



Newlands Developments

Land West of Sheffield Road, Hoyland

ECOLOGICAL APPRAISAL

May 2020

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1.0 EXECUTIVE SUMMARY

- 1.1 This report provides an assessment of ecological value of Land West of Sheffield Road, Hoyland and is written by FPCR Environment and Design Ltd on behalf of Newlands Developments.
- 1.2 The land was dominated by arable habitat of low ecological value with grazed pasture also forming a significant extent of the habitats. The boundary hedges are native species dominant and considered a priority habitat although many are heavily trimmed with low structural and botanical diversity. Many of the arable field boundaries supported defunct hedgerows or scattered scrub cover. Many of the hedgerows will be lost to facilitate access infrastructure and large commercial units.
- 1.3 All hedgerows to be lost, either partially or entirely were assessed against wildlife and landscape criteria of the Hedgerow Regulations 1997 and none were found to meet the definition of 'Important' hedgerow. Loss of hedgerows will be compensated for by areas of habitat creation which will include tree and hedgerow planting providing corridors around the site.
- 1.4 Woodland survey targeting Bell Ground (wood) recorded a small number of ancient woodland indicators and only two species being frequent to occasional throughout. Signs indicative of disturbance included poached ground associated with vehicle tracking bisecting the woodland. The wood is considered unlikely to be ancient in origin though still represents a habitat of Principal Importance under the NERC Act and of significant local value.
- 1.5 Further assessment of grassland compartments will be undertaken in June to inform Biodiversity Net Gain assessment.
- 1.6 No badger setts were recorded within the site or 30m from boundaries within suitable habitat. Very limited evidence of badger (footprints) were recorded however extensive suitable habitat is present adjacent to site boundaries and best practice has been recommended to minimise harm during development.
- 1.7 A number of ponds have been identified within the Site and its vicinities and further aquatic great crested newt (GCN) survey was undertaken due to the identification of GCN record within the site from the last 10 years. No GCN were recorded in any of the ponds surveyed, many of which were dry before the end of the GCN breeding period. Surveys could not be completed on a single pond over 200m from proposed works. The presence of GCN within proposed working areas is considered negligible and any GCN constraint has been ruled out.
- 1.8 Reptile survey has targeted suitable habitats largely peripheral to the proposed development area and overall habitats within the site are considered suboptimal for this group.
- 1.9 A suite of winter bird surveys have been completed and full assessment is within a separate bird report. A number of notable species were recorded though overall these were noted in low numbers. Impacts for farmland and other notable species are likely to be at the Local scale. Proposals including extensive structural planting will provide corridors of movement and retain interest for species associated with scrub and woodland. Impacts to these species are likely to be negligible or beneficial. Proposals should, where feasible, incorporate more open habitats such as bare ground, reedbeds and/or grassland such as may be provided in association with attenuation features to retain interest for species such as lapwing.
- 1.10 A suite of breeding bird surveys and bat surveys is currently underway and assessment covering these groups will be provided in a separate reports.

2.0 INTRODUCTION

- 2.1 This report has been written by FPCR Environment and Design Ltd on behalf of Newlands Developments to provide an assessment of ecological value of Land West of Sheffield Road, Hoyland (central grid ref. SK 3545 9976) herein referred to as the 'Site'. The full extent of land surveyed also includes that within the wider blue line boundary to inform the overall Masterplan Framework herein referred to as the survey area.

Proposals

- 2.2 Proposed development is for employment uses (B1, B2 and B8), new link road and associated works including provision of internal access roads, landscaping and drainage.

Context

- 2.3 The Site lies to the west of the town of Hoyland on farmland between the town and the M1 motorway. Tankersley Lane bisects the northern extent of the Site Sheffield Road lies to the east. Farmland to the south and south east is dominated by arable fields with blocks of woodland adjacent to the southern and south eastern Site boundaries.
- 2.4 The Blackburn Valley railway line is present south of the Site and to the west beyond the M1 corridor is further farmland, woodland and a golf course. Existing residential development of Hoyland lies largely to the north east and outlying housing flanking Tankersley Lane abuts parts of the north eastern boundary just as Junction 36 of the M1 and associated commercial development abuts the north western boundary.
- 2.5 The Site itself is dominated by arable farmland and a series of pasture fields bounded by hedgerows and stone walls as well as broadleaved woodland such as Bell Ground wood in the south. A sports ground and depot units fringe the north of the Site.

