

South Yorkshire Passenger Transport Executive (SYPTE)

A61 Phase 2

Preliminary Ecological Appraisal

Issue 1 | 21 October 2021

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

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Drawing 1: Phase 1 Habitat Survey Map.

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Appendix A

Habitat Suitability Index - Great Crested Newts

Executive Summary

Ove Arup and Partners Ltd. was commissioned by South Yorkshire Passenger Transport Executive to undertake a Preliminary Ecological Appraisal in relation to the proposed scheme to upgrade the A61 in Barnsley, South Yorkshire.

A field survey was undertaken in September 2021, in accordance with standard survey guidelines.

The key results of the survey are as follows:

- One statutory and three non-statutory designated sites were identified within 2km of the site.
- The site is predominantly hardstanding with pockets of scrub, tall ruderal vegetation, species-poor hedgerow and scattered broadleaved trees.
- The site provides suitable habitat for breeding birds. Any works likely to damage a breeding bird nest, for example vegetation clearance, should be carried out outside of the bird nesting season (March-August inclusive). If this is not possible then the vegetation should be surveyed by a suitably qualified ecologist prior to works commencing.

1 Introduction

Ove Arup and Partners Ltd. (Arup) was commissioned by South Yorkshire Passenger Transport Executive (SYLTE) to undertake a Preliminary Ecological Appraisal (PEA) in relation to the proposed scheme to upgrade the A61, including bus stop improvement in Barnsley, South Yorkshire (Drawing 1). The PEA encompasses both a Phase 1 Habitat survey and protected species scoping study. The PEA also confirms to the British Standard BS42020:2013 Biodiversity Code of Practice for Planning & Development.

1.1 Site and Scheme Description

The proposed scheme is located north of Barnsley town centre (national grid reference SE3502908151) and encompasses a section of the A61 extending into Smithies Lane and Carlton Road. The proposed scheme involves reconfiguring sections of the footpath and the addition of a new bus stop.

The survey area for the PEA is based on the extent of works shown on Drawing A61-ARUP-GY-XX-SK-CH-00021. This is shown on Drawing 1 as the approximate red line boundary and is hereafter referred to as ‘the site.’

1.2 Report Objectives

The objectives of this report are to identify the habitats within the site, assess the potential for, or presence of, any protected or notable species, determine potential ecological impacts, further survey requirements and outline mitigation/potential enhancement options, as appropriate.

1.3 Report Structure

The report includes:

- Section 2: Legal and Policy Context.
- Section 3: Methodology.
- Section 4: Results.
- Section 5: Discussion and Recommendations.
- Section 6: Summary.

2 Legal and Policy Context

There is a comprehensive system of legislation, both domestic and international, which aims to protect biodiversity at the landscape, habitat and species level. Much of the legislation pertaining to biodiversity exists within, and also independently of, the planning process.

2.1 Wildlife and Countryside Act 1981 (WCA) (as amended)

This is the primary legislation covering endangered species in England and sets out the framework for the designation of Sites of Special Scientific Interest (SSSIs). It confers differing levels of protection on species themselves, their habitats, or both, depending on their conservation status. Species offered protection by the Act are listed in a series of schedules. These Schedules are subject to a rolling review on a five-yearly basis. Protected species are listed under Section 1 (birds), Schedule 5 (animals other than birds and invertebrates) and Schedule 8 (plants).

2.2 Countryside and Rights of Way Act 2000

This Act affords a greater level of protection to SSSIs, provides enhanced management arrangements for Areas of Outstanding Natural Beauty (AONBs), and strengthens wildlife enforcement legislation. This Act has amended the WCA by the addition of the term ‘recklessly’ to Section 1(5) and Section 9(4) which has resulted in additional obligations with respect to protected species. As such, it is now an offence to intentionally or recklessly disturb protected species listed on the relevant Schedules of the WCA.

2.3 Natural Environment and Communities Act 2006

The Natural Environment and Rural Communities (NERC) Act 2006, is designed to help achieve a rich and diverse natural environment and thriving rural communities. Under Section 41 (S41) there is a Duty to conserve biodiversity; specifically, Subsection (1) states “Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.”

S41 of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40.

2.4 The Protection of Badgers Act 1992

This Act brings together all the legislation that is specific to badger *Meles meles*, except for their inclusion on Schedule 6 of the WCA 1981 (which prohibits

certain methods of taking or capture). The Act makes it an offence to intentionally kill or ill-treat a badger, and destroy, disturb or obstruct a sett. Specifically, it imposes restrictions on works carried out within certain distances of badger setts. Any works that will directly impact on an existing sett are only permitted subject to approval through the issue of a licence from Natural England.

2.5 Conservation of Habitats and Species Amendment (EU Exit) Regulations 2019

The Habitats Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna provides legal protection for habitats and species of European importance. This Directive was transposed into UK law by the Conservation of Habitats and Species Regulations 2017.

