



LAND ADJACENT TO 52 TOWER STREET

WORSBROUGH COMMON, BARNSELY, SOUTH YORKSHIRE

ECOLOGICAL IMPACT ASSESSMENT

FEBRUARY 2024



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EXECUTIVE SUMMARY

OVERVIEW

This Ecological Impact Assessment has been undertaken on behalf of Chris Barton in respect to land adjacent to 52 Tower Street, Barnsley, South Yorkshire S70 1QS (Central Ordnance Survey National Grid Reference (OS NGR): SE3435805295).

The area within the Red Line Boundary is known as the 'Site', which is approximately 0.0715 hectares, and the area outside of the Site is known as the 'Wider Landscape'. Habitats within the Wider Landscape were assessed if they were considered connected or important to the movement of species onto or across the Site.

This report is required in support of a planning application for the redevelopment of the Site.

DESIGNATED SITES

There are no statutory designated sites present on the Site. Within 2 km of the Site boundary, Worsbrough Country Park Local Nature Reserve (LNR) is located 1.5 km south, and Dearn Valley Park LNR is located 2 km north-east of the Site. Designated for diverse wetlands and acidic oak woodland with a mosaic of wetland habitats, respectively. A number of non-statutory designated sites are present within 2 km. Kendal Green Scrub Local Wildlife Site (LWS), located 1.52 km south, is designated for diverse plant and bird assemblages, and Worsbrough Reservoir LWS is 1.75 km south, designated for its flora and faunal interest. The survey area falls within the Site of Special Scientific Interest Impact Risk Zone for Dearne Valley Wetlands SSSI, 1.7 km south, designated for its diverse bird assemblages and Stairfoot Brickworks, 3.7 km east, designated for geological interest.

No significant impacts from the proposed development on designated sites identified within 2 km of the Site are anticipated. Furthermore, the development proposal does not fall within any impact risk categories to SSSIs within the Risk Zone. General safeguards and precautionary measures should be applied.

HABITATS & BOTANICAL INTEREST

Habitats were of low to moderate botanical value and common within the wider area. No Section 41 Habitats of Principal Importance (formerly Priority Habitats) under NERC Act 2006 were noted on Site. The hedgerow on Site did not fall into the category of Priority Habitat or an Important Hedgerow (Hedgerow Regulations, 1997) due to its length and composition of non-native species cherry laurel.

The trees to be retained throughout works should be adequately protected in line with BS5837:2012 Trees in relation to design, demolition and construction - Recommendations. No materials should be stored under the canopy of the trees during construction works, and all RPAs should be marked out prior to the commencement of work.



PROTECTED AND PRIORITY SPECIES

HERPTILES

The development will proceed under a Reasonable Avoidance Measures (RAMs) approach tailored to protect reptiles (and amphibians) in the unlikely event that they are present on Site at the time of work. In the unlikely event a GCN is found on Site, all work must stop, and an ecologist must be contacted for further advice.

BADGER AND OTHER MAMMALS

General safeguards should be implemented during construction work as a precaution.

BATS

To minimise any negative effects on bat foraging habitat during or after works, it is recommended that bat-friendly low-level lighting is used and night work is avoided.

BREEDING BIRDS

The vegetation within the proposed development site offers suitability for nesting birds. Therefore, to mitigate the potential risk to nesting birds, it is recommended that any site clearance works be undertaken outside the core nesting period (March to September, inclusive).



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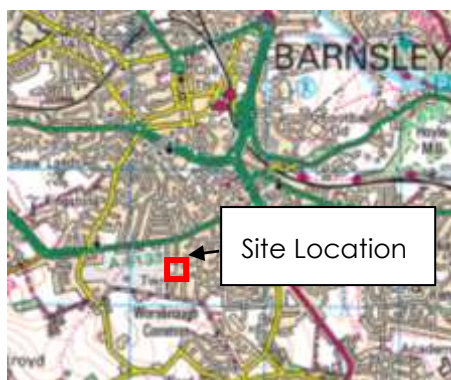
1. INTRODUCTION

INSTRUCTION

- 1.1 This Ecological Impact Assessment has been undertaken on behalf of Chris Barton with respect to land adjacent to 52 Tower Street, Barnsley, South Yorkshire S70 1QS (Central Ordnance Survey National Grid Reference (OS NGR): SE3435805295).
- 1.2 The area within the Red Line Boundary is known as the 'Site', which is approximately 0.0715 hectares, and the area outside of the Site is known as the 'Wider Landscape'. Habitats within the Wider Landscape were assessed if they were considered connected or important to the movement of species onto or across the Site.
- 1.3 For ease, the 'Survey Area' is used to describe both areas assessed as part of the survey and report.
- 1.4 This report is required in support of a planning application for the redevelopment of the Site.

SITE DESCRIPTION

- 1.5 The Site was situated south of Tower Street, adjacent to residential housing.
- 1.6 The Site comprised an area of derelict land, with ruderals, scrub, hedgerow and trees.
- 1.7 The wider landscape is largely rural in nature to the west and south and includes an amenity park as well as arable and pasture land. Residential areas and roads dominate the landscape to the north and east.
- 1.8 All habitats present at the time of the survey are described in Section 3 and illustrated on the Habitat Survey Map (**Appendix 2**).



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Figure 1: Site Location Plan



THE PROJECT

- 1.9 The proposed residential development will include a single dwelling with associated hard and soft landscaping and car parking. A proposed Landscaping Plan [Drwg. No 23-122-111] can be found in **Appendix 4**.

SCOPE OF WORKS

- 1.10 This Ecological Impact Assessment (EclA) was informed by a desk-based study and a survey. The approach to this EclA follows best practices published by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2019) and the British Standards Institution (BSI, 2013). Further details are provided later in this report.

LEGISLATION AND PLANNING POLICY

- 1.11 The following legislation relates to species and habitats that could potentially occur in association with the survey area:

- The Conservation of Habitats and Species Regulations 2019 (as amended);
- The Wildlife and Countryside Act 1981 (as amended);
- The Countryside and Rights of Way (CRoW) Act 2000;
- Natural Environment and Rural Communities (NERC) Act 2006;
- The Protection of Badgers Act 1992;
- Wild Mammals (Protection) Act 1996; and
- The Hedgerow Regulations 1997.

- 1.12 Further information on the legislation relevant to the survey area is provided in

1.13

- 1.14 **Appendix 1.**

- 1.15 Consideration has also been given in this report to relevant National and Local Planning Policies, as summarised below.

- 1.16 The National Planning Policy Framework (NPPF) guides Local Planning Authorities (LPAs) when developing their planning policies and considering planning applications affecting protected habitats, sites and species.

- 1.17 In respect of the natural environment, the NPPF states under Paragraph 170 that:

“Planning policies and decisions should contribute to and enhance the natural and local environment by:



- a) *Protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);*
- b) *Recognising the intrinsic character and beauty of the countryside and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land and of trees and woodland;*
- c) *Maintaining the character of the undeveloped coast, while improving public access to it where appropriate;*
- d) *Minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;*
- e) *Preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and*
- f) *Remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate."*

1.18 The NPPF also states under Paragraph 174 that:

"To protect and enhance biodiversity and geodiversity, plans should:

- a) *Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and*
- b) *Promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity."*



2. METHODS

ZONE OF INFLUENCE (ZOI) AND DESK STUDY SEARCH

- 2.1 The search area for biodiversity information was related to the significance of sites and species and potential zones of influence, as follows:
- 2 km around the Site for sites of International Importance (e.g. Special Area of Conservation [SAC], Special Protection Area [SPA], Ramsar);
 - 2 km around the Site for sites of National or Regional Importance (e.g. Sites of Special Scientific Interest [SSSI] and Local Nature Reserves [LNR]); and
 - 2 km around the Site for sites of County Importance (e.g. Sites of Importance for Nature Conservation [SINC]/Wildlife Sites and species records (e.g. protected, UK BAP or notable species).
- 2.2 The 'zone of influence' for a project is the area over which ecological features may be affected by biophysical changes as a result of the proposed project and associated activities. This is likely to extend beyond the survey area, for example, where there are ecological or hydrological links beyond the survey area boundaries.
- 2.3 In relation to great crested newts (GCN) *Triturus cristatus*, the zone of influence is considered to be up to 250 m from the Site. With regard to bats, the zone of influence is considered to be the Site itself and any connecting habitat links suitable for use as commuting and foraging corridors. In relation to badgers, the zone of influence is considered to be up to 30 m from Site due to the potential impact to setts.
- 2.4 Invertebrates have been scoped out of this assessment due to the size of the Site and the likelihood of it supporting rare assemblages being negligible.

SIGNIFICANCE CRITERIA

- 2.5 An ecologically significant effect is one that either supports or undermines biodiversity conservation objectives for the given species, habitat or function.
- 2.6 It must be recognised that there are limitations associated with the scope of any assessment. The relevance of surveys conducted at this stage must be considered at the time of implementation of site-specific proposals. This would be achieved through the projection of current baseline conditions through the provision of an updated survey to refine assessments throughout the development period.
- 2.7 The significance has been assessed on the value of the features and the magnitude of effects, taking into account professional judgement informed, where possible, by relevant scientific data or background information.



