



Axis

Rochdale BSF

Preliminary Ecological Appraisal

October 2023

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1.0 INTRODUCTION

- 1.1 This report has been produced by FPCR Environment and Design Ltd. for Axis and provides details of a habitat and protected species survey undertaken at a site off Dig Gate Lane, Rochdale (central grid reference SD 918 111).

Background

- 1.2 The site is located approximately 2.3km south-east of the centre of Rochdale, Greater Manchester, and approximately 130m west of Junction 21 of the M62 motorway.
- 1.3 The surrounding area is a mix of commercial development, agricultural and vacant unmanaged land use within a small industrial estate (Kingsway Business Park). The Site is bound to the north by Dig Gate Lane, a narrow access road, beyond which is a large warehouse/distribution centre (operated by Amazon), with newly developed distribution warehouse to the north-west and further commercial/industrial properties to the north. To the east is Junction 21 of the M62 Motorway, beyond which is an area of mixed scrub and detached residences. To the south is the M62 Motorway, beyond which is an area of agricultural land use divided into a number of fields for livestock pasture. Directly to the west of the Site is Broadshaw Farm building, operating as a commercial premises, beyond which is a large distribution warehouse (Asda), and further west is Green Gate, a residential suburb of Rochdale.
- 1.4 The objective of the Preliminary Ecological Appraisal is to gain an understanding of the baseline ecology of the survey area and immediate surroundings and to determine whether the baseline ecological conditions support any protected or notable species or habitats that might represent a constraint to development.

Proposals

- 1.5 The Site is proposed to be developed with a facility housing batteries to store energy for distribution to the National Grid when required. The development will include the installation of the battery facility as well as associated access and parking areas and welfare facilities. The existing pond within the Site will be lost to the development but a compensatory pond will be created in the north-east of the Site.

2.0 METHODOLOGY

Desk Study

- 2.1 In order to compile existing baseline information, relevant ecological information was sought from both statutory and non-statutory nature conservation organisations which for the purposes of this report, included:
- Multi Agency Geographic Information for the Countryside (MAGIC) website¹;
- 2.2 Further inspection, using colour 1:25,000 OS base maps (www.ordnancesurvey.co.uk) and aerial photographs from Google Earth (www.maps.google.co.uk), was also undertaken in order to provide additional context and identify any features of potential importance for nature conservation in the wider countryside.
- 2.3 The search area for biodiversity information was related to the significance of sites and species and potential zones of influence, as follows:
- 5km around the application area for sites of International Importance (e.g. Special Area of Conservation, Special Protection Area, Ramsar site);
 - 2km around the application area for sites of National or Regional Importance (e.g. Sites of Special Scientific Interest); and
 - 1km around the application site for sites of County or Local Importance (e.g. Sites of Importance for Nature Conservation (SINC), Local Wildlife Sites (LWS) and Local Nature Reserves (LNR) and species records (e.g. protected, UK BAP or notable species).
 - 1km around the application area for protected and notable species

Flora/Habitats

Habitat Survey

- 2.4 Habitats were identified and mapped utilising the UKHab Classification System², a method of determining broad habitat types in the wider countryside. This involved a systematic walk over of the survey area during which an associated plant species lists were compiled for each habitat mapped along with additional notes regarding the current ‘condition’ of the habitat, based on the criteria outlined within The Biodiversity Metric 4.0 Technical Supplement³.
- 2.5 Vascular plant nomenclature followed Stace (2019)⁴ and assessment of abundance for plants was made using the DAFOR scale:
- D – Dominant;
 - A – Abundant;
 - F – Frequent;

¹ <http://www.natureonthemap.naturalengland.org.uk/MagicMap.aspx> (accessed 23.06.23)

² Butcher, B., Carey, P., Edmonds, R., Norton, L., Treweek, J. (2020) The UK Habitat Classification User Manual Version 1.1 at <http://ukhab.org/>

³ Natural England (2023). Natural England Joint Publication JP039 The Biodiversity Metric 4.0 auditing and accounting for biodiversity Technical Supplement. Access [online] Available at: <http://publications.naturalengland.org.uk/publication/6049804846366720>

⁴ Stace, C (2019) New Flora of the British Isles. 4th edn. C&M Floristics

- O – Occasional;
- R – Rare;
- L - Locally (e.g. LF Locally Frequent or LA Locally Abundant).

- 2.6 An initial survey was undertaken on 16th May 2023, where the broad habitats were mapped, and a preliminary condition assessment undertaken. Any habitats suitable for, or features with the potential to support, protected or notable species were also assessed and recorded with the surveys.

Hedgerows

- 2.7 The hedgerows were also assessed considering their potential ecological value against the wildlife and landscape criteria of statutory instrument No: 1160 - The Hedgerow Regulations 1997. A series of 30m sections of hedgerows were surveyed, recorded features including woody and floral species and associated features as detailed in the statutory document. Hedgerows can qualify as 'Important' under archaeological criteria, but this is beyond the scope of the current assessment.
- 2.8 Additionally, hedgerows are assessed for ecological value using the Hedgerow Evaluation Grading System (HEGS). The structure, connectivity, diversity, and associated features of a hedgerow are scored, and a flow chart is used to grade the hedgerow into the following categories (with – representing the lower end of the grade and + the upper end of the grade):
- Grade 1: High to Very High Value
 - Grade 2: Moderately High to High Value
 - Grade 3: Moderate Value
 - Grade 4: Low Value

Fauna

- 2.9 During the Phase I survey, observations, identification, and signs of any species protected under the following list of Acts and Regulations were noted:
- Part I of the Wildlife and Countryside Act 1981 (as amended);
 - The Protection of Badgers Act 1992;
 - The Conservation of Habitats and Species Regulations 2017; and
 - The NERC Act (2006) – S41 species of principal importance for the conservation of biodiversity.
- 2.10 Given the nature of the habitats within and surrounding the site and known records, particular consideration was given to the potential for presence of reptiles, badgers, dormice, bats pond mud snail and great crested newts, with specific assessment adopting the following survey methodologies for bats and great crested newts.

Great Crested Newts (GCN)

- 2.11 Ordnance survey maps and aerial photography were checked for water bodies which may provide suitable breeding habitat for GCN, a total of 2 water bodies, located either on-Site or within 500m of the Site and with suitable habitat connectivity were considered in the preliminary stage to assess their suitability to support GCN.