The Regulations for the protection of European Protected Species (EPS) have been amended and consolidated with key changes including the removal of most of the defences from regulation 40 and regulation 43. These include the removal of the ‘incidental result of an otherwise lawful operation’ defence, and the increase in the threshold for the offence of deliberately disturbing an EPS. Proposals that will affect EPS may require a licence from Natural England to allow an otherwise unlawful act. In 2009 a new offence of ‘breaching condition of an EPS licence’ was added to the regulations. The licensing process is separate from the planning process.

2.6 Birds Directive (2009/147/EC)

The European Union meets its obligations for bird species under the Bern Convention and Bonn Convention and more generally by means of Directive 2009/147/EC (Birds Directive) on the conservation of wild birds. In the UK, the provisions of the Birds Directive are implemented through the WCA 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as well as other legislation related to land and sea).

The main provisions of the Directive include: the maintenance of populations of all wild bird species across their natural range; the establishment of a general scheme of protection for all wild birds; requirements to ensure that introduction of non-native birds do not threaten other biodiversity; and the identification and classification of Special Protection Areas (SPAs) for rare or vulnerable species listed in Annex I of the Directive, as well as for all regularly occurring migratory species, paying particular attention to the protection of wetlands of international importance (Article 4). Together with the Special Area of Conservation (SAC) designated under the Habitats Directive, SPAs form a network of European protected areas known as Natura 2000.

2.6.1 Brexit Implications

To ensure continued protection of these habitats and species, the Conservation of Habitats and Species Amendment (EU Exit) Regulations 2019 came into force on 1 January 2021. The EU Exit Regulations amend the 2017 Habitats Regulations, primarily to enable the transfer of functions from the European Commission to the appropriate authorities in England and Wales, and to ensure the 2017 Habitats Regulations continue to be operable. The Government's Explanatory Memorandum to these regulations states:

“This instrument provides changes to those parts of the 2017 and 2001 Regulations which would no longer work when the UK leaves the EU... The intention is to ensure habitats and species protection and standards as set out under the Nature Directives are implemented in the same way or an equivalent way when the UK exits the EU. There is no change to policy.”

The EU Exit Regulations therefore ensure that habitat and species protections and standards as derived from the EU law will continue to apply now that the UK has left the EU. As a result, the obligations of a competent authority in relation to the protection of European sites or species have not changed. Within this report, reference to the 'Habitats Regulations' should be taken to mean the 2017 Habitats Regulations as amended by the EU Exit Regulations.

2.7 National Planning Policy Framework

The revised National Planning Policy Framework (NPPF) was published in July 2021 and is a material consideration in all planning decisions. The NPPF refers to the responsibilities of the local authorities to conserve the natural environment with respect to the use of the 'Circular 6/2005: Biodiversity and Geological Conservation – Statutory Obligation and their Impact within the Planning System' as guidance in this process. All public bodies including local planning authorities are to consider habitats and species of Principal Importance listed in S41 of the NERC Act 2006 and Priority Species/Habitats within Biodiversity Action Plans when considering a planning application.

2.8 Non-Statutory Local Sites

Non-statutory local sites are referred to as Local Wildlife Sites (LWS) within the region. These sites are of county importance for their wildlife value. They have no statutory protection but are recognised by Local Authorities and statutory agencies, and their presence is fully considered when determining planning applications.

3 Methodology

3.1 Desk Study

Protected species records and non-statutory designated sites information within 2km of the site were obtained from Sheffield Biological Records Centre (SBRC) in September 2021.

The Multi-Agency Geographic Information for the Countryside (MAGIC) website¹ was consulted for:

- statutory designated site information within 2km of the site;
- previous granted EPS licences within 2km of the site;
- S41 Habitats of Principal Importance (NERC Act 2006) within the site; and
- SSSI Impact Risk Zones (IRZ) which extend onto the site. The Risk Zones have been developed to guide planners on whether a development would impact on a SSSI/SAC/SPA/Ramsar site.

Ordnance Survey maps were examined for the presence of mapped waterbodies within a 250m radius of the site.

3.2 Field Survey

A field survey of the site was undertaken in September 2021. Habitats within the site were identified using the standard Phase 1 Habitat survey methodology (JNCC, 2010).² As part of the field survey, the potential for the site to support any legally protected or notable faunal species was also assessed. Unless otherwise specified, detailed faunal surveys were not undertaken at this stage; rather the potential for the site to support legally protected or notable species was assessed based on the known range of each species or species group and the suitability of the habitats within the site. Field signs or sightings of such species were recorded as observed.