CONSULTATION

- 2.8 Barnsley Biological Records Centre (BBRC), through Sheffield BRC, was contacted in January 2024 to request records of any locally designated sites and/or protected species from the Site and land within a 2 km radius. Records more than ten years old have been largely disregarded.
- 2.9 In addition, the data sources listed below were also searched to gather additional ecological data of relevance to the project, including the identification of non-designated ecologically sensitive habitats such as vegetation corridors, woodlands, watercourses and standing water.
- Multi-Agency Geographic Information for the Countryside (MAGIC);
 - Aerial imagery and
 - Ordnance Survey 1:25,000 mapping.
- 2.10 Data from Multi-Agency Geographical Information for the Countryside (MAGIC) (<http://magic.defra.gov.uk>) was also reviewed. MAGIC was consulted for information on statutory designated sites of nature conservation interest as well as European Protected Species (EPS) mitigation licences relating to EPS, such as GCN and bats within 2 km of the Site.
- 2.11 OS mapping and aerial images were used to identify waterbodies within 500 m of the Site as well as all key watercourses within 1 km. Priority habitats within 2 km of the Site, as listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 and the Barnsley Biodiversity Action Plan 2010 (LBAP), were also identified.
- 2.12 Information obtained from BBRC and those sources listed above, along with any other relevant publicly available information, is included within the report as appropriate. The NPPF (2021) and the Barnsley Local Plan (2019) are referred to with regard to relevant nature conservation policy.



HABITAT SURVEYS

- 2.13 Following standard methodology (Butcher et al. 2020), the survey comprised a walkover of the Site to classify and map the extent of recognised habitat types under the UK Habitat Classification (UKHab V2.01) based on the identification of individual plant species. Any evidence of invasive plants, such as Japanese knotweed *Fallopia japonica* was also noted. Nomenclature for vascular plant species follows the New Flora of the British Isles (Stace, 2019).
- 2.14 The extent of the habitats recorded is illustrated in the Habitat Plan in Appendix 2, with target notes to provide supplementary information regarding any features of particular ecological interest.
- 2.15 A Site survey was undertaken on 15th January 2024 by Katie Hadwin BSc (Hons) MSc ACIEEM. Katie has extensive experience in survey and site assessment for protected species and is appropriately qualified for the surveys based on the CIEEM competencies for species surveys (CIEEM, 2017). Katie is registered to use a Class Licence (GCN: 2016-19812-CLS-CLS & DOR: 2017-27666-CLS-CLS) to survey great crested newts and hazel dormice, respectively.
- 2.16 The aim of the visit was to gather sufficient baseline information on the habitats within the Site in order to allow an interpretation of the ecological value of the land.
- 2.17 Standard methodologies were used where applicable.
- 2.18 Habitats adjacent to the Site were viewed, where possible, from the boundaries in order to assess their potential to support protected species that could be utilising the survey area.
- 2.19 Plant species recorded were classified according to the subjective method of DAFOR abundance ratings. The standardised terms are as follows:
- D – Dominant
 - A – Abundant
 - F – Frequent
 - O – Occasional
 - R – Rare
- 2.20 Notable, rare or scarce plant species were highlighted if present. Evidence of protected species or species of nature conservation importance was recorded where



present at the time of the survey. Habitats and species present were recorded onto a field map and are included within the report as appropriate.

- 2.21 Habitats present that are listed within Section 41 of the NERC Act 2006 or included on the LBAP were also noted.
- 2.22 The value and sensitivity of ecological features present in the survey area were determined based on the guidance given in "Guidelines on Ecological Impact Assessment" (CIEEM, 2018). Individual ecological receptors (habitats and species that could be affected by the development) were assigned levels of importance for nature conservation. The highest level is international, then decreasing in order of importance through international and European, national, regional, county, local, and lastly site level.

PROTECTED AND KEY SPECIES

2.23 The survey was extended to include the collection of information on other features of potential nature conservation value, particularly to identify the presence/potential presence of legally protected or invasive species. Specific consideration was given to the following species:

- Amphibians, including great crested newts (GCN);
- Bats;
- Badgers;
- Birds;
- Reptiles; and
- Priority Species, such as hedgehog *Erinaceus europaeus*.

2.24 Any evidence of protected species or groups encountered during the survey was recorded. This included observations of field signs and an assessment of the suitability of the habitats present to support protected species. For full details of legislation relating to all habitats and species discussed within this report, visit <http://www.legislation.gov.uk>.

AMPHIBIANS

- 2.25 The survey area was assessed with regard to its potential to support amphibians, including great crested newt (GCN), as described below.
- 2.26 A desk-based search for ponds within 500 m of the Site, which are not separated by a significant barrier to amphibian dispersal, was conducted using 1:125,000 OS mapping. Where accessible, waterbodies were assessed to determine their likely suitability for GCN using the Habitat Suitability Index (HSI) (Oldham et al., 2000).



- 2.27 The likely presence of GCN is predicted based on the suitability of a given waterbody for GCN based on several parameters (e.g. pond size, location, fish and wildfowl presence, shading and macrophyte cover, presence of suitable surrounding terrestrial habitat). The presence of fish and/or waterfowl, heavy shading and lack of submerged vegetation are likely to reduce the likelihood of GCN presence, for example, as is a lack of suitable terrestrial habitat within 500 m of the pond (representing the typical upper dispersal limit of the species). The HSI provides a numerical value (ranging from 0 to 1) that indicates the suitability of a waterbody to support GCN. The higher the HSI score, the more suitable (or closer to optimum habitat conditions) the waterbody may be considered to support GCN, and this score, therefore relates to a calculated predicted presence of GCN. It should, however be noted that the HSI score is not a substitute for the judgement of an experienced surveyor.
- 2.28 In addition to the HSI, habitats within the Site were assessed for their suitability to support amphibians during their terrestrial and aquatic stages.

BATS

- 2.29 As part of the surveys, trees and buildings within the survey area were inspected and assessed for their suitability to support roosting bats. The inspection was carried out in accordance with current best practice guidelines (Reason & Wray, 2023) and included a preliminary ground-based assessment of buildings and trees on the Site where access was possible.
- 2.30 Binoculars were used to aid the identification of key features which may be used by roosting bats (i.e. Potential Roost Features; PRFs), such as raised tiles, missing mortar, cavities and hollows, splits in limbs, woodpecker holes, loose bark and/or dense ivy. Any direct evidence of bat usage in the form of droppings, feeding remains, and urine stains were also recorded.
- 2.31 An individual building or tree may support several features of potential interest to roosting bats, and it is not always possible to confirm the usage of a feature by bats as the animals are not frequently present. Consequently, it is customary when undertaking such a survey to assign each feature to a defined category of roosting potential as follows: negligible, low, moderate, high, and confirmed roost (Reason & Wray (2023)
- 2.32 The survey area habitats were also assessed for their suitability for foraging and commuting bats.

BADGERS

- 2.33 Signs of badger activity were searched for within the Site and (where accessible) within habitats located up to 30 m from the Site boundary.



- 2.34 The survey involved a systematic search of the Site for signs of badger activity, including the presence of badger setts, bedding, latrines/dung pits, foraging marks (e.g. snuffle holes) and other feeding signs, worn paths, footprints and hairs.
- 2.35 The survey focussed on areas with suitable topography and/or vegetation for sett building as well as key habitats favoured for foraging, such as woodland hedgerows, ditches and banks.
- 2.36 Where badger sett(s) were identified, these were examined with key details recorded, including the number of entrances and their status (e.g. active, partially used, and disused). Where present, setts identified were categorised using nationally recognised sett classification (main sett, annexe sett, subsidiary sett, outlier sett).

BIRDS

- 2.37 In 2021, a re-assessment of Birds of Conservation Concern (BoCC) was published by Stanbury et al. (2021), which defined rare and threatened bird species on two lists (Red and Amber) describing the level of threat to each species of concern.
- 2.38 "Red" is the highest conservation priority, with species needing urgent action due to either a historical decline in breeding population, severe (>50%) decline in breeding or non-breeding population, or severe decline in breeding range over 50 years or more. "Amber" is the next most critical group, with species qualifying for this status as a result of either recovery from the Red list criterion, being classed as rare breeders in the UK, moderate (>25%) decline in breeding or non-breeding population or moderate decline in breeding range over 25 years or more. These categories are followed by "Green", indicating that the species are relatively unthreatened.
- 2.39 Desk study data from DBRC was filtered for Wildlife and Countryside (WCA) Act 1981 (as amended) Schedule 1 bird species and those species protected under Annex 1 of the EU Directive on the Conservation of Wild Birds, also known as the Birds Directive. Priority species (NERC Act 2006 and LBAP) were likewise highlighted, and the UK Red List for birds (BoCC), as described above, was also referred to.
- 2.40 Any species of birds encountered during the survey were recorded, and habitats within the survey area were assessed for their value to nesting and foraging birds.

REPTILES

- 2.41 The habitats present within the survey area were assessed for their suitability to support reptiles, notably with reference to their connectivity with other areas of suitable habitat in the surrounding area.
- 2.42 The suitability of the habitats was assessed through the consideration of key species likely to be present with a focus on the requirements for different lifecycle stages. The



latter includes key habitats favoured for breeding, basking, foraging and shelter (including hibernation), as well as for commuting/movement.