3.0 METHODOLOGY

Desk Study

- 3.1 In order to compile existing baseline information, relevant ecological data was requested from both statutory and non-statutory nature conservation organisations for the purposes of this Ecological Appraisal, including:
- Multi Agency Government Information Centre (MAGIC),
 - Barnsley Biological Records Centre (BBRC)
- 3.2 Further inspection, using colour 1:25,000 OS base maps (www.ordnancesurvey.co.uk) and aerial photographs from Google Earth (www.maps.google.co.uk), was also undertaken in order to provide additional context and identify any features of potential importance for nature conservation in the wider countryside.
- 3.3 The search area for biodiversity information was related to the significance of sites and species and potential zones of influence, as follows:

- 5km around the application area for sites of International Importance (e.g. Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Ramsar sites).
- 2km around the application area for sites of National or Regional Importance (e.g. Sites of Special Scientific Interest (SSSIs))
- 1km around the application site for sites of County Importance and species records (e.g. Local Wildlife Site, proposed Wildlife Sites and protected, and/or notable species).

Field Survey

Habitats

- 3.4 The Site was subject to an Extended Phase 1 Habitat Survey in accordance with the standard survey methodology (Joint Nature Conservancy Committee, 2010¹) on 11th December 2019 and 6th February 2020 to map the broad habitat types and identify key features with potential to provide greater value for wildlife. The grasslands were subject to further survey on 29 April 2020.
- 3.5 Each hedgerow is given a grade using HEGS with the suffixes '+' and '-', representing the upper and lower limits of each grade respectively. These grades represent a continuum on a scale from 1+ (the highest score and denoting hedges of the greatest nature conservation priority) to 4- (representing the lowest score and hedges of the least nature conservation priority) as follows:
- Grade 1 – High to very high value
 - Grade 2 – Moderately high to high value
 - Grade 3 – Moderate value
 - Grade 4 – Low value
- 3.6 Hedgerows graded 1 or 2 are considered to be a priority for nature conservation.
- 3.7 Hedgerows to be lost or impacted by proposals were also assessed, on 6th May 2020, against the Wildlife and Landscape criteria contained within Statutory Instrument No: 1160 – The Hedgerow Regulations 1997 to determine whether they qualified as 'Important Hedgerows' under the Regulations. This was achieved using a methodology in accordance with both the Regulations and DEFRA guidance.
- 3.8 A further targeted survey was undertaken of Bell Ground (wood) adjacent to the site boundary on 29th April 2020. The survey was broadly in accordance with the methodology set out in the Farm Environment Plan Manual². A transect was walked and 10 random stops were made to record frequency of woodland indicator species with notes made on attributes such as structure, disturbance, presence of any non-native invasive species and regeneration/tree seedling cover.

Protected Species

- 3.9 During the survey, observations, identification and signs of any species protected under Part 1 of the Wildlife and Countryside Act 1981 (as amended) (WCA), the Protection of Badgers Act 1992 and the Conservation of Habitats and Species Regulations 2017 (as amended) were noted. Any

¹ JNCC (2010), Handbook for Phase 1 habitat survey - a technique for environmental audit

² Natural England (2010) *Higher Level Stewardship Farm Environment Plan (FEP) Manual (Third Edition)* – Technical guidance on completion of the FEP and identification, condition assessment and recording of HLS FEP features. Natural England.

sightings, evidence of, or suitable habitats for other protected fauna, species of principal importance under the Natural Environment and Rural Communities Act 2006 (NERC³) or local Biodiversity Action Plan (BAP) or otherwise notable species including breeding birds were recorded during the visit.