3.2.1 Invasive Species

The list of invasive plant species included on Schedule 9 of the WCA 1981 (as amended) is extensive and these species are found in a range of different habitats, including aquatic habitats. The survey checked, in particular, for the presence of Japanese knotweed *Reynoutria japonica*, giant knotweed *Reynoutria sachalinensis*, giant hogweed *Heracleum mantegazzianum*, and Himalayan balsam *Impatiens glandulifera*.

¹ Natural England (2021) Available at www.magic.defra.gov.uk Accessed 27/09/21.

² Joint Nature Conservation Committee (JNCC) (2010) 'Handbook for Phase 1 Habitat Survey. A technique for environmental audit'. Revised re-print. Peterborough: JNCC.

3.2.2 Bat Roost Suitability Assessment

An external bat roost suitability assessment of all accessible trees within the site was undertaken in September 2021 to determine their suitability for supporting bat roosts. The survey was conducted externally from the ground using high-powered torches, where necessary.

The survey followed standard methodology detailed within the Bat Conservation Trust Good Practice Guidelines (Collins, 2016).³ Each tree on site was inspected for signs of bat presence including:

- bat droppings;
- scratch and grease marks;
- live or dead bats; and
- noises of bats calling from within the roost.

Each tree was then awarded a level of suitability to support roosting bats at different times of the year. The assessment categories used are explained in Table 3.1.

Table 3.1: Bat roost suitability categories.

Habitat value (adapted from Collins, (2016) ³ Table 4.1 classification)	Roosting habitats	Commuting and foraging habitats
High suitability	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions (temp, humidity, height above ground level, light levels or levels of disturbance) and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree lined watercourses and grazed parkland. Site is close to and connected to known roosts.
Moderate suitability	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.

³ Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). London: The Bat Conservation Trust.

Habitat value (adapted from Collins, (2016) ³ Table 4.1 classification	Roosting habitats	Commuting and foraging habitats
Low suitability	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (<i>i.e.</i> unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting suitability.	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, <i>i.e.</i> not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Negligible suitability	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on Site likely to be used by commuting or foraging bats.

3.3 Habitat Suitability Index (HSI)

Suitable waterbodies within a 250m radius of the site were assessed as to their potential to support a breeding population of great crested newt *Triturus cristatus*. This assessment was undertaken using the Habitat Suitability Index (HSI) developed by Oldham *et al.* (2000)⁴ which considers several habitat/ecological parameters. Habitat variables measured include location, desiccation, water quality, macrophyte cover, terrestrial habitat quality, etc. A value is recorded for each parameter and combined to determine an index of breeding suitability for great crested newt. The HSI is represented by a value from 0 to 1; the higher the value the more likely it is that the waterbody may support breeding great crested newt.

3.4 Survey Limitations

Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. Therefore, the absence of evidence of any particular species should not be taken as conclusive proof that the species is not present or that it will not be present in the future. However, professional judgement allows for the likely presence of these species to be predicted with sufficient certainty so as to not significantly limit the validity of these findings.

Any grid references provided within this report are approximate (obtained through handheld GPS devices) and are used as a guide only.

⁴ Oldham, R.S., Keeble, J., Swan, M.J., and Jeffcote, M., (2000) Evaluating the suitability of habitats for great crested newt (*Triturus cristatus*). *Herpetological Journal* 10: 143-15.

4 Results

4.1 Desk Study

Due to the extensive number of records received, full results of the data search provided by SBRC are available on request. However, key records are summarised in Section 4.1.3.

4.1.1 Statutory Designations

One statutory designated site was recorded within 2km of the site; Dearne Valley Park Local Nature Reserve (LNR). Details of the site designation are provided in Table 4.1.

Table 4.1: Statutory designations within 2km of the site.

Designation	Reason for designation	Location
Dearne Valley Park LNR	The 49.34ha site consists of acidic oak woodland and a mosaic of wetland and grassland habitats.	0.6km southeast

The site is not located within a SSSI IRZ.

4.1.2 Non-Statutory Designations

Details of non-statutory designated sites within a 2km search radius are summarised in Table 4.2.

Table 4.2: Non-statutory sites within 2km of the site.

LWS	Description	Location
Old Mill Lane LWS	The site is located on the River Dearne where it flows in a south-eastern direction just to the north-east of Barnsley Town Centre. The site covers an area of 10.27ha. Since 1990, the culvert under the A61 bridge has been known to support an important maternity roost for Daubenton's bat <i>Myotis daubentonii</i> . The River Dearne is tree-lined, both upstream and downstream of the A61 bridge and is used by foraging bats. Upstream of the A61, the landscape of the floodplain opens into recreation grounds and bodies of standing water.	0.2km west
Barnsley Canal at Wilthorpe LWS	The Barnsley Canal at Wilthorpe LWS site includes a stretch of the disused Barnsley Canal and adjacent pastoral farmland. The River Dearne is to the north of the site and an active railway line lies to the south, with a mix of arable and pasture farmland in the wider area. Much of the disused canal is now swamp with reed sweet-grass <i>Glyceria maxima</i> , dominant.	0.3km west
Cliff Wood LWS	Cliff wood is located within the Dearne Valley Park. It lies to the north of the River Dearne between Old Mill lane in the west and Cundy Cross to the east. The site contains broadleaved woodland which is dominated by oak and birch with smaller amounts of other native species such as ash <i>Fraxinus excelsior</i> , hawthorn <i>Crataegus monagyna</i> , holly <i>Ilex aquifolium</i> , hazel	1.2km south east

