.43. A common toad (*Bufo bufo*) has been recorded on site, due to the size of the lake and with fish presence this could potentially be a breeding site for toads, though not protected precautionary measures are still recommended for site works to include careful clearance of any debris/log piles outside of the hibernation period (generally mid-October to mid-March). The precautionary measures if found would move individuals off site and ensure no harm to potential individuals.

#### Reptiles

- 5.44. The site's habitats, especially where the eastern boundary meets southern boundary and large sand heap offer moderate to high potential for foraging and sheltering opportunities as well as traversing grounds for local reptiles. The site holds piles of dead wood, supporting overwintering populations, removal of such features should be done under supervision of an ecologist. An absence and presence survey should be undertaken to establish baseline condition for this species.

#### Hedgehog and Hare

- 5.45. Hedgehog (*Erinaceus europaeus*) and brown hare (*Lepus europaeus*) are protected under UK law, by the Wildlife and Countryside Act 1981 (as amended). The site's boundary habitats, fields, and hedgerows provide potential shelter and foraging sites for individuals. It is

considered that the site is of moderate potential to support these species. Clearance works are best carried out with precautionary measures under the ecologist direction and with careful clearance. Any holes, trenches or ditches will have a gentle incline plank (mammal ladder) provided as means of escape during all site works. These are to be regularly checked by site staff. Any fences on site should have gaps in them to enable connectivity to wider habitats.

### *Invertebrates*

- 5.46. The site's habitats are likely to support a small amount of both common and notable invertebrate species, such as butterflies, moths, flies, bees, and beetles. Bare earth, sand heaps and south facing banks are located on site, these are good habitat for invertebrates, especially solitary bees such as mining bees. Bare earth will be exploited by invertebrates on almost any substrate and in almost any habitat. It is used for basking, hunting and for burrowing and nesting. Many species of bee, solitary wasp, spider and beetle are dependent on bare ground to hunt and nest because these areas provide the necessary warm microclimate and easy tunnelling. Bare earth should remain on site if possible or relocated on site to support such important features.
- 5.47. Dead wood has been found within the site boundaries and dead trees are located within the majority of site, so stag beetles could be utilising the site. Precautionary measures must be in place for the removal of any dead wood on site, any impacted suitable dead wood habitat will be carefully moved and relocated with the ecologist on site to a suitable pre-identified receptor site in advance of site works. It is not considered that any further surveys are required.
- 5.48. The flooded mineral working on site could potentially support important invertebrate faunas and very rare species, such as *Arctocoris germari*, which prefers open water gravel pits. The artificial flooded pit has margins sheltered by trees, some bare wave washed margins, areas of large beds of tall emergent vegetation; small bays sheltered from the wind; steep earth banks; mature willows; sparsely vegetated sand and gently shelving margins with mixed marsh and areas of scrub. It is a well-structured gravel pit which would support good invertebrate communities.
- 5.49. Yellow meadow ant hills are present on site and should be translocated, as these provide a food source for a variety of species, such as green woodpeckers (*Picus viridis*) which are present on site.
- 5.50. It is advised that an invertebrate survey is carried out to establish a baseline condition for species that may be present on site.

### Fish

- 5.51. Fish are present on site, with the potential to support the European Eel (*Anguilla anguilla*). Under the Animal Welfare Act 2006, a duty of care is placed upon any principal contractor to ensure works do not result in any unnecessary suffering, which applies to any wild animal if it is held captive or restrained, permanently or temporarily in an enclosure or pen; the act only currently applies to vertebrate species, of which fish are included. The European eel is critically endangered on the global IUCN red list of threatened species, and a UK national priority species (under section 42 of the NERC act), meaning additional care to minimise potential impacts on this species is implemented during any works that could negatively impact upon this species.

### Rabbits

- 5.52. Due to the high presence of rabbits and warrens on site it is recommended that these are dealt with before development begins. Though rabbits aren't protected they do fall under the Animal Welfare Act 2006, a duty of care is placed upon any principal contractor to ensure works do not result in any unnecessary suffering, which applies to any wild animal if it is held captive or restrained, permanently or temporarily in an enclosure, pen or warren. It is advised that any rabbits within works areas and earthworks are humanely dispatched, the best cause of action would be ferreting. A rabbit population should be left on site, due to the correlation between rabbit grazing and invertebrate biodiversity. Rabbit scrapes produce areas of bare earth, disturbed ground, dung enrichment around burrows giving further niches for burrowing and warmth-loving invertebrates and supports valuable invertebrate food plants. They also provide carrion and grassland management creating mosaic areas this supports invertebrates. As invertebrates are a main food source of many other species, this will in turn support animals further up the food chain, such as reptiles, amphibians and birds, creating a wide and rich biodiversity for the site.