Habitat Suitability Index

- 2.12 The surveyed waterbodies were assessed for their potential to support an amphibian population, including GCN, using the Habitat Suitability Index (HSI). This provides a measure of the likely suitability that a waterbody has for supporting great crested newts *Triturus cristatus* (GCN) (Oldham et al. 2000)⁵. Generally, ponds with a higher score are more likely to support GCN than those with a lower score and there is a positive correlation between HSI scores and ponds with newts recorded. Ten separate attributes were assessed for each pond to calculate the suitability of the ponds to support GCN:

- Geographic location
- Pond area
- Pond drying
- Water quality
- Shade
- Presence of water-fowl
- Presence of fish
- Number of linked ponds
- Terrestrial habitat
- Macrophyte coverage

- 2.13 A score was assigned according to the most appropriate criteria level set within each attribute and a total score calculated of between 0 and 1. Pond suitability was then determined according to the scale detailed in Table 1

Table 1: HSI Scoring Categories

HSI score	Pond Suitability
<0.5	Poor
0.5 - 0.59	Below average
0.6 – 0.69	Average
0.7 – 0.79	Good
>0.8	Excellent

Invertebrates

- 2.14 A single net sample was taken from the edge of the pond to determine the presence or likely absence of pond mud snail *Omphiscola glabra*. The sample was taken using a pond dipping net and the sample was taken by sweeping the net through the shallow water for one minute broadly following the method recommended by the Freshwater Habitats Trust⁶.

Limitations

- 2.15 The species data collated within the desk study is derived from records submitted from various sources including by members of the public and volunteer-based surveys. It does not represent a definitive list of species that may occur in the local area, and the absence of records does not necessarily imply absence of such species.

⁵ Herpetological Journal 10(4); (2000) Evaluating the suitability for the Great Crested Newt, Oldham et al.

⁶ Freshwater Habitats Trust: Surveying for mud snail <https://freshwaterhabitats.org.uk/wp-content/uploads/2015/03/Surveying-for-mud-snail.pdf>

3.0 RESULTS

Review of Previous Reports

- 3.1 Weddle Landscape Design produced a Preliminary Ecological Appraisal (PEA) in May 2022 and a Replacement Pond Strategy and Ecological Management Plan in August 2022.
- 3.2 The PEA included a desk study review of biological records and publicly available data as well as the findings of a Site survey which included the results of sampling for eDNA to identify the presence or likely absence of great crested newt (GCN).
- 3.3 The findings of the desk study were generally consistent with the results of the updated FPCR desk study below. The Site survey identified the broad habitats present on-site at the time of survey which were broadly consistent with those found by FPCR below, although in 2022 the stables within the Site were derelict and open to the elements and by 2023 had been replaced. Additionally, the survey identified the presence of Himalayan balsam *Impatiens glandulifera* (an Invasive Non-native Species INNS) on the verge of Dig Gate Lane. No Himalayan balsam was identified during the survey in 2023.
- 3.4 The PEA included the results of eDNA sampling for GCN which indicated that GCN were likely absent from the pond within the Site. During the sampling for GCN the presence of Pond Mud Snail *Omphiscola glabra* (a species of principal importance) was confirmed.
- 3.5 Ecological constraints identified by the 2022 report included; invasive species (Himalayan balsam), potential for badgers with recommendation for a precautionary approach and pre-commencement check for badgers; limited potential for bats but recommendations for an appropriate lighting strategy to minimise light impacts and additional boundary planting to compensate for small losses to the existing hedgerows; and limited potential for amphibians but recommendation for precautionary measures to clear vegetation prior to construction.
- 3.6 The Replacement Pond Strategy and Ecological Management Plan explained that the Site supports pond mud snail and that the existing pond will be lost to the proposals. As such, a replacement pond will be provided in the north-eastern corner of the Site within a safe-guarded ecological mitigation area.
- 3.7 The report provides details of reasonable avoidance measures for amphibians, badger, breeding birds and measures to prevent the spread of invasive species. In addition, general measures to prevent pollution were also provided.
- 3.8 The report provided a masterplan for the production of the replacement pond and the ecological mitigation area. Plans include the provision of stock proof fencing and hedgerow planting as well as management of grassland to form a tussocky grassland including habitat piles and hibernacula features, and the construction of the new pond. Management is prescribed for a period of 30 years.

Desk Study

- 3.9 A summary of the relevant information from Greater Manchester Ecology Unit (GMEU) has been provided below; the original data provided by GMEU has not been included in this report and is available by request.

Statutory Designated Sites

- 3.10 There are two sites of International Importance within 15km of the site boundary, Rochdale Canal Special Area of Conservation (SAC) and Special Site of Scientific Interest (SSSI), approximately 1.4km north-west of the Site, and the South Pennine Moors SAC, Special Protection Area (SPA) and SSSI, located approximately 4.7km north-east of the Site. As SSSIs both of these sites are also of National Importance.
- 3.11 Rochdale Canal is designated as a SAC for the presence of floating water plantain *Luronium natans* and is designated as a SSSI for providing important habitats for aquatic plants including nationally scarce SAC species floating water plantain and a diverse range of pondweeds *Potamogeton* species.
- 3.12 The South Pennine Moors is designated as a SAC for dry heath, blanket bog, and old sessile oak woodland, with wet heaths and transition mires also listed but not for selection. It is designated as an SPA is designated for an important assemblage of breeding moorland/moorland fringe birds and designated as a SSSI due to the extensive moorland habitats and bird assemblages.

Non-Statutory Designated Sites

- 3.13 Three non-statutory sites are situated within 1km of the site boundary. These are all Sites of Biological Interest (SBI). Details of these sites are provided in Table 2 below and are illustrated in Figure 1.

Table 2 - Non-statutory sites within 1km of the site boundary

Site Name	Distance from Site / bearing	Reason for designation
Marsh Near Turf Hill SBI	600m north-west	Remnant of marsh and open water which supports water vole and important populations of invertebrates including Mud Pond Snail <i>Omphiscola glabra</i>
Stanney Brook SBI	630m north	No information provided
Sudden Brook (west) SBI	803m south-west	No information provided

Protected/Notable Species

- 3.14 A wide range of species were recorded within 1km of the site boundary (Figure 2). With some records within the site boundary. These results are summarised below in Table 3.