LWS	Description	Location
	<i>Corylus avellana</i> , and field maple <i>Acer campestre</i> . Many of the species are stunted and multi-stemmed.	

No S41 Habitats of Principle Importance were identified within or adjacent to the site.

4.1.3 Species Records

Records of protected/notable or invasive species provided by SBRC within 2km of the site are summarised in Table 4.3. Any records over 25 years old have been omitted from Table 4.3 as these are not considered to reflect the current species assemblage. In addition, records with less than a six-figure National Grid Reference have been omitted as an accurate location relative to the site could not be determined.

Table 4.3: Summary of protected/notable species records within 2km.

Taxonomic group	Common and latin name	Approximate distance and direction of closest record	Number of records within 2km
Terrestrial mammal	Otter <i>Lutra lutra</i>	0.3km west	3
	Badger <i>Meles meles</i>	0.7km south	5
	Hedgehog <i>Erinaceus europaeus</i>	1.5km south east	6
	Water vole <i>Arvicola amphibius</i>	1.4km west	39
Bats	Daubenton's bat <i>Myotis daubentonii</i>	0.2km west	24
	Common pipistrelle <i>Pipistrellus pipistrellus</i>	0.5km north	54
	Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	0.5km south	9
	Brown long-eared bat <i>Plecotus auritus</i>	0.5km north	1
	Noctule <i>Nyctalus noctula</i>	0.5km north	13
	Unidentified species <i>Myotis</i> sp.	0.6km north	9
Birds	Kingfisher <i>Alcedo atthis</i>	0.2km south west	19
	Dunnock <i>Prunella modularis</i>	0.2km east	77
	Redwing <i>Turdus iliacus</i>	0.3km south west	12
	Mute swan <i>Cygnus olor</i>	0.3km south west	8
	Goldfinch <i>Carduelis carduelis</i>	0.3km north west	64
	Herring gull <i>Larus argentatus</i>	0.3km south	1
	Kestrel <i>Falco tinnuculus</i>	0.3km south west	14
	Song thrush <i>Turdus philomelos</i>	0.3km south west	21
	Reed bunting <i>Emberiza schoeniclus</i>	0.4km west	15
	Bullfinch <i>Pyrrhula pyrrhula</i>	0.4km south west	34
	Goldcrest <i>Regulus regulus</i>	0.4km west	12
	Common gull <i>Larus canus</i>	0.5km south	3
	Cuckoo <i>Cuculus canorus</i>	0.5km west	4
	Teal <i>Anas crecca</i>	0.5km west	16
	Water rail <i>Rallus aquaticus</i>	0.5km south west	27
	House martin <i>Delichon urbica</i>	0.6km north west	6
	House sparrow <i>Passer domesticus</i>	0.6km east	128
	Mistle thrush <i>Turdus viscivorus</i>	0.6km west	10
	Lesser black-backed gull <i>Larus fuscus</i>	0.6km north west	2
	Starling <i>Sturnus vulgaris</i>	0.6km north	84
	Stock dove <i>Columba oenas</i>	0.6km north	3
	Willow warbler <i>Phylloscopus trochilus</i>	0.6km north	14