2.43 Favoured habitats include mosaic habitats with a mixed vegetation structure, including scrub and grassland where there are ample opportunities for basking (e.g. south-facing banks, slopes), as well as a varied range of habitat piles for shelter, breeding and hibernation. Connectivity to good quality surrounding habitat is also important, and the latter can provide a good indicator of the potential for reptile presence at a site.

2.44 In this context, the following were considered as part of the assessment: species range, vegetation type and structure, topography, aspect, sun exposure, surface geology, potential prey presence and abundance, hibernation habitat potential, connectivity to nearby good quality habitat and likelihood of disturbance.

OTHER KEY AND NOTABLE SPECIES

2.45 The opportunity was taken whilst within the survey area to assess habitats for their potential to support other nationally or locally notable species, e.g. those listed on the NERC Act 2006 or LBAP.

INVASIVE SPECIES

2.46 Any evidence of invasive species, as listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), was recorded and mapped.

LIMITATIONS

3RD PARTY DATA

2.47 Desk study data obtained for this assessment is provided and validated by third parties; therefore, In:Spire Nature has no control over any errors within the dataset. The data represents the information available at the date of request, and a lack of records for any particular species does not necessarily indicate absence from the local area as many species are under-recorded.

SURVEY METHODS

2.48 Based on the identification of individual plant species, the Habitat Survey provides sufficient information to enable the classification of broad habitat types; however, it does not constitute a detailed botanical survey. Plant species lists compiled by this type of survey should not be considered definitive, as not all species will be apparent at all times of the year.

2.49 Scoping surveys should be considered a means of assessing the suitability of a site for use by protected species and determining the scope for any more detailed follow-up



surveys; it should not be interpreted as providing a comprehensive presence/ likely absence survey for any individual species.

- 2.50 It should be noted that if there were no records or observations of certain protected or rare species, this does not preclude their presence on Site. There is always a risk of species being overlooked, either owing to the timing of the survey or the scarcity of the species occupying the Site.

ACCESS

- 2.51 The survey area was fully accessible.

SURVEY TIMING AND CONDITIONS

- 2.52 The weather was cold (0°C), dry and sunny on the day of the survey.
- 2.53 Although the survey was carried out in January, which is outside of the main plant growing season (April to September, inclusive) and at a time when many faunal species are less visible, the surveyor was experienced enough to determine the types of habitats present and their condition and advise as to where further surveys, either for botanical interest or protected/notable species, may be required.
- 2.54 It should be noted that if there were no records or observations of certain protected or rare species, this does not preclude their presence on a Site. There is always a risk of protected or rare species being overlooked, either owing to the timing of the survey or the scarcity of the species occupying the Site.

LIFESPAN OF DATA

- 2.55 The results and recommendations contained within this report are considered to be valid for up to two years from the date of the survey, assuming that there are no significant changes to the site condition or management within this period. After this period, or should the site conditions change, an update will be required in order to inform ecological constraints to development proposals and/or accompany a planning submission.



3. RESULTS

DESIGNATED SITES

- 3.1 There are no statutory designated sites present on the Site.
- 3.2 Within 2 km of the Site boundary, Worsbrough Country Park Local Nature Reserve (LNR) is located 1.5 km south, and Dearn Valley Park LNR is located 2 km north-east of the Site. Designated for diverse wetlands and acidic oak woodland with a mosaic of wetland habitats, respectively.
- 3.3 A number of non-statutory designated sites are present within 2 km. Kendal Green Scrub Local Wildlife Site (LWS) located 1.52 km south, designated for diverse plant and bird assemblages and Worsbrough Reservoir LWS 1.75 km south, designated for its flora and faunal interest.
- 3.4 The Site falls within the area noted as South Yorkshire Forest, in the category of Community Forest.
- 3.5 The survey area falls within the Site of Special Scientific Interest Impact Risk Zone of the following SSSIs:
- Dearne Valley Wetlands – 1.7 km south – designated for its diverse bird assemblages.
 - Stairfoot Brickworks – 3.7 km east – designated for geological interest.
- 3.6 The development type is not included within a risk category for any of the SSSIs.

PRIORITY HABITATS

- 3.7 No Priority Habitats are noted on the Site. The hedgerow on Site did not fall into the category of Priority Habitat or an Important Hedgerow (Hedgerow Regulations, 1997) due to its length and composition of non-native species, cherry laurel.
- 3.8 Priority Habitats within 2 km of the Site fall within the following categories:
- Priority Habitat: Wood-pasture and Parkland
 - Priority Habitat: Lowland Meadows
 - Priority Habitat Inventory: Deciduous Woodland
 - National Forestry Inventory: Broadleaved Woodland
- 3.9 These are all recorded in Locke Park, 85 m west of the Site, except for lowland meadows, which is 1.6 km south of the Site.



HABITATS AND BOTANICAL SPECIES

OVERVIEW

3.10 The Habitat Survey Map with Target Notes (TNs) is provided in **Appendix 2**, with accompanying habitat descriptions below. Relevant habitat representative photographs are shown in **Appendix 3**. Botanical species nomenclature follows Stace (2019).

SPARSELY VEGETATED URBAN LAND WITH RUDERAL/EPHEMERAL

Primary code: u1f Secondary code: 81

3.11 The survey area largely comprised unmanaged, sparsely vegetated urban land over earth and tipped rubble. Species included ruderal and ephemeral species.

3.12 Species were dominated by sparsely scattered perennial rye grass *Lolium perenne* and cock's foot grass *Dactylis glomerata* with dominant creeping thistle *Cirsium arvense*, abundant common ragwort *Senecio jacobaea*, willowherb species, frequent creeping cinquefoil *Potentilla reptans*, dandelion species *Taraxacum* sp., common nettle *Urtica dioica* occasional ribwort plantain *Plantago lanceolata*, dock species *Rumex* sp., and rarely occurring oil seed rape *Brassica napus*, hard rush *Juncus inflexus* and moss species.

BRAMBLE SCRUB

Primary code: h3d

3.13 Dense and scattered areas of bramble *Rubus fruticosus* scrub were noted throughout the Site, mainly along the north-western and eastern boundaries.

3.14 The scrub did not appear to be subject to regular management (being the result of encroachment). Structure, age class and height varied across the Site.

3.15 The ground flora beneath the scrub was sparse, where stands were dense, including occasional common nettle and cleavers *Galium aparine*.

URBAN TREE

Secondary code: 200

3.16 A single semi-mature ash *Fraxinus excelsior* tree was noted at the eastern boundary of the Site. The tree showed evidence of being pollarded in the past, with an average diameter at breast height of 40 cm.



ARTIFICIAL UNVEGETATED - UNSEALED SURFACE WITH RUDERAL/EPHEMERAL

Primary code: u1c Secondary code: 81

- 3.17 Along the western and southern boundaries, banks were present, approximately 2m in height, and comprised earth, stone and rubble. The Site banks appeared to have formed from mounding earth, stone and rubble onto the Site to make a level surface for the Site, which was over 2 m higher than the road.
- 3.18 These areas were sparsely vegetated with less than 10% vegetation, which included frequent creeping thistle, willow-herb species, ragwort and rarely occurring spurge *Euphorbia* sp.,

NON-NATIVE AND ORNAMENTAL HEDGEROW

Primary code: h2b

- 3.19 A cherry laurel *Prunus laurocerasus* unmanaged hedgerow was noted along part of the eastern boundary of the Site.
- 3.20 The hedgerow was 2.5 m in height by 2 m in width.
- 3.21 The base of the hedgerow was dominated by scrub

DEVELOPED LAND; SEALED SURFACE

Primary code: u1b

- 3.22 A section of tarmacked road was included within the Site boundary.

PROTECTED / NOTABLE SPECIES

AMPHIBIANS

- 3.23 No standing water bodies were identified within 250 m of the Site from aerial photography and OS mapping. There are four standing waterbodies within 500 m of the Site. None of the standing water bodies were accessible at the time of the survey, being on private land associated with Highstone Farm, 480 m southwest of the Site.
- 3.24 Desk study data returned records for GCN from 2017, 2018 and 2019, located terrestrially adjacent to one of the Highstone Farm ponds, approximately 480 m southwest of the Site.
- 3.25 Common toad *Bufo bufo* records were returned as part of the desk study from Worsbrough Reservoir LWS, 1.75 km south, in 2015. The closest record of a common frog *Rana temporaria* was 1.39 km southeast of the Site in 2017.



- 3.26 No EPS mitigation licences pertaining to GCN were identified within 2 km of the Site. One GCN EPS licence was noted 4.3 km north-west of the Site in 2016.
- 3.27 The habitat on the Site was considered suitable for foraging and commuting common amphibians and GCN. The brush piles (TN1) and mounds of earth/rubble (TN2) were considered suitable for hibernating common amphibians and GCN.
- 3.28 The adjoining habitat, extending southward from the southeast corner of the Site, was considered the only connecting habitat suitable for GCN. The majority of the surrounding habitat offers limited opportunities for common amphibians and GCN due to the extent of the hardstanding present.
- 3.29 No breeding habitat was noted on the Site.

BADGERS

- 3.30 No evidence of badger was noted on Site, and no records were returned as part of the desk study.
- 3.31 Habitats on Site were considered able to support commuting and foraging, with some limited opportunity for sett building along banks and under dense scrub.