Table 3 - Species records within 1km of the site boundary

Species	Number of record / closest record	Status
Amphibians		
Common toad <i>Bufo bufo</i>	1 record / 980m west	S41, WCA5
Bats		
Common pipistrelle <i>Pipistrellus pipistrellus</i>	6 records / 360m north	EPS, HDir, LBAP, WCA5
Other Mammals		

Species	Number of record / closest record	Status
Badger <i>Meles meles</i>	3 records / 880m north	PBA
Brown hare <i>Lepus europaeus</i>	1 record / 610m south west	S41
European hedgehog <i>Erinaceus europaeus</i>	1 record / 840m west	S41
Water vole <i>Arvicola amphibius</i>	9 records / 140m north east	S41, WCA5
Birds (On-site and Schedule 1 records)		
Barn owl <i>Tyto alba</i>	2 records / 570m north	WCA1.1, LBAP
Bullfinch <i>Pyrrhula pyrrhula</i>	17 records / On site	S41, UKBA
Hobby <i>Falco subbuteo</i>	1 record / 870m north west	WCA1.1
Kingfisher <i>Alcedo atthis</i>	3 records / 740m north	BDir1, UKBA, WCA1.1
Little ringed plover <i>Charadrius dubius</i>	1 record / 870m north west	WCA 1.1
Peregrine <i>Falco peregrinus</i>	1 record / 870m north west	BDir1, CITES, WCA1.1
Reed Bunting <i>Emberiza schoeniclus</i>	19 records / 350m north	BDir2.2, UKBR, WCA1.1
Song Thrush <i>Turdus philomelos</i>	10 records / 480m north east	BDir2.2, S41, UKBR
Wood Sandpiper <i>Tringa glareola</i>	1 record / 880m north	UKBA, WCA1.1
Invertebrate species		
Cinnabar <i>Tyria jacobaeae</i>	1 record / 980m west	S41
Mud pond snail <i>Omphiscola glabra</i>	2 records / 120m east	NERC, S41

BDir1: EU Birds Directive Annex 1 - Birds which are the subject of special conservation measures, **BDir2.2:** EU Birds Directive Annex 2.2 - Birds which may potentially be hunted within certain member states, **EPS:** European Protected Species, **HDir:** EU Habitats Directive, **LBAP:** Leicestershire & Rutland Local Biodiversity Action Plan Species, **PBA:** Protection of Badgers Act 1992, **S41:** Natural Environment and Rural Communities Act 2006 (Section 41), **UKBA:** RSPB/BTO Birds of Conservation Concern - Amber list (not based on IUCN criteria), **UKBR:** RSPB/BTO Birds of Conservation Concern - Red list (not based on IUCN criteria), **WCA1.1:** Wildlife & Countryside Act 1981 Schedule 1.1 - Birds which are protected at all times, **WCA5:** Wildlife & Countryside Act 1981 Schedule 5 - Animals which are protected,

Field Survey – Habitats/ Flora

- 3.15 Habitats are illustrated on Figure 3: Phase 1 Habitat Survey Plan, a detailed species list is provided within Appendix A

Poor Semi-Improved Grassland

- 3.16 The majority of the Site comprised semi-improved grassland in poor condition, heavily grazed by livestock (horses were present on Site at the time of survey) and with areas of significant ground disturbance from livestock trampling creating an uneven ground surface with many small pockets of bare ground and an area of worn compacted bare ground near to the horse stable building. The

habitats were divided into two areas, the main field in the east of the Site and a second field in the west of the Site, delineated by a post and rail fence. Both grassland areas were noted to be characterised by a very short sward (<5cm) of grasses and was observed to have abundant perennial rye grass *Lolium perenne*, and frequent red fescue *Festuca rubra*, with occasional meadow grasses (*Poa annua* and *P. pratensis*) and occasional Yorkshire fog *Holcus lanatus* at the margins. However, in the western field soft rush *Juncus effusus* was noted to be locally frequent and present in small patches where the ground was damp. In both areas although forbs were only occasionally or rarely encountered within the overall habitat, there was a range of species across the area, mainly encroaching from adjacent habitats on the field margins and included many common ruderal species such as common nettle *Urtica dioica*, broad leaved dock *Rumex obtusifolius*, hogweed *Heracleum sphondylium*, creeping thistle *Cirsium arvense*, and ribwort plantain *Plantago lanceolata*.

- 3.17 A small area of managed semi-improved grassland was observed adjacent to Dig Gate Lane, comprising the road verge on the southern side of the track, and was noted to have been heavily managed previously with areas of bare ground and aggregates adjacent to the kerb. The flora here comprised abundant Yorkshire fog and perennial rye grass with an extensive bed of moss (not identified but considered likely to be springy turf moss *Rhytidiadelphus squarrosus*)
- 3.18 None of the grassland areas were characteristic of any specific habitat community due to being modified through grazing and/or management. As such, all of the grasslands were considered to be analogous to UKHab classification g4 Modified Grassland.

Buildings

- 3.19 Two buildings were observed within the Site. A small electrical substation was located in the north-eastern area of the Site and comprised a single storey structure, likely to be of concrete block construction but with a stone façade, large double steel doors to the front, and a concrete slab roof with a small pitch.
- 3.20 A wooden horse stable was noted to be present in the north-eastern area of the Site, comprising two adjoining open fronted stable/pen areas of a wooden frame construction clad with wooden boards and profile corrugated sheet metal on the walls and corrugated bitumen sheet to the roof.

Pond: Standing Water – Eutrophic

- 3.21 A small pond was located in the central area of the Site and observed to have only a very shallow amount of standing water (<10cm at deepest) with a silty substrate and being very eutrophic. It was overgrown by abundant soft rush but with occasional great willowherb *Epilobium hirsutum* and an occasional horsetail (likely marsh horsetail *Equisetum palustre*) also emergent from the pond and where occasional small areas of open water were present, common duckweed (*Lemna minor*) was present. Directly adjacent on the banks a few species were rarely encountered, including common sedge *Carex nigra*, and cuckoo flower *Cardamine pratensis*. Given the low level of water it is considered likely that this pond dries out regularly.

Tall Ruderal Vegetation

- 3.22 An area of tall ruderal vegetation was present surrounding the pond and was bound by a post and wire fence. The species present comprised abundant common nettle with many frequent dead stems of great willowherb, and some soft rush. Also present occasionally were broad leaved dock, creeping buttercup, cleavers *Galium aparine*, a dandelion *Taraxacum officinale* agg. and rarely encountered were cuckoo flower, bracken *Pteridium aquilinum* and common sorrel *Rumex acetosa*.

Introduced Shrub

- 3.23 An area of low shrubby growth of Chinese bramble *Rubus tricolor* was noted growing across a small embankment in the north-eastern area of the Site and spreading onto areas of the road verge and under hedgerow H2 in the north of the Site. Although this species is not listed as an invasive species under the Wildlife and Countryside Act 1981 (as amended) it is non-native and can spread quickly.