Taxonomic group	Common and latin name	Approximate distance and direction of closest record	Number of records within 2km
	Blackbird <i>Turdus merula</i>	0.7km east	170
	Swallow <i>Hirundo rustica</i>	0.8km north east	2
	Lapwing <i>Vanellus vanellus</i>	0.8km west	8
	Wigeon <i>Anas penelope</i>	0.9km west	1
	Snipe <i>Gallinago gallinago</i>	0.9km west	33
	Green sandpiper <i>Tringa ochropus</i>	0.9km west	8
	Little egret <i>Egretta garzetta</i>	1.0km west	13
	Gadwall <i>Anas strepera</i>	1.0km west	12
	Pink-footed goose <i>Anser brachyrhynchus</i>	1.0km west	5
	Pochard <i>Aythya ferina</i>	1.0km west	1
	Skylark <i>Alauda arvensis</i>	1.0km east	2
	Green woodpecker <i>Picus viridis</i>	1.0km west	7
	Cormorant <i>Phalacrocorax carbo</i>	1.0km west	5
	Black-tailed godwit <i>Limosa limosa</i>	1.1km west	2
	Grey wagtail <i>Motacilla flava</i>	1.2km west	5
	Fieldfare <i>Turdus pilaris</i>	1.3km west	3
	Oystercatcher <i>Haematopus ostralegus</i>	1.3km west	1
	Peregrine <i>Falco peregrinus</i>	1.4km south west	12
	Goldeneye <i>Bucephala clangula</i>	1.5km south east	1
	Jack snipe <i>Lymnocyrtus minimus</i>	1.5km west	8
	Shoveler <i>Anas clypeata</i>	1.5km south east	1
	Tree sparrow <i>Passer montanus</i>	1.5km west	1
	Yellow hammer <i>Emberiza citrinella</i>	1.5km west	4
	Cetti's warbler <i>Cettia cetti</i>	1.6km west	2
	Sand martin <i>Riparia riparia</i>	1.6km west	1
	Woodcock <i>Scolopax rusticola</i>	1.6km west	1
	Curlew <i>Numenius arquata</i>	1.6km west	1
	Meadow pipit <i>Anthus pratensis</i>	1.8km north	1
	Brambling <i>Fringilla montifringilla</i>	1.9km west	2
	Grasshopper warbler <i>Locustella naevia</i>	2.0km west	1
	Grey partridge <i>Perdix perdix</i>	2.0km north west	2
	Greylag goose <i>Anser anser</i>	2.0km west	1
	Marsh tit <i>Poecile palustris</i>	2.0km west	2
Amphibians	Common toad <i>Bufo bufo</i>	0.5km west	14
	Smooth newt <i>Triturus vulgaris</i>	0.6km west	15
	Common frog <i>Rana temporaria</i>	1.0km south	10
	Great crested newt <i>Triturus cristatus</i>	1.2km west	12
Reptiles	Common lizard <i>Zootoca vivipara</i>	1.2km south	2
Invertebrates	Dark-barred twin-spot carpet <i>Xanthorhoe ferrugata</i>	0.1km north	1
	Shaded broad-bar <i>Scotopteryx chenopodiata</i>	0.1km north	2
	Small square-spot <i>Diarsia rubi</i>	0.1km north	2
	Cinnabar <i>Tyria jacobaeae</i>	0.3km west	8
	Small heath <i>Coenonympha pamphilus</i>	0.6km west	5
	Dingy skipper <i>Erynnis tages</i>	1.9km south east	1
Bony fish	Brown/sea trout <i>Salmo trutta</i>	0.7km south	1
Flowering plant	Bluebell <i>Hyacinthoides non-scripta</i>	0.6km west	19

One previously granted EPS licence was identified within 2km of the site on MAGIC:

- EPSM2013-6477: common pipistrelle *Pipistrellus pipistrellus*, 18/10/2013-30/09/2014, for the destruction of a resting place. Located approximately 1km southwest of the site.

4.2 Field Survey

The Phase 1 Habitat survey map graphically represents the habitats recorded within the site (Drawing 1). The following habitat types were identified within the site:

- amenity grassland;
- poor semi-improved grassland;
- introduced shrub;
- tall ruderal vegetation;
- dense scrub;
- species-poor hedgerow with trees;
- broadleaved parkland/scattered trees; and
- other: hardstanding.

Amenity grassland

Small pockets of amenity grassland were recorded within urban gardens and on the forecourt of businesses adjacent to footpaths. Species recorded include annual meadow grass *Poa annua*, broadleaved plantain *Plantago lanceolata*, common dandelion *Taraxacum officinale* agg., and cock's-foot *Dactylis glomerata*.

Poor semi-improved grassland

Parcels of grassland with higher diversity were recorded in areas adjacent to footpaths. Species recorded include cock's-foot, fescue *Festuca* sp., common dandelion, broadleaved plantain, couch grass *Elymus repens*, yarrow *Achillea millefolium*, bush vetch *Vicia sepium*, creeping thistle *Cirsium arvense*, and red clover *Trifolium pratense*.

Introduced shrub

Introduced shrub was recorded within urban gardens and within managed pockets of green space associated with commercial buildings. Species recorded include laurel *Laurus* sp., ivy *Hedera helix*, and Michaelmas daisy *Symphyotrichum x salignum*.

Tall ruderal vegetation

Tall ruderal vegetation was recorded at the northern end of the site in an area which has been left unmanaged. The dense vegetation has developed over made ground and included rosebay willowherb *Chamerion angustifolium*, hedge

bindweed *Calystegia sepium*, sow thistle *Sonchus oleraceus*, tansy *Tanacetum vulgare*, red valerian *Centranthus ruber*, great mullein *Verbascum Thapsus*, and false-oat grass *Arrhenatherum elatius*. In areas where vegetation was less dense, ephemeral and grassland species were recorded.