BATS

- 3.32 No records of bats were returned as part of the desk study.
- 3.33 Two EPS licenses pertaining to bats were identified within 2 km of the Site, 1.3 km and 1.9 km north, using MAGIC. These pertained to the destruction of resting places for common pipistrelle *Pipistrellus pipistrellus*.
- 3.34 There was no building on Site, and the trees on Site and immediately adjacent had no visible potential roost features (PRFs).
- 3.35 The Site was considered able to offer some, albeit limited, suitable foraging and commuting habitat for bats, in particular on the eastern boundary.

BIRDS

- 3.36 BBRC reported a number of bird records within 2 km of the Site in the past ten years; these included black-headed gull *Chroicocephalus ridibundus* (Amber BoCC), bullfinch *Pyrrhula pyrrhula* (Amber BoCC), grey wagtail *Motacilla cinerea* (Amber BoCC), house martin *Delichon urbicum* (Red BoCC), kestrel *Falco tinnunculus* (Amber BoCC), yellowhammer *Emberiza citronella* (Red BoCC), swift *Apus apus* (Red BoCC), song thrush *Turdus philomelos* (Amber BoCC) and mistle thrush *Turdus viscivorus* (Red BoCC).



- 3.37 The Site is situated within a highlighted area for arable and grassland assemblages for farmland birds, including lapwing *Vanellus vanellus*, redshank *Vanellus vanellus*, tree sparrow *Passer montanus* and turtle dove *Streptopelia turtur*.
- 3.38 Common passerines recorded on the Site included wood pigeon *Columba palumbus* (Amber BoCC) and blackbird *Turdus merula* (Green BoCC). No active or old nests were noted.
- 3.39 Trees and scrub on Site were considered able to support breeding birds, with some limited opportunities in grassland and brash pile (TN1). Foraging habitat was noted throughout the Site, with opportunities for invertebrates, seeds, fruit and berries.

REPTILES

- 3.40 No records of reptiles were returned as part of the desk study.
- 3.41 The Site was considered able to support suitable basking, foraging, commuting and hibernating habitat for common reptiles; however, it is considered there are limited breeding opportunities on Site as the damp, darker areas are located in habitats outside of Site and in adjacent habitat.
- 3.42 Habitat considered suitable for reptiles to utilise on Site included scrub, grassland, ephemeral/ruderal, brash piles (TN2) and earth bunds. Sparsely vegetated areas and south-facing bunds offer suitable basking habitat. In addition, disturbed earth and bunds, comprising largely compacted earth with some rubble colonised by ruderal, may have some limited hibernation/sheltering potential for common reptiles.

HEDGEHOGS

- 3.43 No evidence was noted at the time of the survey.
- 3.44 The Site provided suitable foraging and sheltering opportunities (including some hibernation potential) for hedgehogs amongst ruderal (foraging and nesting), grassland and scrub (foraging and nesting), along with hibernating in woodland, areas of brash (TN2) and dense ruderals.



4. EVALUATION AND ASSESSMENT OF EFFECTS AND PROPOSED MITIGATION

- 4.1 This Section provides an evaluation of the habitats and species assemblages and identifies the likely effects on habitats and species during different stages of the proposed development prior to any mitigation measures.
- 4.2 Then, it will outline the required mitigation, compensation and enhancement measures to reduce the overall effect of the proposals on each feature.
- 4.3 Finally, it describes the residual effect of the proposals on the given feature.

PROPOSALS

- 4.4 The proposals are to clear the Site in its entirety and build a single residential dwelling and associated garden.
- 4.5 This will result in the loss of:
- 0.01771 (ha) of Bramble scrub
 - 0.05255 (ha) Ruderal/Ephemeral
 - 0.0056 (ha) Artificial unvegetated, unsealed surface
 - 0.00793 (ha) Developed land; sealed surface
 - 0.007 km of Non-native and ornamental hedgerow
 - One medium urban tree – equates to 0.0163 (ha)
- 4.6 And the creation of:
- 0.03026 (ha) of Vegetated garden
 - 0.00285 (ha) of Other green roof
 - 0.00347 (ha) of Introduced shrub
 - 0.04721 (ha) of Developed land; sealed surface

DESIGNATED SITES

- 4.7 The proposals are limited to the boundary of the Site, and as such, they are unlikely to impact any of the designated sites highlighted in the desktop study.
- 4.8 Designated sites offer no further constraint to the proposals.



MITIGATION, COMPENSATION AND ENHANCEMENT

4.9 Not required

SIGNIFICANCE OF RESIDUAL EFFECTS AFTER MITIGATION

4.10 Non-significant effect

HABITATS

- 4.11 No Section 41 Habitats of Principal Importance (formerly Priority Habitats) under NERC Act 2006 or irreplaceable habitats were noted on Site. The hedgerow on Site did not fall into the category of Priority Habitat or an Important Hedgerow (Hedgerow Regulations, 1997) due to its length and composition of non-native species cherry laurel.
- 4.12 The habitats on Site are measured as very low, low and medium distinctiveness habitats by the Statutory Biodiversity Metric.
- 4.13 The bramble scrub and urban tree are the most valuable habitats on Site (as defined by the biodiversity metric). These habitat types are locally frequent and widespread but do provide resources for a number of protected and notable species, explained in more detail below.
- 4.14 A separate report for Biodiversity Net Gain (BNG) (In:Spire Nature, 2023a) will outline the BNG requirements for the Site.

MITIGATION, COMPENSATION AND ENHANCEMENT

- 4.15 The requirement of 10% BNG for small sites will become mandatory in April 2024. The NPPF requires development to demonstrate that a net gain is achieved.
- 4.16 A BNG habitat creation plan should be created and implemented and will ensure that no residual effect is experienced as part of the proposals. It is likely this BNG habitat creation plan will require off-site habitat creation to meet the required 10% net gain.
- 4.17 Consideration should be made for wildflower meadow creation or low-flowering lawn creation within the new development. This would provide foraging opportunities for range of wildlife.
- 4.18 Native hedgerow/tree species should be used when re-planting any areas cleared to be restored; species of particular value to wildlife include thorny and fruiting trees/shrubs such as hawthorn, blackthorn *Prunus spinosa*, rowan *Sorbus aucuparia* and apple trees *Malus sp.*



- 4.19 Ongoing management of habitats can impact upon their value for wildlife, abstaining from the use of pesticides and relaxing the management of habitats, such as hedgerows can increase the resources provided to wildlife.
- 4.20 Trees to be retained throughout works and should be adequately protected during the works in line with BS5837:2012 Trees in relation to design, demolition and construction - Recommendations. No materials should be stored under the canopy of the trees during construction works and all RPA's marked out prior to commencement of work.

SIGNIFICANCE OF RESIDUAL EFFECTS AFTER MITIGATION

- 4.21 In order to develop the Site, most, if not all, habitats will be lost. Although the site proposals may include habitat creation, which is advantageous, created habitats are unlikely to satisfy the BNG requirement as they will be in a garden, and management of these habitats can not be guaranteed to maintain a condition set out in the metric.
- 4.22 Net Gain can be achieved off-Site in this case, with further details in the accompanying report for BNG Assessment.
- 4.23 Once the BNG requirement is fulfilled, there will be no residual effect in the long term.

AMPHIBIANS

- 4.24 The proposals will result in the loss of habitats that are considered suitable for foraging, commuting and hibernating terrestrial amphibians. This includes grassland, ruderals, scrub and areas of mounded disturbed soil and brash piles. No breeding habitat (i.e. standing water) is present on or within 250 m of the Site. Due to the distance of the Site from any suitable breeding habitat, it is considered possible that wide-ranging amphibians (common frog and common toad (excluding GCN)) may be present in their terrestrial phase.
- 4.25 However, It is considered unlikely that amphibians, which typically have a reduced terrestrial range from their breeding habitat, such as GCN, will be present within the site boundary or immediate surrounding habitat. The Site is unlikely to be of significant value for amphibians (i.e. support significant numbers) due to its size and distance from suitable breeding habitat (i.e. over 450 m).
- 4.26 Without mitigation, it is possible individuals or small numbers of common amphibians will be killed or injured during the site clearance or construction works. This loss would likely have a permanent, significant negative effect at a local scale.
- 4.27 Likewise, the loss of habitat on Site will permanently reduce the resources for terrestrial amphibians using the local area. However, it is likely that the loss of habitat will not have a significant negative effect on local populations due to the size and quality of the resources available on Site.



MITIGATION, COMPENSATION AND ENHANCEMENT

- 4.28 A Reasonable Avoidance Measures (RAMs) outlined for reptiles below will protect amphibians in the event that they are encountered during the works.
- 4.29 The proposed post-development onsite habitat creation will likely compensate for some of the habitat loss in the long term (once established). Refugia, such as soil-bedded rocks, garden planters, and logs, should be installed to enhance the garden further for terrestrial amphibians.

SIGNIFICANCE OF RESIDUAL EFFECTS AFTER MITIGATION

- 4.30 General safeguards will prevent the death of common amphibians.
- 4.31 There will be a short-term, negative effect (c. five years) while the onsite habitats (i.e. gardens) become established, but it will likely not be significant.

BADGERS

- 4.32 Badgers can not be ruled out from commuting and foraging across the Site. Setts could be dug, but it is considered unlikely due to the disturbed nature of the Site.
- 4.33 Inappropriate site maintenance during construction could result in the entrapment, death or injury of badgers commuting through the Site (i.e. in excavations or through interaction with the construction zone).
- 4.34 Loss of habitat on Site is likely to result in the loss of foraging resources and commuting habitat for badgers present locally. However, due to the size and quality of the resources, the proposals are likely to have a non-significant impact at a local scale only.