Hedgerows

- 3.24 Two hedgerows were noted within the Site, both located on the northern boundary of the Site. Hedgerow H1 was present on in the north-west and Hedgerow H2 was present in the north-east of the Site, divided by the electrical substation, and a small section of post and rail fence with a gate. Both hedgerows were of similar composition noted to be dominated by hawthorn, with other species rarely encountered but including established elder *Sambucus nigra*, goat willow *Salix caprea*, ash *Fraxinus excelsior*, a birch *Betula* sp., and dog rose *Rosa canina*.
- 3.25 Hedgerow H2 was noted to be on the top of the embankment in the north-east of the Site and Chinese bramble was present as ground flora, extending down the bank as well as beneath the hedge. In the area close to the post and rail fence tree guards were still present at the base of the hawthorns suggesting that the hedge had been planted relatively recently.
- 3.26 Neither of the hedgerows was species rich (did not contain more than five native species) and neither of the hedgerows were considered to meet the criteria of 'important' under the Hedgerow Regulations 1997.
- 3.27 Due the presence of >80% native species, the hedgerows qualify as a Habitat of Principal Importance (HPI) under the NERC Act (2006). The HEGS grades for the hedgerows were scored at -3, representing lower Moderate ecological value. Details of the hedgerows are summarised in Table 2 below:

Table 4: Results of Hedgerow Assessment

Hedge	Woody Species present	HEGS Grade	Associated Features	Important Under Hedgerow Regs	Contains >80% Native Species
H1	<i>Cm, Bet sp, Fe, Rc, Sn, Sxc.</i>	-3	No associated features	No	Yes
H2	<i>Cm, Bet sp, Fe, Rc, Sn, Sxc.</i>	-3	No associated features	No	Yes

Species Key – *Cm Crataegus monogyna* – Hawthorn, *Bet sp Betula sp.* A birch, *Fe Fraxinus excelsior* – Ash, *Rc Rosa canina* – Dog-rose, *Sn Sambucus nigra* - Elder, *Salix sp.*- willow species, *Sxc Salix caprea* – goat willow.

Field Survey – Fauna

Bats

- 3.28 No potential roost features were observed at the Site, the buildings present were considered to be unsuitable for roosting bats.
- 3.29 The Site was open with little potential habitat for bats to forage, with the exception of the bounding hedgerow and the pond. Although the hedgerow would be suitable to act as a landmark for commuting bats it leads to a small bridge crossing the M62 Motorway north-east of the Site and large roads are known to deter bats in their immediate vicinity. Additionally, the areas immediately north-west and north-east of the Site are developed as large distribution warehouses with little interest to bats, leaving the Site relatively isolated.

Badger

- 3.30 Habitats within the Site have the potential to support badger, the grassland areas would provide potential foraging. However, no field signs of badger and no badger setts were identified within the Site or the immediate vicinity.
- 3.31 The M62 motorway is a significant barrier to dispersal for badgers and the area to the north of the Site is also developed with roads and warehouses/commercial buildings, limiting opportunities for badgers to migrate to the Site.

Birds

- 3.32 Habitats within the Site were considered to be generally unsuitable for farmland/ground nesting birds due to the shortly grazed grassland being unable to provide cover.
- 3.33 The tall ruderal vegetation around the pond, as well as the hedgerow in the north of the Site may provide some limited nesting opportunities for common and widespread species.
- 3.34 Incidental records of birds observed during the survey included a single kestrel *Falco tinnunculus* hunting over the embankment to the M62. A number of wood pigeon *Columba palumbus* that flew over the Site from east to west, a number of blue tits *Cyanistes caeruleus* and a single blackbird *Turdus merula* observed within the hedgerow in the north of the Site.
- 3.35 Overall the Site is considered to offer limited opportunities to birds' species. ,

Amphibians

- 3.36 Terrestrial habitat within the Site is considered largely unsuitable for amphibians (including GCN) as the grassland lacked the tussocky, dense structure that is preferred by these species for foraging and commuting activity. The hedgerow and tall ruderal vegetation could however provide some limited suitable terrestrial/commuting opportunities for this species.
- 3.37 Ordnance survey maps and aerial photography were checked for waterbodies within 500m of the survey boundary. Waterbodies with intervening significant barriers to dispersal (such as the M62 motorway) were discounted from further consideration. Only two waterbodies with connectivity to

the Site were noted within 500m of the survey area boundary (Figure 3). Table 5 below provides a summary of these.

Table 5: Ponds within 500m of Site Boundary

Pond number	Distance / bearing from site	Description and surrounding habitat
P1	On Site	Small shallow pond in a depression, choked with soft rush, only limited amount of shallow open water present covered by common duckweed. Limited potential for GCN breeding (lack of suitable vegetation for egg laying).
P2	c. 115m north-west	Balancing pond associated with large distribution warehouse. Managed grassland banks, some scrub/shrub vegetation on margins. Roads are present to the north and south with a warehouse to the west, to the east is a roundabout.

Habitat Suitability Index

- 3.38 The habitat for Pond P1 was assessed during the survey and was found to provide a HSI score of 0.51 which represents 'Below Average' suitability for GCN.
- 3.39 Pond P2 was not accessed or assessed during the survey but from aerial imagery would be expected to offer only average suitability habitat for GCN, with very limited potential for GCN to migrate to this location due to the presence of roads and development.

Other Amphibians

- 3.40 During the survey, a single pond net sample was taken in order to determine the presence/likely absence of pond mud snail. This sample also identified the presence of many common frog *Rana temporaria* tadpoles.

Other Mammals

- 3.41 The Site supports limited habitats which may be used by hedgehogs, the area of tall ruderal vegetation adjacent to the pond and the bases of the hedgerows in the north of the Site. None of the habitats are considered to be optimal for hedgehogs though the presence of hedgehogs cannot be completely discounted.
- 3.42 Although there was a record of brown hare 640m south-west of the Site, this is beyond the M62 motorway. Given the land-use in the immediate vicinity of the Site, lack of connectivity and limited habitats at the Site suitable for brown hare, it is considered unlikely that this species is present at the Site.

Invertebrates

- 3.43 In general the Site would only be expected to support common invertebrate species as the habitats present are not considered to be particularly high ecological value or unique.
- 3.44 Pond P1, within the Site, was previously known to support pond mud snail (listed in Section 41 of the NERC Act 2006 as a species of principle importance). During the Site survey the pond was also surveyed with a brief net sample taken from the shallow accessible water at the edge of the pond. The sample confirmed that pond mud snails remain present at the Site, with sixteen

specimens being found from the single net session. No estimate of population size or abundance was made.