Badgers (see Appendix A: Confidential Badger Data)

- 3.10 As part of a targeted survey, undertaken on 11th December 2019 and 6th February 2020 all habitats within the survey area including suitability (where accessible) within 30m were searched for evidence of badger activity. The standard methodology was used, as outlined by Harris, Creswell and Jefferies (1991). This involved a thorough search for evidence of the presence of badgers, including:
- Setts: including earth mounds, evidence of bedding and runways between setts;
 - Latrines: often located close to setts, at territory boundaries or adjacent to favoured feeding areas;
 - Prints and paths or trackways;
 - Hairs caught on rough wood or fencing;
 - Other evidence: including snuffle holes, feeding and playing areas and scratching posts.
- 3.11 Where setts are found, their status and level of activity is noted. Sett status is broadly categorised as follows:
- *Main sett* – usually continuously used with many signs of activity around, a large number of holes and conspicuous spoil mounds;
 - *Annexe sett* – usually located close to a main sett and connected to it by well used paths. Annexe's may not be continuously occupied;
 - *Subsidiary sett* – lesser used setts comprising a few holes and without associated well-used paths. Subsidiary setts are not continuously occupied;
 - *Outlier sett* – one or two holes without obvious paths. These are used sporadically.
- 3.12 Level of activity is described as:
- *Well used* – clear of debris, trampled soil mounds and obviously active, with signs of activity such as presence of prints, dislodged guard hairs around the entrances;
 - *Partially used* – some associated debris or plants at the entrance. Could be used with minimal excavation and usually with signs of activity within the vicinity, for example, badger pathways;
 - *Disused* – partially or completely blocked entrances.
- 3.13 The identification of snuffle holes, scratching posts or feeding signs on their own are not necessarily conclusive evidence of the presence of badgers. A number of such signs need to be seen in conjunction before they can be said to be conclusive of badger activity.

³ Natural Environment and Rural Communities Act 2006

Bats (tree assessment)

- 3.14 Trees within the site were assessed for their suitability to support roosting bats. Potential Roosting Features (PRF) which were sought (Based on P16, British Standard 8596:2015 Surveying for bats in trees and woodland, October 2015⁴) included: manmade holes, woodpecker holes, cracks/splits, loose or flaking bark, matted ivy stems over 50mm diameter and other hollows or cavities.
- 3.15 Certain factors such as orientation of the feature, its height from the ground, the direct surroundings and its location in respect to other features may enhance or reduce the potential value.
- 3.16 Trees were classified into general bat roost potential groups based upon the presence of these features. Table 1 (below) broadly classifies the potential categories as accurately as possible as well as discussing the relevance of the features. This table is based upon Table 4.1 and Chapter 6 in Bat Surveys for Professional Ecologists: Good Practice Guidelines (BCT, 2016⁵).
- 3.17 Although the British Standard 8596:2015 document groups trees with moderate and high potential, these have been separated below (as per Table 4.1 in the above Good Practice Guidelines) to allow more specific survey criteria to be applied.

Table 1: Classification and Survey Requirements for Bats in Trees

Classification of Tree	Description of Category and Associated Features (based on Potential Roosting Features listed above)	Likely Further Survey Work / Actions
High Potential	A tree with one or more Potential Roosting Features that are obviously suitable for larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter protection, conditions (height above ground level, light levels, etc) and surrounding habitat. Examples include (but are not limited to); woodpecker holes, larger cavities, hollow trunks, hazard beams, etc.	Aerial assessment by roped access bat workers (if appropriate) and / or nocturnal survey during appropriate period (May to August). Following additional assessments a tree may be upgraded or downgraded based on findings. If roost sites are confirmed and the tree or roost is to be affected by proposals a licence from Natural England will be required. After completion of survey work (and the presence of a bat roost is discounted), a precautionary working method statement may still be appropriate.
Moderate Potential	A tree with Potential Roosting Features which could support one or more potential roost sites due to their size, shelter protection, conditions (height above ground level, light levels, etc) and surrounding habitat but unlikely to support a roost of high	A combination of aerial assessment by roped access bat workers and / or nocturnal survey during appropriate period (May to August).