MITIGATION

- 4.35 Given that badgers are highly mobile and readily establish new setts or reoccupy old setts. A site walkover survey prior to clearance and Standard protection measures (as detailed below) during clearance should be undertaken to mitigate the risk of injury to badgers during the construction period.
- An update badger walkover survey should occur within 6-8 weeks prior to development/clearance works to check for signs of any newly established sett(s).
 - All site personnel will be briefed on the potential presence of mammals, such as badger and hedgehog, within the Site using a toolbox talk to be included in the Site induction process;



- Food/litter will not be left on Site or will be stored in secure containers; and,
- Any trenches/deep excavations should be backfilled or covered overnight to prevent animals from falling in and becoming trapped; if this is not possible, a sloping ramp (i.e. roughened scaffold board or similar) should be placed within the excavation to permit animals to escape in this event. The latter will act to allow any animals entering the trench to escape, which is particularly important if the trench fills with water. Trenches will also be inspected each morning to ensure that no animals have become trapped overnight. Any wildlife found within trenches will be moved to a place of shelter and safety outside of the development area.
- In the event that a suspected badger sett is identified on or within 30m of the Site, prior to or during the works, working should cease, and the appointed ECoW should be contacted for advice before proceeding.

SIGNIFICANCE OF RESIDUAL EFFECTS AFTER MITIGATION

4.36 The protection measures will prevent badgers from being injured during the construction period.

4.37 No significant residual effects will be experienced in the short or long term.

BATS

4.38 No potential roosting features were noted on the Site. It is possible that roosts of unknown size and status are present offsite in association with the residential dwellings to the north and east and in association with the trees in the adjacent parkland.

4.39 No bat activity surveys were undertaken to inform this assessment.

4.40 Though habitats on Site may provide limited resources for foraging and commuting bats, extensive similar and higher quality habitats are available in the surrounding landscape (e.g. woodland, scrub, scattered trees and grassland associated with Locke Park).

4.41 The loss of habitat without compensation is unlikely to have a significant negative impact on local bat populations. The site habitats will likely provide resources for local bat populations; however, the loss of these resources will probably have a negligible effect at a local scale and is unlikely to impact the favourable conservation status of any species using the Site.

4.42 Therefore, the proposals without suitable mitigation will result in the permanent loss of c. 0.08 ha of low-quality foraging habitat, which is possibly infrequently used by low numbers of bats.



- 4.43 The proposals could also limit the dispersal/movement of bats throughout the Site and along the boundaries of the Site through the installation of inappropriate artificial lighting at night (ALAN).
- 4.44 The loss of habitat without compensation is likely to have a non-significant negative impact on local bat populations. The site habitats will likely provide resources for local bat populations; however, the loss of these resources will likely not be significant at a local scale and is unlikely to impact the FCS of any species using the Site.
- 4.45 The installation of artificial light could limit bats from accessing key foraging grounds. This will also likely not be significant to local populations. However, best practice would be to limit any potential impact and enhance the Site for bats if possible.

MITIGATION, COMPENSATION AND ENHANCEMENT

- 4.46 The proposed post-development onsite habitat creation will likely compensate for some of the lost habitat in the long term (once established). The landscaping scheme will use native species planting and incorporate flowering/fruitlet species to improve the foraging resources available for bats.
- 4.47 Bat species in the UK are known to be deterred by artificial lighting. In order to avoid impacts associated with artificial light spill on bat flight lines or foraging habitats, mitigation measures will be implemented whereby the lighting and layout of the proposed development (as well as any temporary lighting to be used during the construction phase) will be designed to avoid light-spill onto adjacent habitats, to safeguard foraging, commuting and potential roosting resources.
- 4.48 The lighting scheme will be directly informed by the latest guidance available from the Bat Conservation Trust and other relevant bodies, including the Institution of Lighting Professionals.
- 4.49 No artificial lighting (during the construction or operational stages) will be placed near any potential bat roost features (offsite woodland trees or any new bat boxes/integrated roosting features for buildings) or focus on existing foraging/commuting habitat offsite (including woodland, scrub, hedgerows, trees and grassland).
- 4.50 Light spill will be controlled through a combination of directional lighting, low-lighting columns (reduced wattage lamps and louvres), hooded/shielded luminaires and/or strategic screening planting. All luminaires will lack UV elements and metal halide; fluorescent sources should not be used. LED luminaires should be used where possible with a warm white spectrum adopted.
- 4.51 Integrated features for new buildings (e.g. Schwegler 1FR bat tubes, Habitat integrated bat boxes) should also be used wherever possible; as a minimum one must be installed.



SIGNIFICANCE OF RESIDUAL EFFECTS AFTER MITIGATION

4.52 A non-significant residual effect will be experienced in the short term. No significant residual effects will be experienced in the long term.

BIRDS

4.53 The habitats on Site are considered to be suitable for a variety of common and urban bird species. No detailed breeding bird surveys have been undertaken to inform this assessment, and the size of the Site and scale of the proposals do not warrant further detailed surveys.

4.54 Habitat to be lost by proposals (c 0.08 ha) includes suitable nesting and foraging habitat, including trees, grassland, ruderal and scrub.

4.55 Extensive, similar habitats are abundant within the surrounding landscape.

4.56 The size of the Site is unlikely to support locally significant numbers of nesting pairs. Given the availability of alternative similar or higher quality habitats for birds in the wider area, the loss of habitats on Site is likely to have a non-significant negative effect on nesting birds at a local scale.

4.57 The site clearance, without suitable mitigation, compensation or enhancement measures, will result in a localised permanent loss of suitable nesting habitat.

4.58 Likewise, without suitable mitigation, the site clearance could kill or injure birds or damage, destroy or disturb birds while nesting.

MITIGATION, COMPENSATION AND ENHANCEMENT

4.59 To ensure nesting resources in the local area are not reduced, bird boxes are to be provided within the development to enhance the value of the Site for nesting birds. Schwegler bird boxes (e.g. 1B bird boxes) will be affixed to trees planted on Site.

4.60 A minimum of two boxes will be included. These should include a mixture of boxes suitable for a variety of species (e.g. one x 26 mm entrance, and one x 32 mm entrance). Integrated features/boxes for buildings should also be included in the new building, one of either a house martin nest boxes or swift bricks.

4.61 The vegetation within the proposed development site offers suitability for nesting birds. Therefore, to mitigate the potential risk to nesting birds, it is recommended that any site clearance works be undertaken outside the core nesting period (March to September, inclusive).

4.62 Wild birds can breed within any month of the year if weather conditions are suitable, and some wild birds breed early in the season or have multiple broods. As a result



protection measures are also recommended to mitigate the risk of damaging or disturbing nesting birds outside the core nesting period.

- 4.63 If vegetation needs to be removed within the core nesting period (when the risk is at its highest) a suitable, qualified ecologist should undertake a pre-works nesting bird check. If nesting birds are recorded, further protection measures, such as no-work zones and timing constraints, will be required and detailed in a suitable method statement by the project ecologist, depending on the species and the status of the nest.
- 4.64 Several new foraging and nesting opportunities for birds will be provided through new native species planting. A varied mix of native species, including species known to provide foraging opportunities for breeding birds and nectar sources for invertebrates will be provided.

SIGNIFICANCE OF RESIDUAL EFFECTS AFTER MITIGATION

- 4.65 The nesting provision will limit the loss of nesting habitat while the onsite habitats become established in the short term (5 years), and the safeguards will prevent any damage to the nesting site or killing/injuring of birds during construction.
- 4.66 No significant residual effects will be experienced in the long term.

REPTILES

- 4.67 No reptile presence and absence surveys have been undertaken to inform this assessment.
- 4.68 The Site includes habitat that is suitable for reptiles, including basking areas, earth bunds and brash piles, ruderal, scrub and grassland. However, due to the size of the Site, it is unlikely to support significant numbers of reptiles and is not considered suitable for breeding (i.e. unlikely to be locally important for populations).
- 4.69 The loss of habitat resulting from proposals is likely to have a non-significant negative effect at a local level.