4.0 DISCUSSION AND RECOMMENDED MITIGATION

Designated Sites

- 4.1 The degree to which designated sites receive consideration under the planning system and legislative protection depends on the designation itself and its level of importance and value. This ranges from sites of international importance protected by UK legislation that transposes European directives, to protection under UK legislation or national and local planning policy.
- 4.2 Rochdale Canal SAC and SSSI is located 1.4km north-west of Site with the South Pennine Moors (SPA, SAC, SSSI) approximately 4.7km north-east of the Site. Due to the small-scale nature of the Proposed Development and the intervening distance and land-use between the Site and these designated areas it is considered unlikely that the works would have any direct or indirect impact on any designated habitats or species.

Habitats and Flora

- 1.1 The degree to which habitats receive consideration within the planning system relies on a number of mechanisms, including:
- Inclusion within specific policy (e.g. veteran trees, ancient woodland, and linear habitats in NPPF, or non-statutory site designation),
 - Identification as a habitat of principal importance for biodiversity under Natural Environment and Rural Communities Act (NERC) 2006 and consequently identification as a Priority Habitat within the local Biodiversity Action Plan (LBAP) and a Priority Habitat for England under Biodiversity 2020.
- 1.2 The majority of the survey area comprises poor semi-improved grassland which is of low intrinsic ecological value and its loss is not considered to be ecologically significant.
- 1.3 The pond within the Site has become choked with vegetation and is likely to dry out completely on an annual basis. Without management the pond would be expected to succeed into ruderal and scrub vegetation in time. Although the pond is not considered to be a particularly good /high quality example of the habitat type it still represents a habitat which is relatively limited in the local area and provides some value to local fauna (including birds, invertebrates, and potentially small mammals) and as such the loss of the pond would be considered likely to have an impact at the local level.
- 1.4 Hedgerows H1 and H2 qualify as a Habitat of Principal Importance under the NERC Act and as a local BAP habitat however, neither is considered likely to meet the criteria of ‘important’ under the Hedgerow Regulations 1997 due to the lack of associated features.
- 1.5 H2 will be retained and only a small section of hedgerow H1 will be lost to provide an access road into the Proposed Development, the remainder of the hedgerow will be retained. The retained hedgerows should be protected during Site clearance and construction through the implementation of an appropriate Root Protection Zone where no works or storage of materials will take place.
- 1.6 Habitat creation will include the proposed ecological mitigation area in the north of the Site, and grassland areas between the battery storage and other facilities. Habitats across the Site will include; pond, grassland, scrub, tree, and hedgerow planting. It is recommended that the proposed habitats are planted using native species and managed to promote biodiversity.

- 1.7 The proposed habitat creation is considered likely to provide habitats with greater ecological value than the baseline habitats and which would be expected to have a minor beneficial impact at the local level.
- 1.8 It is recommended that although not an invasive species as listed on Schedule 9 of the Wildlife and Countryside Act 1981, the existing areas of Chinese bramble within the hedgerow base and along the embankment in the north of the Site are managed to either remove the plant completely or to reduce and limit its growth and spread.

Fauna

- 1.9 Principal pieces of legislation protecting wild species are Part 1 of the Wildlife and Countryside Act 1981 (as amended) (WCA) and the Conservation of Habitats and Species Regulations 2017 (as amended). Some species, for example badgers, also have their own protective legislation (Protection of Badger Act 1992). The impact that this legislation has on the planning system is outlined in ODPM 06/2005 Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System.
- 1.10 This guidance states that as the presence of protected species is a material consideration in any planning decision, it is essential that the presence or otherwise of protected species, and the extent to which they are affected by proposals is established prior to planning permission being granted. Furthermore, where protected species are present and proposals may result in harm to the species or its habitat, steps should be taken to ensure the long-term protection of the species, such as through attaching appropriate planning conditions.
- 1.11 In addition to protected species, there are those that are otherwise of conservation merit, such as species of principal importance for the purpose of conserving biodiversity under the Natural Environment and Rural Communities (NERC) Act 2006. These are recognised in the NPPF, which advises that when determining planning applications, LPA's should aim to conserve and enhance biodiversity by applying a set of principles including:
- *If significant harm resulting from a development cannot be avoided....., adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
 - *Development proposals where the primary objective is to conserve or enhance biodiversity should be encouraged.*
- 1.12 The following section provides discussion on those species thought likely to occur, and their implications for the development where relevant.

Bats

- 1.13 All species of bats and their roosts are listed on the Conservation of Habitats and Species Regulations 2017 (as amended) making it illegal to deliberately disturb any such animal or damage / destroy a breeding site or roosting place of any such animal. Bats are also afforded full legal protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Under this legislation it is illegal to recklessly or intentionally kill, injure or take a species of bat or recklessly or intentionally damage or obstruct access to or destroy any place of shelter or protection or disturb any animal whilst they are occupying such a place of shelter or protection. Some bat species are species of principal importance under the NERC Act.

- 1.14 There are no habitats within the Site that would be considered suitable to support bat roosts.
- 1.15 The habitats within the Site offer only limited opportunities to bats for foraging and commuting, with the hedgerow in the north of the Site and the small pond presenting the most potential. The M62 motorway to the south may deter bats from using the Site, and the areas of development to the north would be expected to limit connectivity for bats to access the Site.
- 1.16 Some minor losses of habitat would be expected as a result of the Proposed Development, including small areas of hedgerow, and loss of the pond. The proposed habitat creation would provide compensation for the pond and provide additional hedgerow habitat along the southern Site boundary. Overall the Proposed Habitats would be of greater suitability to support foraging and commuting bats and losses of other habitats would be only minor and temporary and unlikely to adversely affect the overall favourable conservation status (FCS) of the local bat population. No further surveys are considered necessary.
- 1.17 It is anticipated that the Proposed Development will include buildings and access infrastructure that may require external lighting. It is recommended that the lighting scheme follows good practice methods in accordance with BCT and ILP guidelines (2018⁷).

Badger

- 1.18 No records of badger were returned within the desk study, additionally no evidence of badger was recorded during the Site survey. As such, badgers are considered unlikely to be present at the Site. However, badgers are a mobile species and there is the potential that badgers could colonize the Site prior to development. It is recommended that a pre-commencement survey is undertaken to determine whether badgers are present or likely absent prior to commencement of Site clearance and construction and to inform any mitigation required at that time.