Dense and scattered scrub

Dense scrub was recorded in the west of the site and dense and scattered scrub was recorded throughout the area of tall ruderal vegetation. Species recorded include bramble *Rubus fruticosus* agg., silver birch saplings *Betula pendula*, willow saplings *Salix* sp., ash saplings *Fraxinus excelsior* and buddleja *Buddleja davidii*.

Species-poor hedgerow with trees

A short section of unmanaged species-poor hedgerow with trees on top of a sandstone wall was recorded adjacent to a footpath. Species recorded include elder *Sambucus nigra*, hawthorn *Crataegus monogyna*, cherry *Prunus* sp., snowberry *Symphoricarpos albus*, dog rose *Rosa canina* agg., and balsam poplar *Populus balsamifera*.

Broadleaved parkland/scattered trees

Scattered broadleaved trees were recorded within urban gardens and managed parcels of green space. Species recorded include ash, Norway maple *Acer platanoides*, and cherry sp.

Other: hardstanding

The site is predominantly hardstanding consisting of the existing A61 road, footpaths and car parks.

4.3 Fauna

During the Phase 1 Habitat survey, signs of protected/notable fauna were recorded if observed. In addition, the habitats were assessed as to their potential to support protected species. The protected species groups assessed included:

- mammals;
- birds;
- herpetofauna (amphibians and reptiles); and
- invertebrates.

Bats

No structures were recorded within the site. Any trees recorded within the site were juvenile or semi-mature and did not support features such as rot holes or woodpecker holes that would be suitable for roosting bats. Most of the site is

predominated by hardstanding with marginal areas of habitat suitable for foraging bats. In addition, due to the site supporting an existing road, it is well lit with artificial lighting. Bats may utilise the peripheral areas for foraging, but it is likely they use these small patches to commute to the wider landscape for more suitable foraging habitats. The suitability for foraging and commuting bats is deemed to be low. Consequently, bats are not considered further within this report.

Badger

No suitable opportunities for sett construction or foraging and commuting habitat for badger *Meles meles*, was identified within the site. Consequently, badger are not considered further within this report.

Riparian mammals

No ditches or watercourses were recorded within the site. In addition, no complimentary habitats were recorded connecting the site to any nearby watercourses. Consequently, riparian mammals are not considered further within this report.

European hedgehog

The poor semi-improved grassland and species-poor hedgerow with trees provide foraging habitat for hedgehog *Erinaceus europaeus*. However, these habitats are limited in area and provide marginal suitability given the dominant areas of hardstanding within the site. The closest record of hedgehog was located 1.5km south east. Consequently, hedgehog are not considered further within this report.

Birds

The scattered trees and scrub provide suitable habitat for foraging and nesting common bird species.

Amphibians

Two waterbodies were recorded within 250m of the site: one waterbody was recorded approximately 0.2km southwest (WB1; Drawing 1). The second waterbody was identified approximately 0.2km west (WB2; Drawing 1). The waterbodies were assessed using the HSI assessment (Table 4.4). Appendix A details full results.

Table 4.4: Results of the HSI assessment of waterbodies within 250m of the site.

Waterbody	Grid reference	Description	HSI result	Location
WB1	SE3487707780	Waterbody utilised for coarse fishery. Fishing platforms and scattered broadleaved trees surround the waterbody.	0.45 – Poor suitability for great crested newt	0.2km southwest

WB2	SE3475908004	Large lake utilised for coarse fishery. Fishing platforms and scattered broadleaved trees surround the waterbody.	0.47 – Poor suitability for great crested newt	0.2km west
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Both waterbodies are sub-optimal for great crested newt as they are managed and stocked for fishing. The nearest record of great crested newt was 1.2km west of the site boundary. Major barriers to movement include roads, buildings and expansive made ground between the records and the site. In addition, terrestrial habitat is sub-optimal and marginal within the site.

Consequently, great crested newt are not considered further within this assessment.

Reptiles

The site is predominantly hardstanding, comprising the A61 road and surrounding urban development. The site does not support the habitat mosaic which is favoured by reptiles. In addition, the only records of reptile species were identified approximately 1.2km south, comprising two records of common lizard *Zootoca vivipara*. The location of these records are separated from the site by major barriers to reptile movement, including main roads and buildings. Consequently, reptiles are not considered further within this assessment.

Invertebrates

The botanical diversity recorded within the site is limited and unlikely to support important invertebrate assemblages. Consequently, invertebrates are not considered further within this assessment.

5 Discussion and Recommendations

5.1 Statutory Designations

One statutory designated site was identified within 2km of the site: Dearne Valley Park LNR located approximately 0.6km southeast of the site. The site is designated for supporting acidic oak woodland and a mosaic of wetland habitats. There is no hydrological connectivity providing potential pollution pathways between the site and the LNR. Consequently, no likely impacts are anticipated.