⁴ BSI Publications (2015) *BS 8596:2015 Surveying for bats in trees and woodland – Guide*. BSI Standards Publication. London.

⁵ Collins J. (2016) *Bat Surveys for Professional Ecologists – Good Practice Guidelines (3rd Edition)*. Bat Conservation Trust.

Classification of Tree	Description of Category and Associated Features (based on Potential Roosting Features listed above)	Likely Further Survey Work / Actions
	conservation status (i.e. larger roost, irrespective of wider conservation status). Examples include (but are not limited to); woodpecker holes, rot cavities, branch socket cavities, etc.	Following additional assessments a tree may be upgraded or downgraded based on findings. After completion of survey work (and the presence of a bat roost is discounted), a precautionary working method statement may still be appropriate. If a roost site/s is confirmed a licence from Natural England will be required.
Low Potential	A tree of sufficient size and age to contain Potential Roosting Features but with none seen from ground or features seen only very limited potential. Examples include (but are not limited to); loose/lifted bark, shallow splits exposed to elements or upward facing holes.	No further survey required but a precautionary working method statement may be appropriate.
Negligible/No potential	Negligible/no habitat features likely to be used by roosting bats	None.

* The Conservation of Habitats & Species Regulations 2017 affords protection to “breeding sites” and “resting places” of bats. The EU Commission’s Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC, February 2007 states that these are places “where there is a reasonably high probability that the species concerned will return”.

Bats (day-time building assessment)

- 3.18 External inspection of buildings within the survey area was undertaken on 11th December 2019 by a licenced bat worker (Natural England Licence Number 2018-38195-SCI-SCI) and in accordance with Bat Conservation Trust guidelines (BCT, 2016). Internal inspections of some buildings associated with the sports pitches was undertaken on 29th April 2020 by the same ecologist.
- 3.19 The exterior of building was visually assessed for features such as gaps in stonework or under barge/soffit/fascia boards and gaps at gable ends or door frames that have the potential to provide access points/roost sites for bats. Evidence that bats actively use potential access points includes staining within gaps and bat droppings or urine staining under gaps, a note being made wherever these were present. Indicators that potential access points had not recently been used include the presence of cobwebs and general detritus within potential access points.

Bats (foraging/commuting habitat assessment)

- 3.20 Undertaken as part of the Phase 1 habitat survey an initial assessment of suitability for foraging and commuting bats was made including overall hedgerow structure and connectivity, the presence of tree cover and woodland edge habitat and overall connectivity of these features to suitable linear habitat networks offsite.

Great Crested Newt (GCN) Habitat Suitability Index

- 3.21 A habitat suitability index (HSI) assessment was undertaken on all waterbodies identified within Site and its vicinity. This assessment provides a measure of the likely suitability that a waterbody has for supporting great crested newts *Triturus cristatus* (GCN). Whilst not a direct indication of whether or not a pond will support GCN, generally, those with a higher score are more likely to support this species than those with a lower score and there is a positive correlation between HSI scores and ponds in which GCN are recorded. Ten separate attributes are assessed for each pond to calculate the suitability of the ponds to support GCN:

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

- 3.22 A score is assigned according to the most appropriate criteria level set within each attribute and a total score calculated of between 0 and 1. Pond suitability is then determined according to the scale set out in Table 2 below. Using the index score the predicted presence of GCN being found within a pond can be made, based on the proportion of ponds typically occupied at that suitability level.

Table 2: HSI Score and Suitability for Supporting Great Crested Newts

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

4.0 RESULTS

Desk Study

- 4.1 Please refer to Figure 1: Desk Study Results for designated sites and protected and notable species. Confidential badger records are provided at Appendix A and should not be released into the public domain for welfare reasons.

Designated Sites

- 4.2 The Site is not covered by any statutory designation and no international nature conservation designations were recorded within 5km.
- 4.3 Potter Holes Local Nature Reserve (LNR) is designated for recreation within semi-natural and replanted woodland and lies approximately 540m west of the site and Elsecar Reservoir LNR is designated for recreation within willow carr and wetland and lies approximately 1.8km east of the site.