Breeding Birds

- 1.19 All birds whilst breeding, their eggs, dependent young and active nests are protected from damage or destruction under the Wildlife and Countryside Act 1981 (as amended). Furthermore, many species are listed as Species of Principal Importance under the NERC Act and there is a local BAP for Farmland Birds.
- 1.20 The hedgerow in the north of the Site is considered suitable to support nesting birds. The grassland habitat is heavily disturbed by grazing and considered to be unsuitable for birds. The tall ruderal and pond habitats have limited opportunity for breeding birds but may provide foraging opportunities for birds.
- 1.21 Only one record of protected/notable bird species was provided within the Site boundary, bullfinch, a species of principal importance. Bullfinches will use a variety of habitats from woodlands and hedgerows to gardens, parks, and orchards. The development of the Site is considered unlikely to impact upon this species as supporting habitats will be retained and additional suitable habitat will be created in the north-east of the Site. Additionally, the development of the Site is unlikely to impact significantly on other protected or notable species in the vicinity of the Site, with suitable habitats retained and created within the Site to support the range of species identified in the desk study.

⁷ Bat Conservation Trust and The Institute of Lighting Professionals (2018), Guidance Note 8 Bats and artificial lighting.

- 1.22 The hedgerow in the north of the Site will be mostly retained, however a small section will be removed to allow for new access to be created. Given the small areas of habitat to be lost, these are considered unlikely to adversely affect the population status of any bird species using the site and no further surveys recommended.
- 1.23 Clearance of hedgerows should be undertaken outside of the breeding bird season (i.e. site clearance in the period September to February, inclusive). If Site clearance during this period is not possible, then a nesting bird check by a suitably experienced ecologist should be made of all areas requiring clearance no more than two days before works are scheduled. Clearance should then be conducted under a watching-brief undertaken by a suitably qualified ecologist. Should an active nest be found during clearance, works in this area must stop until the young have fledged or the nest is no longer active. A buffer around the affected area will be necessary to reduce disturbance effects that could cause a nest to be abandoned.

Amphibians

- 1.24 Great crested newts are afforded legal protection by Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) under which it is an offence to intentionally kill, injure or take a great crested newt (or attempt to), possess or control any live or dead specimen or anything derived from a great crested newt, intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter by a great crested newt, intentionally or recklessly disturb a great crested newt while it is occupying a structure or place which it uses for that purpose. Great crested newt is also a European Protected Species, and under the Conservation of Habitats and Species Regulations 2017 (as amended) it is an offence to deliberately capture or kill a great crested newt, deliberately disturb a great crested newt, deliberately take, or destroy the eggs of a great crested newt, damage or destroy a breeding site or resting place of a great crested newt. This legislation applies to all life stages of great crested newts. Great crested newt is also listed as a Species of Principal Importance under the NERC Act.
- 1.25 Two waterbodies were considered in this appraisal, one (P1) located on-Site and the second (P2) approximately 115m north-west of the Site. Both ponds were considered likely to be sub-optimal for GCN but have some potential to support other amphibians.
- 1.26 Terrestrial habitat within the Site was noted to be heavily disturbed by grazing and generally lacked features suitable for terrestrial amphibians such as piles of debris/logs/vegetation and tussocks or dense grassland structure which can be used for refugia and foraging. The hedgerows and the small area of tall ruderal vegetation could provide some limited suitable terrestrial/commuting opportunities for these species, though connectivity to/from the Site is very limited and major barriers to dispersal are present to the south, east and north of the Site, the west provides more opportunities, but this is still considered to be suboptimal.
- 1.27 No records of GCN were returned within the desktop search, and eDNA surveys conducted in 2022 as part of a previous survey were reported to be negative.
- 1.28 Overall, due to the sub-optimal nature of the habitats present and previous negative eDNA results it is considered unlikely that GCN are present at the Site and no further survey is required and GCN are not considered to be a constraint to the development.
- 1.29 Common frog tadpoles were observed within pond P1. Although common frog has no statutory protection, it is recommended that works to infill/regrade pond P1 take place during the winter when

frogs are less likely to be present. As a new pond will be created in the northern area of the Site it would be expected that common frogs would colonise the pond soon after creation. As such, no significant adverse impact is expected on the common frog population.

Other Mammals

- 1.30 Hedgehogs are listed on schedule 6 of the Wildlife and Countryside Act (1981) which makes it illegal to kill or capture wild hedgehogs, and also listed under the Wild Mammals Protection Act (1996), which prohibits cruel treatment of hedgehogs.
- 1.31 Hedgehogs are also included on the list of species which are of Principal Importance for the Conservation of Biodiversity in England as required under Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006. The S41 list is used to guide decision makers, including local planning authorities, in implementing their duty under Section 40 of the Act, to have regard to the conservation of Biodiversity in England, when carrying out their normal functions.
- 4.3 The hedgerows and the tall ruderal vegetation provide some, albeit limited, suitable hibernation habitat for hedgehogs. The grassland provides some limited suitability for foraging hedgehogs.
- 4.4 The tall ruderal vegetation and areas of the existing grassland will be lost to the Proposed Development, a small section of one hedgerow will also be lost. However, the hedgerow in the north-east of the Site will be retained and the Proposed Development will include a hedgerow along the southern boundary as well as the creation of an ecological mitigation area in the north-east of the Site which will provide an area of varied habitats with increased suitability for hedgehogs.
- 1.32 Overall, the proposed landscaping and habitat creation will likely provide more suitable habitats for hedgehogs than is currently present at the Site. It is considered unlikely that hedgehogs would be present at the Site, however it would be recommended that precautionary methods are employed when clearing the Site for development, including a staged cut/trim of taller vegetation to deter use by hedgehogs and allow them to migrate away from the development area (this may be carried out by the contractor and would not require ecological supervision).

Invertebrates

- 1.33 The survey confirmed the presence of pond mud snail, a Species of Principal Importance under Section 41 of the NERC Act 2006 in pond (P1) which will be lost to the development. Pond mud snail is classified as near threatened by the IUCN, and nationally scarce by the Joint Nature Conservation Committee (JNCC). However, a new pond will be created within the ecological mitigation area in the north-eastern area of the Site. It is recommended that pond mud snails are translocated into the new pond once it has been constructed and prior to the infilling of the existing pond.
- 1.34 The new pond should be created following the existing Replacement Pond Strategy and Ecological Management Plan (Weddle Landscape Design, August 2022) and should include areas that hold water all year around, as well as shallower areas at the margins and shallow scrapes adjacent to the pond which would periodically dry out providing a range of habitats. Vegetation present within the existing Pond P1 may be translocated into the new pond, as well as planting of a range of emergent and marginal vegetation.