## 6. Conclusions

- 6.1. Habitats on the site are considered to be of moderate to high ecological value and the presence of protected species is of moderate to high potential. The site has areas of poor Semi-Improved Grassland, mature trees, hedgerows, margins consisting of a mixture of ruderal, scrub and scattered trees. The mature trees and buildings on site were subject to a ground level roost assessment and noted seven trees and five buildings that ranged potential for roosting bats. The suitable habitats provide, basking, foraging and over wintering sites for amphibians and reptiles. The sites boundary habitats provide potential foraging and shelter sites for hedgehogs. The surrounding sites arable fields and boundaries provide suitability for use by brown hare and some suitability for harvest mice, this increasing the possibility that they may be present in and around the site boundaries. Hedgerows and scrub provide high suitability for use by nesting birds. The buildings may potentially support local owl population and foraging grounds. The sites boundary habitats and dead wood provide potential use by local invertebrates and Saproxyllic invertebrates. The site habitats provide habitat for a range of invertebrate species including ants and bees. The site provides potential traversing and

foraging grounds for local bats. The lake and surrounding habitats have the potential to support water vole and otters. The hedgerows are of lower potential to support dormice.

6.2. The nature of the proposed development, with additional surveys, mitigation and precautionary measures in place, will ensure that the proposals will have no adverse impacts upon surrounding habitats, protected species and wildlife in general. The following further surveys, mitigation measures and precautionary methods are recommended:

- As the site forms part of the Mepal Gravel Pits, a County Wildlife Site, works must ensure that the pondweed onsite is protected during the construction phase and operational phase.
- Botanical surveys are recommended on site.
- The site provides high suitability to support a reptile population, an absence and presence survey should be undertaken before development.
- Seven trees and five buildings on site noted low to high potential for support roosting bats, it is recommended that should at any time any works be required on these trees that further echolocation surveys are carried out to determine likely absence or confirmed presence during the active bat survey season (May to August inclusive);
- The surrounding fields provide suitability for use by brown hare and harvest mice, precautionary measures must be in place for the site works;
- Dead wood was found on site and provide suitability for use by Saproxyllic invertebrates including stag beetle, works to these suitable features will require mitigation measures in place;
- Nest check and works under a watching brief for any vegetation clearance during nesting bird season generally March to September.
- A breeding bird survey (BBS) should be undertaken between April and June and comprise of three site visits in April, May and June respectively.
- A wintering bird survey (WBS) should be carried out between November and March, comprise of three site visits between these months.
- Given the mobile nature of badgers, it is recommended that a pre-commencement survey is undertaken at least a month prior to clearance of the woodland habitat, to check the woodland for any signs or evidence of recent badger usage.
- An Otter survey should be undertaken to establish a baseline presence on site.
- A water vole survey should be conducted at the same time to establish a baseline presence on site.
- An invertebrate survey should be undertaken to establish a baseline presence on site.
- A GCN survey should be undertaken to establish a baseline presence on site.
- A dormouse visual survey is advised should hedgerow be removed to establish a baseline presence on site.
- Given the high numbers of rabbits on site and the impact to the mining bees on site, a humane control programme is recommended prior to site works.