MITIGATION, COMPENSATION AND ENHANCEMENT

- 4.70 The development will proceed under a Reasonable Avoidance Measures (RAMs) approach tailored to protect reptiles (and common amphibians) in the unlikely event that they are present on Site at the time of works. This will include the following:
- Site clearance works will occur under ECoW supervision and guidance from a Toolbox Talk. The toolbox talk will be provided to all Site personnel and should be included as part of the induction process. This will cover the relevant legislation with regards to amphibians and reptiles and will include details on



identifications of key species, habitat requirements and general best working practices to avoid injuring/killing amphibians/reptiles during the construction and site clearance phase. The ECoW will supervise any clearance of longer areas of vegetation (i.e. above 100 mm) and the removal of any potential refuges as detailed further below;

- Areas of longer vegetation present (i.e. above 100 mm) at the time of works will be strimmed in a 2-stage process whereby an initial finger-tip search will be completed by the ECoW to ensure that no reptiles or amphibians are present. The first strimming phase will cut the vegetation to approximately 100- 150 mm above ground level to encourage any amphibians/reptiles present to move into suitable offsite habitat away from the construction zone. Following a second fingertip search by the ECoW the second strim will take the vegetation down to ground level (or 50 mm as appropriate). This should be undertaken on the same day (no less than 1- 2 hours after completion of the first cut);
- Any suitable refugia (e.g. brash and rubble) within the Site at the time of clearance works are to be dismantled under supervision by the ECoW in a sensitive manner (by hand wherever possible);
- Designated areas should be used for on Site storage, e.g. for materials/spoil from excavations during construction. Storage areas should be on hard-standing or bare ground, well away from vegetation. Wherever possible spoil and other debris from construction should be removed offsite (ideally on the same day) to avoid the risk of colonisation by amphibians/reptiles and other wildlife; and,
- If amphibians/reptiles are encountered when the ECoW is not present then the ECoW will be contacted for guidance. In the unlikely event that GCN are found at any time then works will stop and the ECoW will be contacted for guidance.
- Timings: The Site offers limited hibernation potential for amphibians/reptiles save for some low potential within dense vegetation and within the earth bund should suitable hollows/cavities exist. Wherever possible clearance works impacting these habitats will occur within the active season for reptiles (i.e. March- October in temperatures of above 10°C). If clearance works are scheduled for the winter months then the appointed ECoW will complete a walkover assessment prior to works to make a detailed assessment of hibernation potential. This will be completed with the aid of an appointed contractor to complete a test scrape of the earth bund and associated dense vegetation. Should the EcoW consider the habitat to have high potential for hibernating animals or should a hibernating animal be found then works in these areas will stop and will not proceed until after the amphibian/reptile hibernation season.



- 4.71 In line with NPPF (2021), it is required that a mixture of refugia to include one log piles and one specifically designed hibernaculum be provided within the new development to enhance the value of the Site for reptiles (as well as amphibians, invertebrates and small mammals). These features should be included within the Site or in suitable adjoining habitat.
- 4.72 A log pile (one) should be created using untreated timber logs and have overall dimensions at least 2 m x 2 m x 1 m.
- Located in sheltered areas (areas which are not too dry or prone to winter flooding/freezing) and on free draining soils; and,
 - Comprise a pit or trench to be excavated and infilled with a mixture of rubble, logs and brash and topsoil. This should then be covered with additional rubble, brash and earth and topped with turf or vegetation allowed to colonise.

SIGNIFICANCE OF RESIDUAL EFFECTS AFTER MITIGATION

- 4.73 General safeguards will prevent the death of common reptiles.
- 4.74 There will be a short-term, negative effect (c. five years) while the onsite habitats (i.e. gardens) become established, but it will likely not be significant.

HEDGEHOGS

- 4.75 The Site's habitats offer potential value for hedgehogs.
- 4.76 Hedgehogs may utilise the Site for foraging and commuting and may become trapped in excavations, causing the death of individual hedgehogs.
- 4.77 The development would result in a loss of foraging and commuting hedgehog habitat, which could have a significant negative effect at the local level. In addition, depending upon the type of fencing used, this may create a dispersal barrier for hedgehogs remaining in the area. The combined effects on hedgehogs, if present, would likely be a negative effect.
- 4.78 These habitats are well represented in the surrounding area with better or similar quality habitat for hedgehog present in the adjoining areas (woodland, grassland, scrub, ruderal). As a result, the Site habitats are considered to be of importance to hedgehogs at the site level only.

MITIGATION, COMPENSATION AND ENHANCEMENT

- 4.79 General safeguards should be implemented during works as a precaution. These safeguards will also act to protect other mammals and should include:



- All site personnel will be briefed on the potential presence of mammals, such as badger and hedgehog, within the Site using a toolbox talk to be included in the Site induction process;
- Food/litter will not be left on Site or will be stored in secure containers; and,
- Any trenches/deep excavations should be back filled or covered overnight to prevent animals falling in and becoming trapped; if this is not possible, a sloping ramp (i.e. roughened scaffold board or similar) should be placed within the excavation to permit animals to escape in this event. The latter will act to allow any animals entering the trench to escape which is particularly important if the trench fills with water. Trenches will also be inspected each morning to ensure that no animals have become trapped overnight. Any wildlife found within trenches will be moved to a place of shelter and safety outside of the development area.

SIGNIFICANCE OF RESIDUAL EFFECTS AFTER MITIGATION

4.80 The protection measures will prevent hedgehogs from being injured during the construction period.

4.81 No significant residual effects will be experienced in the short or long term.



5. MITIGATION MEASURES & RESIDUAL EFFECTS SUMMARY

5.1 **Table 1** contains a summary of the likely significant effects of the development relating to the construction phase, the completed development and cumulative effects.

Table 1: Summary

Activity	Characterisation of unmitigated impact on the feature	Effect Without Mitigation	Mitigation Measures	Significance of effects of residual impacts (after mitigation)
HABITATS				
Direct loss of habitat	Clearance of vegetation for the re-development of site will result in the loss of 0.01771 ha of bramble scrub	Non-significant permanent negative effect at local level	BNG requirement will ensure a net gain in terms of habitats is achieved	Non-significant effect in short term - No significant effect in long term once created habitats are established
Direct loss of habitat	Clearance of vegetation for the re-development of site will result in the loss of 0.05255 ha of urban ruderal/ephemeral	Non-significant permanent negative effect at local level	BNG requirement will ensure a net gain in terms of habitats is achieved	Non-significant effect in short term - No significant effect in long term once created habitats are established
Direct loss of habitat	Removal and loss of one medium sized tree (0.0163 ha area calculated)	Non-significant permanent negative effect at local level	BS5837:2012 & Root Protection Areas applied Tree will be replaced post development via the BNG requirement either on Site or off-Site	Non-significant effect in short term - No significant effect in long term once created habitats are established
SPECIES				



Activity	Characterisation of unmitigated impact on the feature	Effect Without Mitigation	Mitigation Measures	Significance of effects of residual impacts (after mitigation)
Direct loss of habitat	Injury and killing of common amphibians and reptiles	<p>Significant negative effect at the local level due to the potential to kill/injure common amphibians</p> <p>The loss of habitat will cause a non-significant negative effect in the short term</p>	RAMS; Care in moving common amphibians/reptiles found to outside of the working area	<p>There will be a short-term, negative effect (c. five years) while the onsite habitats (i.e. gardens) become established, but it will likely not be significant.</p> <p>Hibernacula created will mitigate for losses in the short term</p>
Direct loss of habitat	Trapped injured/killed & disturbed badgers	<p>Significant negative effect at the local level due to the potential to kill/injure badgers</p> <p>The loss of habitat will cause a non-significant negative effect in the short term</p>	<p>Sloped/covered trenches</p> <p>Pre-commencement checks for setts</p>	<p>Mitigation measure will ensure no significant impacts in the short-term. Establishing gardens will ensure no long-term significant effects.</p>



Activity	Characterisation of unmitigated impact on the feature	Effect Without Mitigation	Mitigation Measures	Significance of effects of residual impacts (after mitigation)
Direct loss of habitat; increased levels of lighting	Deterred foraging/ commuting for bats	A non-significant residual effect will be experienced in the short term. No significant residual effects will be experienced in the long term.	Bats and Artificial Lighting in the UK (2018) at pre- & post- stages. Creation of native habitats which attract invertebrates.	Mitigation measure will ensure no significant impacts in the short- or long-term. Establishing gardens, boundary habitats and providing bat boxes will ensure no long-term significant effects.
Direct loss of habitat	Disturbance, injury or killed of birds	Significant negative effect at the local level due to the potential to kill/injure birds	Vegetation clearance outside of bird nesting, or proceeded with a check by an ecologist	The safeguards will prevent any damage to a nesting site or killing/injuring of birds during construction. No significant residual effects will be experienced in the long-term.
Direct loss of habitat	Loss of breeding and foraging habitat for birds	The loss of habitat will cause a non-significant negative effect in the short-term from loss of habitat	Re-creation of nesting features and planting of native habitats	The nesting provision will limit the loss of nesting habitat while the onsite habitats become established in the short term (5 years), No significant residual effects will be experienced in the long-term.



Activity	Characterisation of unmitigated impact on the feature	Effect Without Mitigation	Mitigation Measures	Significance of effects of residual impacts (after mitigation)
Direct loss of habitat;	Trapped, injured or killed hedgehogs	The loss of habitat will cause a non-significant negative effect in the short-term from loss of habitat	Care in covering excavations.	<p>The protection measures will prevent hedgehogs from being injured in the short-term.</p> <p>No significant residual effects will be experienced in the short or long term.</p>



6. REFERENCES

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APPENDICES

Appendix 1: Relevant Legislation

The following text provides information on the key legislation, which is applicable to this survey.

The main wildlife legislation relevant in the UK is as follows:

European Legislation

The relevant sections of the EC Directives and international conventions are summarised below:

- EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitat Directive 1992) as amended (92/43/EEC)

The Directive requires Member States to introduce a range of measures including the protection of species listed in the Annexes. The 189 habitats listed in Annex I of the Directive and the 788 species listed in Annex II, are to be protected by means of a network of sites. Once adopted, these are designated by Member States as Special Areas of Conservation (SACs), and along with Special Protection Areas (SPAs) classified under the EC Birds Directive. The Habitats Directive introduces the precautionary principle; that disturbance to the designated sites can only be permitted having ascertained no adverse effect on the integrity of the Site.