- 1.35 The new pond should be constructed prior to infilling/regrading Pond P1. Pond mud snails should be captured through undertaking a number of pond net samples and collecting snails to be moved into the new pond. After sampling and collection, an excavator may scrape the existing pond (once drained) and mud collected within the bucket relocated into the margins of the new pond. Pond mud snails collected from net sampling should be translocated into the mud at the margins of the new pond..

APPENDIX A: BOTANICAL SPECIES LIST

The principal habitat types were mapped within the site and a representative species list for each habitat recorded. Species lists are not exhaustive of all flora present in each habitat type.

Abundance is described on the DAFOR scale.

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rarely encountered. (L = Locally) P = Present (single individual or very low numbers).

Common name	Scientific name	Poor semi-improved grassland	Tall Ruderal Vegetation	Pond P1	Hedgerows	Introduced shrub
Angelica	<i>Angelica sylvestris</i>	R				
Annual meadow grass	<i>Poa annua</i>	O				
Ash	<i>Fraxinus excelsior</i>				P	
A birch species	<i>Betula sp.</i>				P	
Bracken						
Bramble	<i>Rubus fruticosus agg</i>	R			R	
Broad-leaved dock	<i>Rumex obtusifolius</i>	O	O		R	
Chinese Bramble (non-native)	<i>Rubus tricolor</i>					D
Cleavers	<i>Galium aparine</i>		R		O	
Cock's-foot	<i>Dactylis glomerata</i>	R	O			
Common duckweed	<i>Lemna minor</i>			O (LF)		
Common hogweed	<i>Heracleum sphondylium</i>		R		R	
Common mouse-ear	<i>Cerastium fontanum</i>	R				
Common nettle	<i>Urtica dioica</i>	R	O		O	
Common ragwort	<i>Jacobaea vulgaris</i>	R	R			
Common sedge	<i>Carex nigra</i>			R		
Common sorrel	<i>Rumex acetosa</i>	R	R			
Cow parsley	<i>Anthriscus sylvestris</i>	R				
Creeping buttercup	<i>Ranunculus repens</i>	R	R		R	
Creeping thistle	<i>Cirsium arvense</i>	R	O		O	
Cuckoo Flower	<i>Cardamine pratensis</i>		R	R		
Daisy	<i>Bellis perennis</i>	O				
Dog Rose	<i>Rosa canina</i>				P	
Dandelion	<i>Taraxacum officinale. agg.</i>	O			R	
Elder	<i>Sambucus nigra</i>				P	
False oat-grass	<i>Arrhenatherum elatius</i>	R	O			
Goat Willow	<i>Salix caprea</i>				P	
Great Willowherb	<i>Epilobium hirsutum</i>	R	F	O		
Hawthorn	<i>Crataegus monogyna</i>	P			D	
Marsh Horsetail	<i>Equisetum palustre</i>			O		

Perennial rye-grass	<i>Lolium perenne</i>	A				
Red fescue	<i>Festuca rubra</i>	F				
Ribwort plantain	<i>Plantago lanceolata</i>	O	R			
Smooth meadow-grass	<i>Poa pratensis</i>	O	R			
Soft Rush	<i>Juncus effusus</i>	R (LF)	O	A		
Thyme leaved speedwell	<i>Veronica serpyllifolia</i>	R				
White clover	<i>Trifolium repens</i>	O	O			
Yorkshire-fog	<i>Holcus lanatus</i>	R (LF)	O (LF)			



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Key

- Site Boundary
- 1km Buffer
- 2km Buffer
- Site of Biological Importance (SBI)
- Sites of Special Scientific Interest (SSSI)

Site No.	Site Name
1	Marsh Near Turf Hill (SBI)
2	Stanney Brook (SBI)
3	Sudden Brook (West) (SBI)
4	Rochdale Canal (SSSI)
5	South Pennine Moors (SAC); South Pennine Moors Phase 2 (SPA)
6	South Pennine Moors (SAC)

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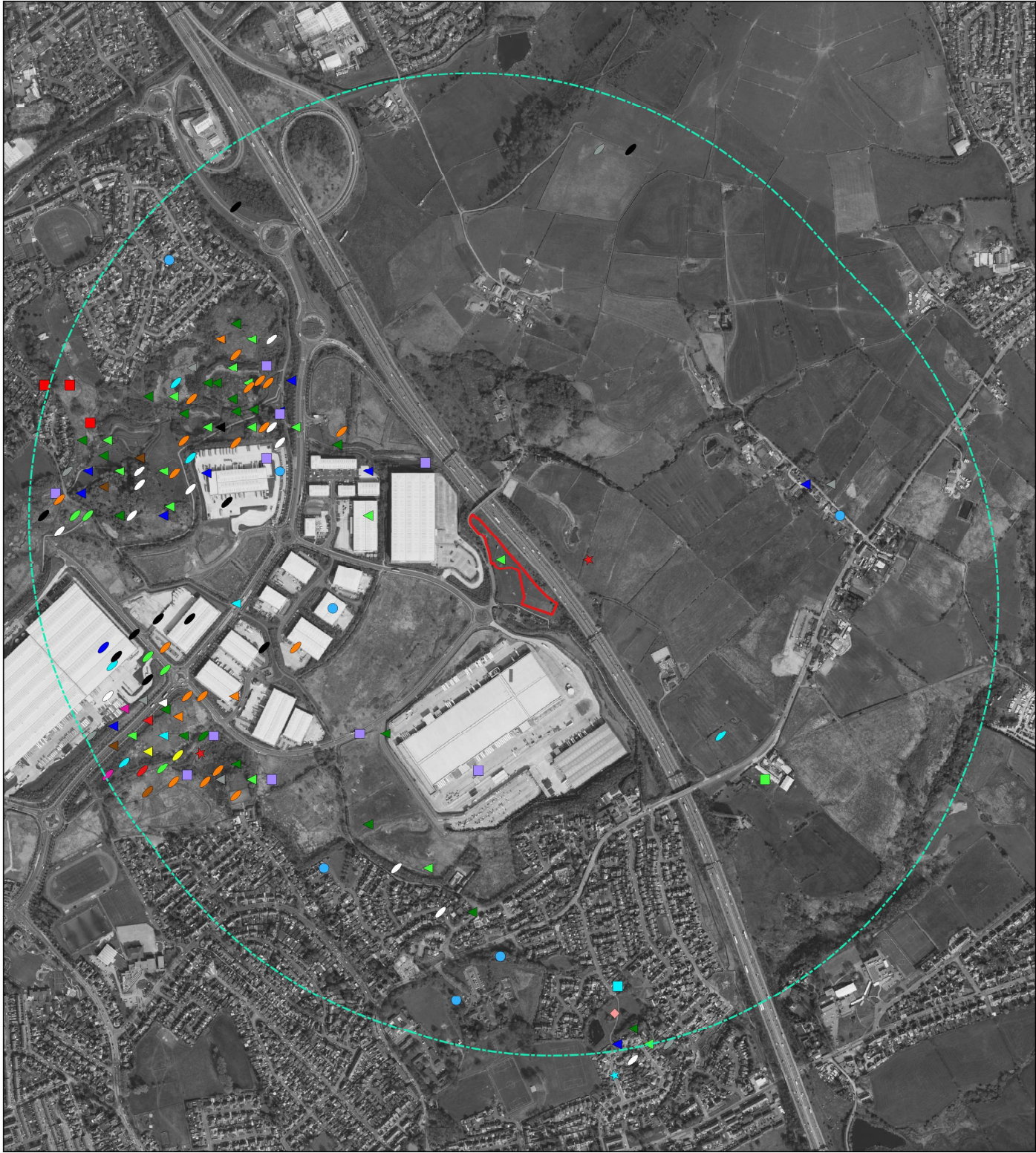
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SITE LOCATION AND CONSULTATIONS
RESULTS PLAN - DESIGNATED SITES