5.2 Non-statutory Designations

Three non-statutory designated sites were identified within 2km of the site, the closest being Old Mill Lane LWS approximately 0.2km west (Table 4.2). Old Mill Lane LWS is designated for supporting a maternity roost for Daubenton's bats. The site is located a sufficient distance that works would not cause disturbance to the roost. The remaining sites are deemed sufficiently far and/or no potential impact pathways e.g. watercourses, were identified which may affect designated features. Consequently, no likely impacts are anticipated on any of the non-statutory designated sites.

5.3 Habitats

The habitats on site consist predominantly of hardstanding, with small pockets of amenity and poor semi-improved grassland, tall ruderal vegetation, species-poor hedgerow with trees, scrub and scattered broadleaved trees.

Scattered broadleaved trees, scrub and the species-poor hedgerow with trees should be retained where possible. Where the loss of any trees is unavoidable, it is recommended that these are replaced on a 2:1 ratio using species of local provenance in-keeping with the local habitat. Removal of all or partial sections of the hedgerow and scrub should be replaced on a like for like basis.

5.4 Fauna

5.4.1 Birds

The scattered broadleaved trees, hedgerow and scrub provide suitable habitat for common nesting bird species.

Wild birds are protected under Part 1 Section 1 of the WCA 1981 (as amended); they are protected from being killed, injured or captured, while their nests and eggs are protected from being damaged, destroyed or taken.

Where possible, vegetation clearance and demolition activities should be completed outside of the bird nesting season (March-August inclusive). If works during the bird nesting season are unavoidable then areas of suitable habitat must be surveyed by a suitably qualified ecologist immediately prior to the clearance

taking place. If the survey confirms the absence of nesting birds in the working area then works can proceed, providing it is done within three days of the survey.

6 Summary

- One statutory designated site is located within 2km of the site; Dearne Valley Park LNR. No impacts on this site are anticipated due to the absence of pollution pathways.
- Three non-statutory designated sites were identified within 2km of the site. No impacts are anticipated on these sites.
- Any loss of trees, scrub or hedgerow should be avoided. Where this is not possible, trees should be replaced on a 2:1 ratio using native species appropriate to the site. Any scrub or hedgerow impacted by the works should be replaced on a like for like basis.
- Birds: Any works which are likely to damage a breeding bird nest, for example vegetation clearance, should be completed outside of the nesting season (March to August inclusive). If this is not possible then vegetation should be surveyed by a suitably qualified ecologist prior to works commencing.