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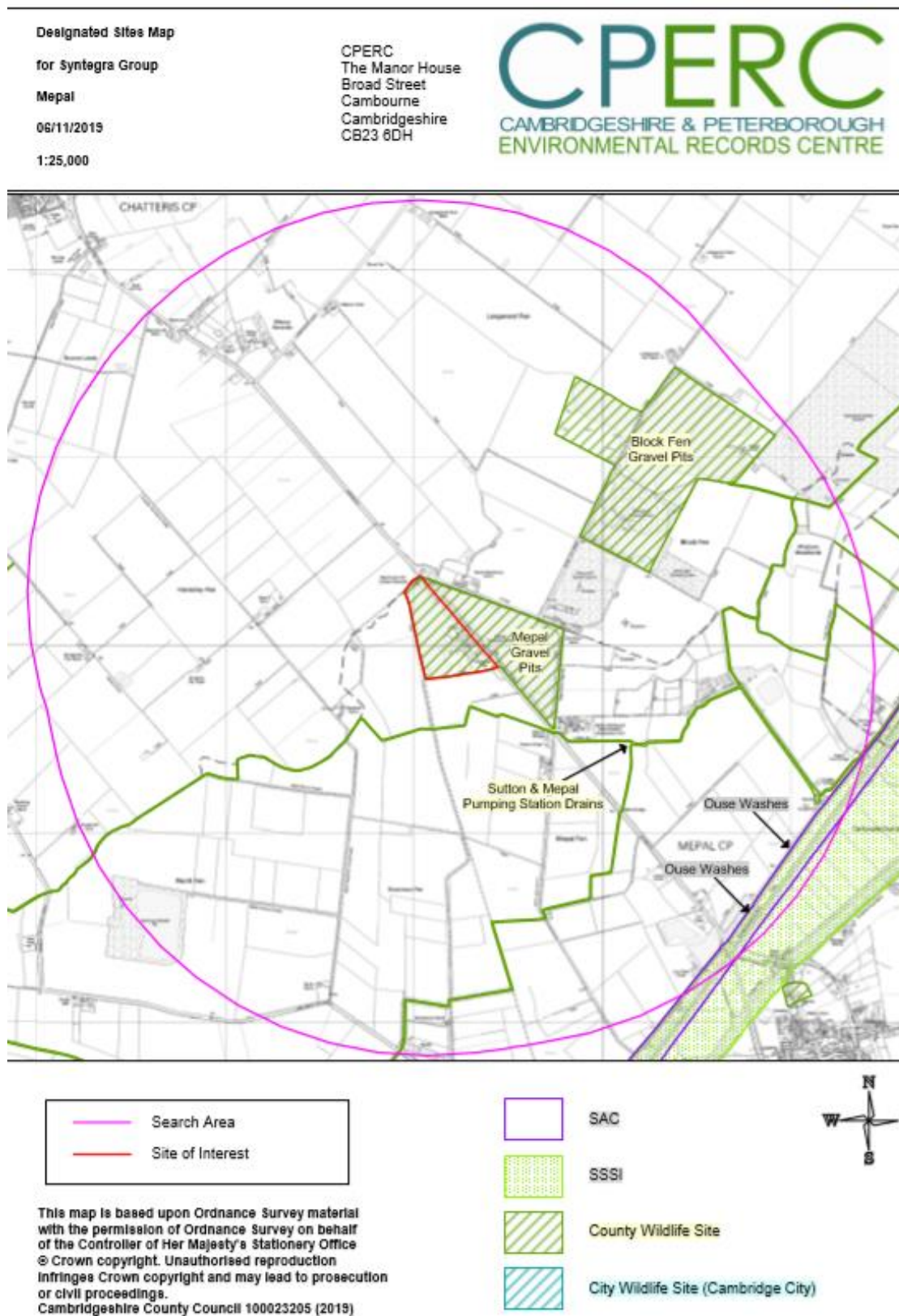
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**8. Appendix I: Statutory and Non-Statutory Nature Conservation Sites within 2km**



9. Appendix II: Preliminary Ground Level Tree Roost Assessment Location Map



Potential bat roosting tree location map



Potential bat roosting building location map



Potential roosting building location map

## 10. Appendix IV: HSI Score

Feature	Notes	HSI Score*
Geographical location	The pond is within the geographical area marked as "A" in the methodology paper, thus it is located within the optimal geographic location.	1.0
Pond Area	The lake is irregular in shape and approximately 180m wide by 500m long. The area of the pond would therefore be approximately 9000m <sup>2</sup> .	0.8
Pond permanence	The lake is clearly a permanent feature for the site; therefore, it is considered ever dry out completely.	0.9
Water quality.	The pond is of good quality for its location, the surrounding arable fields could lead to agricultural run-off effecting water quality.	1.0
Pond shading	A number of trees overhang the lake, due to its size the percentage is low, 5%.	1.0
Number of waterfowl	Eight coots ( <i>Fulica atra</i> ), two Canada geese ( <i>Branta canadensis</i> ) and two moorhens ( <i>Gallinula chloropus</i> ) (male) were noted during the site visit. It is possible that an additional wintering birds use this lake. Due to the size of the lake waterfowl numbers observed were minor.	0.67
Occurrence of fish	No evidence was noted of fish using the lake and the lake habitat is considered to be good for fish, and the presence of people fishing around the lake, would indicate a major fish population.	0
Pond density	A reservoir is located west of the site. A lake to the east of site which has a physical barrier, busy road the A142. The surrounding area contains drainage ditches the closest 200m away. 8 waterbodies are over 1km away. 1 – pond.	0.45
Terrestrial habitat quality	Terrestrial habitat is good, consisting of log piles, dense scrub, soil banks, woodland.	1.0
Macrophyte content	Macrophyte cover was estimated at being around 11-15%; currently this is slightly less, however this will clearly increase over the next couple of months as the main growing season takes hold.	0.45
Final HSI score		0.5

Suitability = **Below Average**

\* A score of 1 = optimal condition, a score of 0.1 = low quality condition.