- EC Directive on the Conservation of Wild Birds (Birds Directive 1979) as amended (79/409/EEC)

The main provisions of the Directive includes; the maintenance of the favorable conservation status of all wild bird species across their distributional range.

- Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979)

The Convention imposes legal obligations on contracting parties, protecting over 500 wild plant species and more than 1000 wild animal species.

UK Legislation

The sections of UK legislation considered to be of relevance include:

- The Conservation (Natural Habitats, and c.) Regulations (Amendment) (EU Exit) 2019 (as amended)

This transposes the Habitats Directive into national law. The Regulations provide for the designation and protection of 'European sites', and the protection of 'European protected species'.

- The Wildlife and Countryside Act 1981 (as amended) (WCA)

This consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive) in Great Britain.

- The Countryside and Rights of Way Act 2000 (CRoW)

This act strengthens wildlife enforcement legislation.

- The Protection of Badgers Act 1992

This act affords protection to badgers and their setts including the destruction or obstructing access to a sett.

- Wild Mammals Protection Act 1996

This act provides protection to all wild species of mammal in the UK and is more related to mammal welfare but is directly applicable during any site clearance or other works to a site which could harm mammals.

- Natural Environment and Rural Communities Act 2006 (NERC Act)

This act formed Natural England which places a duty on all public authorities, including local planning authorities to consider biodiversity. This Act also requires a list of species of habitats composed by the Secretary of State to help provide specific conservation targets. These species are known as Priority Species or Species of Principal Importance (SPI). These habitats are known as Priority habitats or Habitats of Principal Importance (HPI). Both SPI and HPI are listed under Section 41 of this Act. The NPPF also affords protection to these HPI's and SPI's.

- UK Post-2010 Biodiversity Framework

In addition, species and habitats listed on the UK Post-2010 Biodiversity Framework (formally the UK BAP) are also considered. Details on these species and habitats can be found at: <http://jncc.defra.gov.uk/page-5705>.

Species-Specific Legislation

Species specific legislation is provided in the Table below:

Species-Specific Wildlife Legislation

Plants	Sch. 8 Wildlife and Countryside Act 1981 (as amended) Some species are SPI - Section 41 NERC Act.	<ul style="list-style-type: none"> • Pick; • Uproot; • Trade; • Possess (for trade) any wild plant listed.
Breeding birds	Wildlife and Countryside Act 1981 (as amended).	<ul style="list-style-type: none"> • Kill; • Injure; • Take; any wild bird, their eggs or nest (with the exception of those on Sch. 2).
Specially protected birds	Sch. 1 Wildlife and Countryside Act 1981 (as amended).	As above but includes: <ul style="list-style-type: none"> • Disturbing birds at their nest, or their dependent young.

Badgers	The Protection of Badgers Act 1992.	<ul style="list-style-type: none"> • Wilfully kill, injure, take, or cruelly ill-treat a badger, or attempt to do so; • Possess any dead badger or any part of, or anything derived from, a dead badger; • Intentionally or recklessly interfere with a sett by disturbing badgers whilst they are occupying a sett, damaging or destroying a sett, causing a dog to enter a sett, or obstructing access to it. <p>A badger sett is defined in the legislation as "any structure or place, which displays signs indicating current use by a badger".</p>
Bats	<p>Sch. 5 Wildlife and Countryside Act 1981 (as amended).</p> <p>Conservation of Habitats and Species Regulations (Amendment) (EU Exit) 2019 (as amended).</p>	<ul style="list-style-type: none"> • Intentionally or deliberately kill, injure or capture (or take) bats: • Deliberately disturb bats (whether in a roost or not); • Recklessly disturb roosting bats or obstruct access to their roosts; • Damage or destroy bat roosts.
Common reptiles	<p>Sch. 5 Wildlife and Countryside Act 1981 (as amended).</p> <p>Countryside and Rights of Way Act 2000.</p>	<p>Deliberate or reckless:</p> <ul style="list-style-type: none"> • Killing; • Injuring • Sale.
Common amphibians	<p>Sch. 5 and Sch. 9 Wildlife and Countryside Act 1981 (as amended).</p> <p>Countryside and Rights of Way Act 2000.</p>	<ul style="list-style-type: none"> • Sell; • Transport; and • Advertise for sale.
Great crested newt	<p>Sch. 5 Wildlife and Countryside Act 1981 (as amended).</p> <p>Conservation of Habitats and Species Regulations (Amendment) (EU Exit) 2019 (as amended).</p>	<ul style="list-style-type: none"> • Kill; • Injure; • Disturb • Destroy or obstruct access to any place used for rest or shelter.
Hedgehogs	SPI – Section 41 NERC Act Wild Mammals Protection Act 1996.	Protection from harm, injury Intent to harm.

Other mammals	Wild Mammals Protection Act 1996.	Protection from harm, injury Intent to harm.
Invasive species (animal and plant)	Sch. 9 Wildlife and Countryside Act 1981 (as amended).	Release of any animal, plant or microorganism not native to the UK. Sale. Cause or allow to spread.

Protected Sites

A network of protected sites, at varying levels, have been put in place across the UK. Further details are provided below;

International Importance

- Natura 2000

Natura 2000 is the name of the European Union-wide network of nature conservation-sites established under the EC Habitats and Birds Directives. This network will comprise Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

- Special Areas of Conservation (SAC)

SACs are designated under the EC Habitats Directive. The Directive applies to the UK and the overseas territory of Gibraltar. SACs are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs in terrestrial areas and territorial marine waters out to 12 nautical miles are designated under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended). New and/or amended Habitats Regulations are shortly to be introduced to provide a mechanism for the designation of SACs and SPAs in UK offshore waters (from 12-200 nm).

National Importance

- Sites of Special Scientific Interest (SSSI)

The SSSI series has developed since 1949 as the national suite of sites providing statutory protection for the best examples of the UK's flora, fauna, or geological or physiographical features. Most SSSIs are privately-owned or managed; others are owned or managed by public bodies or non-government organisations. The SSSIs designation may extend into intertidal areas out to the jurisdictional limit of local authorities, generally Mean Low Water in England and Northern Ireland; Mean Low Water of Spring tides in Scotland. In Wales, the limit is Mean Low Water for SSSIs notified before 2002, and, for more recent notifications, the limit is Lowest Astronomical Tides, where the features of interest extend down to LAT. There is no provision for marine SSSIs beyond low water mark. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs have been renotified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and the Nature Conservation (Scotland) Act 2004.

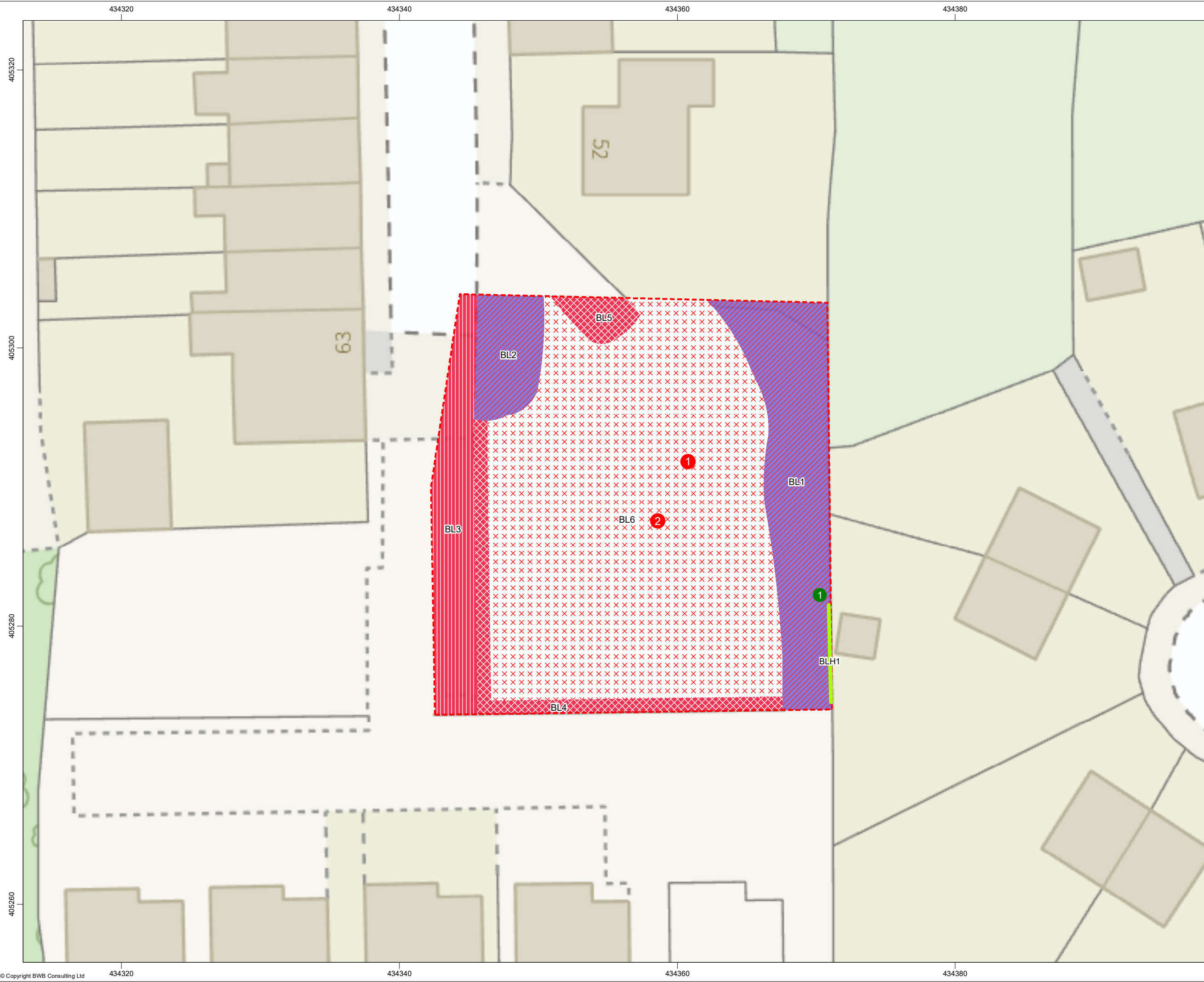
Regional/Local Importance

- Wildlife Sites

Local authorities for any given area may designate certain areas as being of local conservation interest. The criteria for inclusion, and the level of protection provided, if any, may vary between areas. Most individual counties have a similar scheme, although they do vary.