scale @ A3
1:15,000

drawn date
23/6/2023



Figure 1



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Key

 Site Boundary

 1km Buffer

Bats

 Common Pipistrelle

Birds

 Barn Owl

 Black-tailed Godwit

 Bullfinch

 Curlew

 Dunnock

 Grasshopper Warbler

 Grey Heron

 Grey-headed Wagtail

 Herring Gull

 Hobby

 House Sparrow

 Kingfisher

 Skylark

 Song Thrush

 Starling

 Tree Pipit

 Wood Sandpiper

 Yellow Wagtail

 Mud Snail

 Hedgehog

 Water Vole

 Brown Hare

 Badger

 Common Toad

 Cinnabar

 Invertebrates

 Mammals

 Herpetiles

 Common Toad

 Invertebrates

 Mammals



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SITE LOCATION AND CONSULTATIONS
RESULTS PLAN - SPECIES RECORDS

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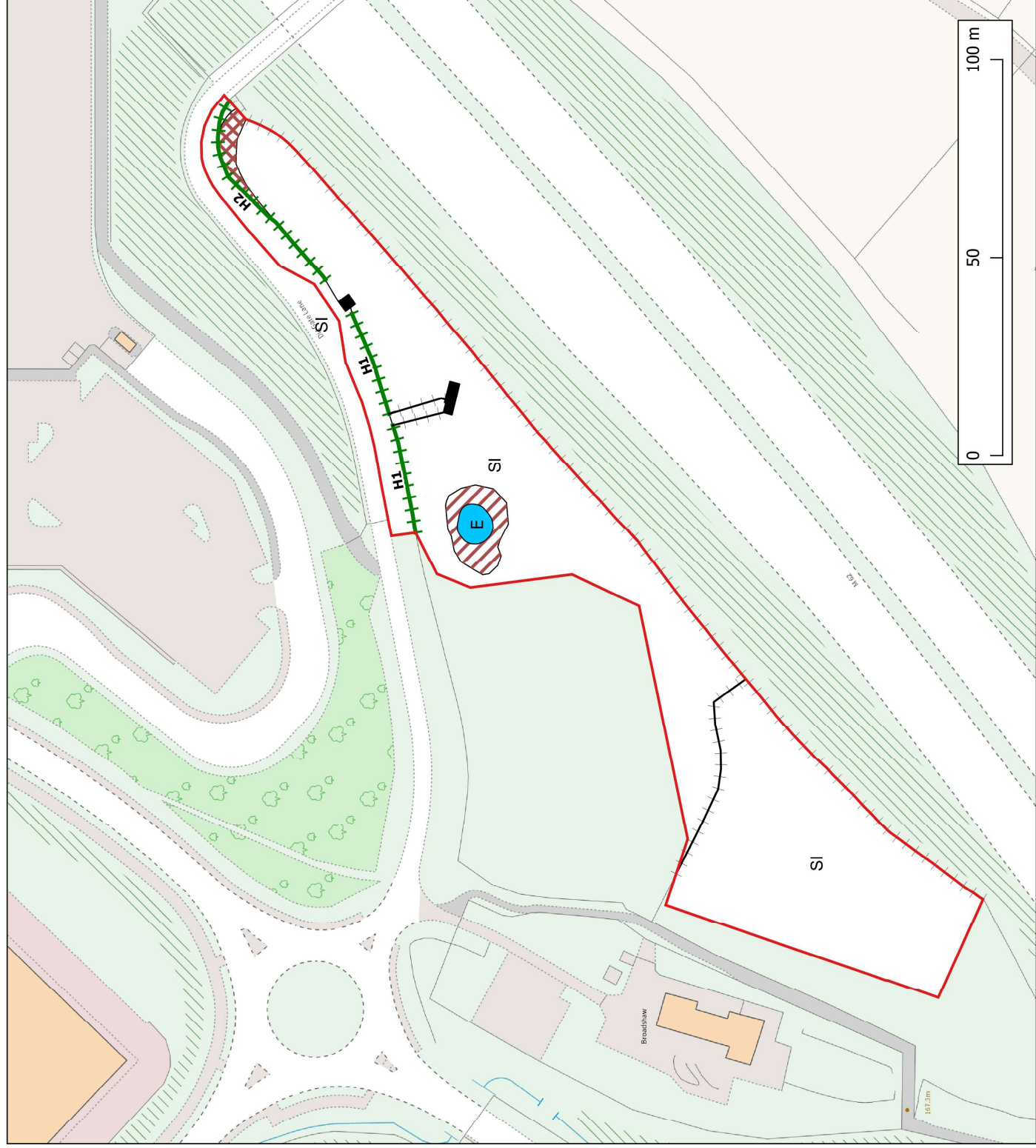
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Figure 2

Key

- Site Boundary
- Phase 1 Lines
- Hedge with trees - species-poor
- Fence
- Phase 1 Habitats
- Buildings
- Introduced shrub
- Other tall herb and fern - ruderal
- Other tall herb and fern - non ruderal
- Poor semi-improved grassland
- Standing water - eutrophic



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drawing title
PHASE 1 HABITAT PLAN

scale @ A3
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drawn
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Figure 3