## 11. Appendix V: Recommended Boxes



The 1B Schwegler Nest boxes are an example of a nest box that would provide nesting sites for several local bird species. These are to be placed within suitable boundary trees for nesting birds on the site.



2GR Schwegler Nest Box provides additional protection against predator species. These are best placed within tree line boundaries avoiding westerly directions.



The triple cedar sparrow box would provide suitability for use by tree sparrows, hung 3-5 metres avoiding westerly directions.



Vincent Pro Bat Box – hung at a height of 3-5 metres, boxes are best to face different directions (North and South). Proven use by: Barbastelle, Leisler's, common pipistrelle, soprano pipistrelle, brown long-eared, Natterer's and whiskered bats.



2F Schwegler Bat Box– good for a range of smaller species including pipistrelle, best hung 3-6 metres ideally in a sunny location, can face any direction to provide different microclimatic conditions.

## 12. Appendix VI: Legislation

This section details the legislation relevant to the protection of species and habitats. It also details the relevant policies within national, regional, and local planning policy.

### *NPPF*

The National Planning Policy Framework in summary requires that the planning system should aim to contribute and enhance the natural and local environment. The aims are to: protect and enhance valued landscapes as well as geological conservation interests and soils; recognising the wider benefits of ecosystem services; and minimising impacts on biodiversity and providing net gains in biodiversity where possible.

### *UK BAP*

The UK Biodiversity Action Plan was published in 1994 in response to the Biodiversity Convention. The plan aims to enhance biological diversity of the UK through implementation of the Habitat Action Plans (HAPs) and Species Action Plans (SAPs), written for priority habitats and species.

### *Biodiversity Laws*

Statutory protection is afforded to certain wild habitats and species through European Directive 92/43/EEC on the conservation of natural habitats and wild fauna and flora (the 'Habitats Directive'). This has been adopted into UK legislation under the 2017 Habitats Regulations. At the national level protection is found in the Wildlife and Countryside Act (WCA 1981; as amended) and it is designed to protect species and habitats considered to be of principal importance in order to conserve biodiversity.

Under Regulation 43 of the 2017 Habitats Regulations it is an offence to deliberately capture or kill a wild animal of a European protected species, deliberately disturb any such animal and to damage or destroy a breeding site or resting site. Since August 2007 amendments to the Conservation (Natural Habitats) Regulations 1994 have changed the term 'deliberately disturb' such that it is an offence if the species are disturbed in such a way that it is likely to significantly affect the colony's ability to survive, breed or rear their young; or affect the local distribution or abundance of that species.

The WCA 1981 (as amended) is the principle mechanism for the statutory protection of wild flora and fauna in the United Kingdom. Reptiles, including slow worms and grass snakes, are protected under Schedule 9(1) against intentional killing and injuring. Nesting birds are also protected under the WCA 1981 (as amended) which makes it an offence to intentionally kill, injure or take them, take, damage or destroy their nest whilst in use or being built, or to take or destroy their eggs.

All species of bats are strictly protected through UK and European regulations. Bats have been placed on protected lists due to the overall steady decline of species over the last century. Under section 9 in conjunction with Schedule 5 of the WCA 1981 (as amended), all bats are protected from intentional or reckless disturbance. Additional protection for all bat

species is provided under Schedule 2 of The Conservation of Habitats and Species Regulations 2017 Licences are needed if the disturbance is to produce a significant effect on the bat colony, which would otherwise be an offence. These may be granted for the purposes specified under section 16 of the WCA 1981 as well as under Section 55 under the Habitat Regulations, following the submission of a licence application to Natural England.

Badgers are protected under the Badger Protection Act 1992 and under Schedule 6 of the Wildlife and Countryside Act 1981 (as amended); badgers are classified as a species of conservation concern under the UK Biodiversity Action Plan and listed under Appendix III of the Bern Convention.

**13. Appendix VI: Extended Phase 1 Map -awaiting OS Map**