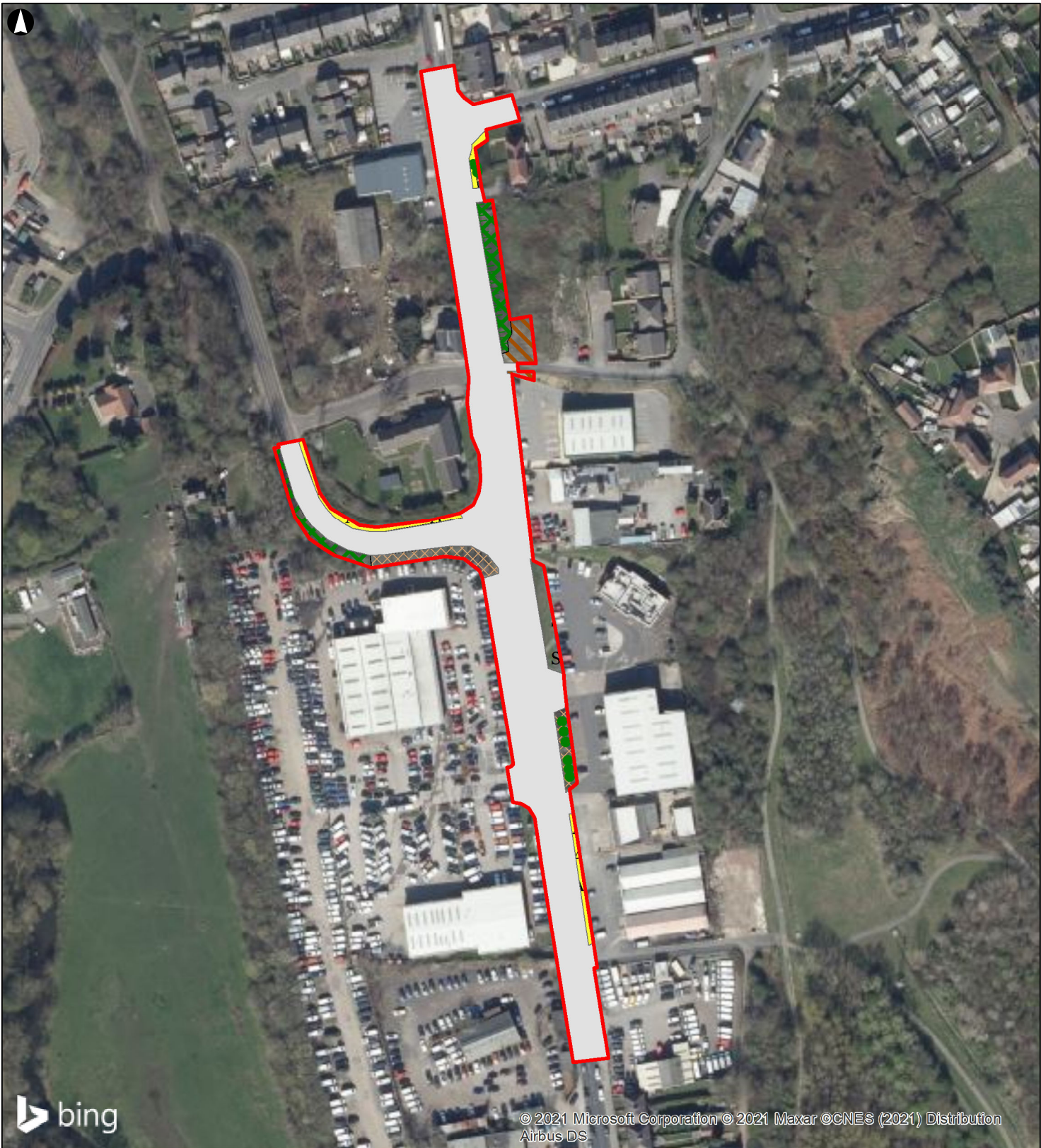
Disclaimer

This report is the result of survey work undertaken in September 2021. This report refers, within the limitations stated, to the condition or proposed development of the site at the time of the inspections. Changes in legislation, guidance, best practice, etc. may necessitate a re-assessment/survey. It is also advised that if there is a delay of over a year in undertaking the works, a re-survey may be required. No warranty is given as to the possibility of future changes in the condition of the site.

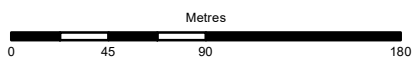
This report is produced solely for the benefit of South Yorkshire Passenger Transport Executive and no liability is accepted for any reliance placed on it by any other party. This report is prepared for the proposed uses stated in the report and should not be used in a different context.

Drawings

Drawing 1: Phase 1 Habitat Survey Map.



- Approximate Red Line Boundary
- Harstanding
- A3.1 - Broadleaved Parkland/Scattered Trees
- ||||| J2.3.2 - Species-Poor Hedge and Trees
- XXXX A2.1 - Dense Scrub
- B6 - Poor Semi-Improved Grassland
- XXXX C3.1 - Tall Ruderal Herbs
- J1.2 - Amenity Improved Grassland
- XXXX J1.4 - Introduced Shrubs



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Client

**South Yorkshire Passenger
Transport Executive (SYPTE)**

Project Title

A61 Phase 2

Drawing Title

**Drawing 1a:
Phase 1 Habitat Survey Map**

Scale at A4

1:3,500

Role

For Information

Suitability

Issue

Arup Job No

253511-00

Rev

00

Name

Drawing 1a



- Approximate Red Line Boundary
- Harstanding
- A3.1 - Broadleaved Parkland/Scattered Trees
- |||| J2.3.2 - Species-Poor Hedge and Trees
- X A2.1 - Dense Scrub
- B6 - Poor Semi-Improved Grassland
- C3.1 - Tall Ruderal Herbs
- G1 - Standing Water
- J1.2 - Amenity Improved Grassland
- J1.4 - Introduced Shrubs

Metres

0 75 150 300

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Client

**South Yorkshire Passenger
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Project Title

A61 Phase 2

Drawing Title

**Drawing 1b:
Phase 1 Habitat Survey Map**

Scale at A4

1:6,000

Role

For Information

Suitability

Issue

Arup Job No

253511-00

Rev

00

Name

Drawing 1b

Appendix A

Habitat Suitability Index - Great Crested Newts

A1

	WB1		WB2	
	Result	Score	Result	Score
Geographic location	Zone A	1.0	Zone A	1.0
Area (m ²)	40,351	0.8	11,619	0.8
Permanence	Never dries	0.9	Never dries	0.9
Water quality	Moderate	0.67	Moderate	0.67
Shade	5%	1.0	5%	1.0
Waterfowl	Minor	0.67	Minor	0.67
Fish	Major	0	Major	0
Pond count	1	0.45	2	0.6
Terrestrial habitat	Moderate	0.64	Moderate	0.64
Macrophytes	2%	0.35	2%	0.35
Habitat Suitability Index		0.45 – Poor suitability		0.47 – Poor suitability