These sites, which may be given various titles such as 'Listed Wildlife Sites' (LWS), 'County Wildlife Sites' (CWS), 'Local Nature Conservation-sites' (LNCS), 'Sites of Importance for Nature Conservation' (SINCs), or Sites of Nature Conservation Importance' (SNClS), together with statutory designations, are defined in local and structure plans under the Town and Country Planning system and are a material consideration when planning applications are being determined.

Appendix 2: Habitat Survey Map



Notes

- Do not scale this drawing. All dimensions must be checked/ verified on site. If in doubt ask.
- This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.

Key Plan

Legend

- Site boundary (837.9m²)
- h3d - Bramble scrub (177.1m²)
- u1b - Developed land; sealed surface (79.3m²)
- u1c - Artificial unvegetated, unsealed surface (56.0m²)
- u1f - Sparsely vegetated urban land (525.5m²)
- h2b - Non-native and ornamental hedgerow (7.0m)
- 32 - Scattered tree

Target Notes

- Brash pile
- Earth /rubble mound

Map Source - Reproduced from Ordnance Survey Mastermap and StreetView digital map data. Crown Copyright 2024. All rights reserved. Licence number 100049637.

Client
CHRIS BARTON

Project Title
LAND ADJACENT TO 52 TOWER ST, BARNSELY

Drawing Title
PRELIMINARY ECOLOGICAL APPRAISAL

Drawn:	Mark Parnell	Reviewed:	K. Hadwin
Ref:	WS01.1	Date:	02.02.24
		Scale@A3:	1:250

Appendix 3: Site Photographs

TARGET NOTES

TN1 – Brash pile



TN2 – Earth/rubble mound at the centre of Site



ON SITE - GENERAL HABITAT REPRESENTATIONS

Sparsely Vegetated Urban Land with Ruderal/Ephemeral



Bramble Scrub



Hedgerow



Urban Tree



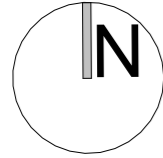
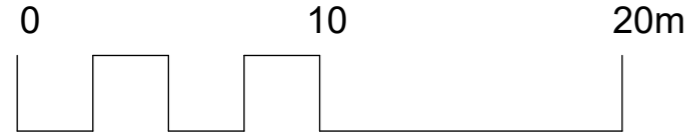
Artificial Unvegetated – Unsealed Surface with Ruderal/Ephemeral



Appendix 4: Proposed Landscaping Plan

Proposed Site Plan

1 : 250



Tree T1
Replacement Ash
Rowan (Mountain ash) *Sorbus aucuparia*

Tree T2
Weeping birch *Betula pendula Youngii*
3L pots

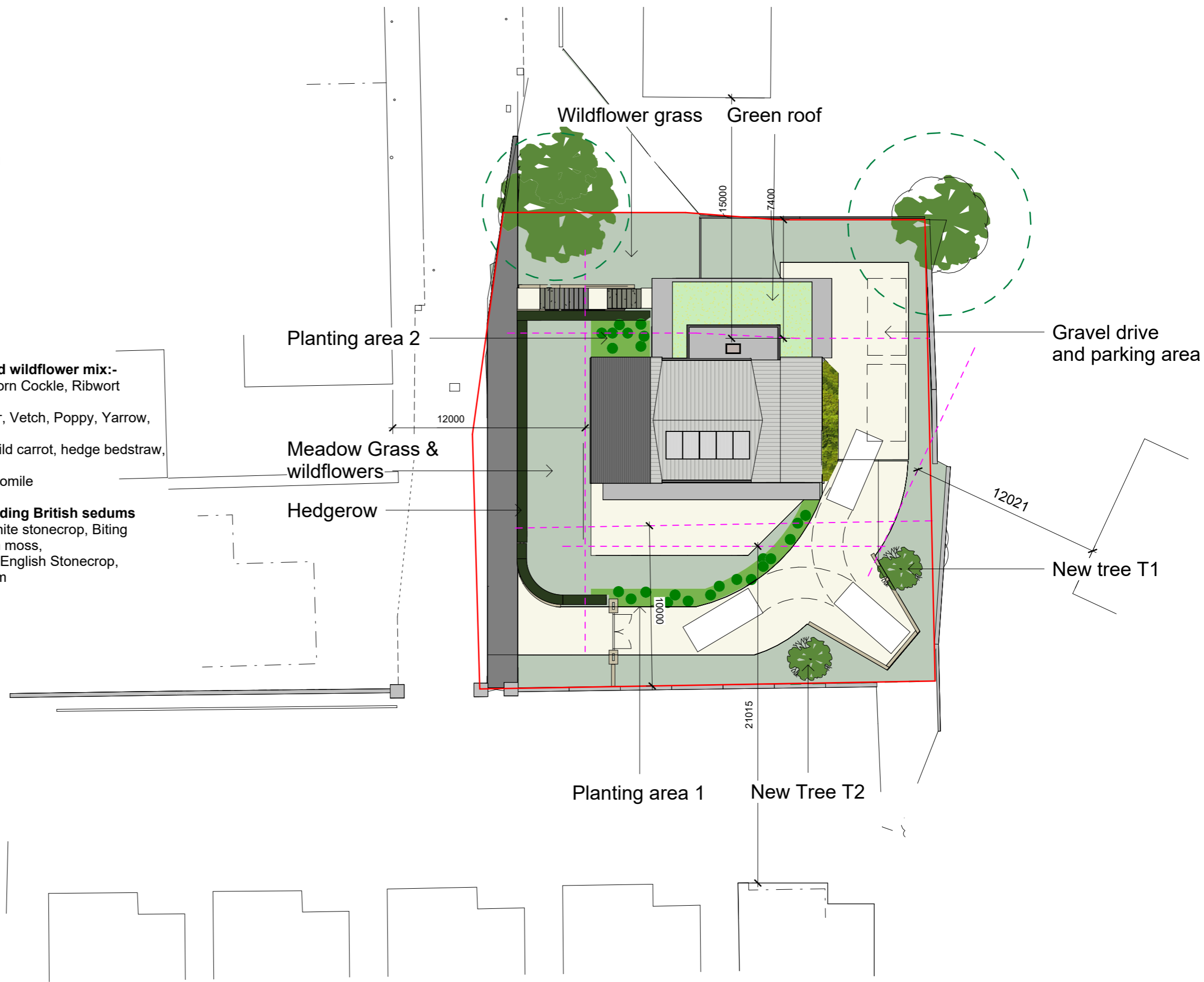
Hedgerow
Native hedgerow mix:-
Hornbeam *Carpinus betulus*
Hawthorn *Crataegus monogyna*
Hazel *Corylus avellana*
Spindle *Euonymus europaeus*

Planting area 1 - Grasses
Imperata cylindrica 'Rubra'
blood grass (syn. Red Baron)
Stipa tenuissima
pony tails or angel hair (syn. *Stipa tenuifolia*)
Calamagrostis × acutiflora 'Karl Foerster'
feather reed grass

Planting area 2
Dogwood (*Cornus sanguinea*)
Ferns
Asplenium scolopendrium
hart's tongue fern or horse tongue
Polypodium vulgare
common polypody

Meadow grass and wildflower mix:-
Birdsfoot Trefoil, *Corn Cockle*, *Ribwort*
Plantain,
red flowering clover, *Vetch*, *Poppy*, *Yarrow*,
cornflower,
black knapweed, wild carrot, hedge bedstraw,
corn
marigold and chamomile

Sedum Roof including British sedums
Sedum Album – White stonecrop, Biting
Stonecrop – golden moss,
Sedum Anglicum – English Stonecrop,
Sedum Fosterianum



NOTES
The contractor is responsible for checking dimensions, tolerances and references.
Verify any discrepancies with the architect before proceeding with the work.
Where an item is covered by drawings of different scales the larger scale drawing is to be worked to.
Construct to figured dimensions only.

Date	Rev	Revision / author/ checker
------	-----	----------------------------

Purpose of Issue Preliminary

Drwg. no 23-122-111 **Rev**

Project Tower Street, Barnsley

Drawn JNBP **Checked** SD

Drawing Proposed Landscape Plan

Scale 1 : 250 @A3 **Date** 12/04/23