Non-statutory Designations

- 4.4 Two non-statutory sites are present within 1km. Skier's Spring Wood Local Wildlife Site (LWS), approximately 730m east of the site, is designated for its ancient semi-natural woodland; and Black Lane LWS, approximately proposed employment development and 50m from proposed attenuation infrastructure, the site, is designated for species-rich hedges.

Protected & Notable Species

- 4.5 The below summarises records that have been returned by BBRC and are annotated on Figure 1. For conciseness only records from the last 20 years are included. Refer to Appendix A for confidential badger data from the consultation – for animal welfare reasons this should be kept out of the public domain.

Mammals

- 4.6 Records of common pipistrelle *Pipistrellus pipistrellus*, pipistrelle species *Pipistrellus sp.* and whiskered *Myotis mystacinus* bats have been returned in the vicinity including a 'possible pipistrelle' roost close to the site boundary in the north. Brown long-eared bats *Plecotus auritus* have been recorded in association with a barn approximately 230m west of the site.
- 4.7 Hedgehog *Erinaceus europaeus* have been recorded in association with existing residential development of Hoyland to the east.

Reptiles and Amphibians

- 4.8 Grass snake *Natrix helvetica* has been recorded at Potter Holes Plantation approximately 950m west of the site and separated by the M1 Motorway corridor.
- 4.9 A great crested newt (GCN) '*nymph*' was recorded in the north of the site - location described as '*Tankersley Common*' in 2013. Breeding GCN have been recorded in the vicinity to the north and west of the site and separated by the A6195 trunk road and M1 Motorway corridor respectively.

Invertebrates

- 4.10 White-letter hairstreak *Satyrrium w-album* have been recorded in Bell Ground (wood) adjacent to the south of the site and there is anecdotal evidence for them breeding on wych elm at the northern boundary (Sheffield Road) associated with the sports pitches. Two records of dingy skipper *Erynnis tages* have been noted for the vicinity including on grassland close to Bell Ground House. Cinnabar moth *Tyria jacobaeae* have been recorded north of the A6195.

Birds

- 4.11 Birds including yellowhammer *Emberiza citrinella*, skylark *Alauda arvensis*, lapwing *Vanellus vanellus*, house sparrow *Passer domesticus* and song thrush *Turdus philomelos* have been recorded in the vicinity of the site.

Habitats

- 4.12 Please refer to Figure 4 for habitat mapping and Appendix B for botanical lists.

- 4.13 The following habitat features were recorded within the Site:

- Semi-natural broadleaved woodland
- Plantation broadleaved woodland
- Scrub
- Broadleaved trees
- Pasture
- Semi-improved grassland
- Tall ruderal
- Open water
- Arable
- Amenity grassland
- Hedgerows
- Buildings
- Hard standing

Semi-natural Broadleaved Woodland

- 4.14 Adjacent to the southern boundary, Bell Ground (wood) (BW1), supported a canopy dominated by common ash *Fraxinus excelsior* and to a lesser extent sycamore *Acer pseudoplatanus* and beech *Fagus sylvatica*. The understorey was dominated by wych elm *Ulmus glabra* with larger specimens affected by elm disease. Beneath this a subshrub layer of dense bramble *Rubus fruticosus* agg. thicket was evident, particularly on higher ground in the north. Ground flora included frequent wood millet *Milium effusum* and occasional wood dock *Rumex sanguineus* and Enchanter's nightshade *Circaea lutetiana*. The latter, along with wood speedwell *Veronica montana*, was locally frequent on ride margins. Throughout the wood dog's mercury *Mercurialis perennis*, wood speedwell and

bluebell *Hyacinthoides non-scripta* were rare. A broad vehicular access track of disturbed mud bisected the woodland block.

- 4.15 Adjacent to the site boundary in the south BW2 colonised a large earth mound and supported a canopy of common ash and understorey of hawthorn. The field layer was dominated by ivy *Hedera helix*, hedge garlic *Alliaria petiolata* and dog's mercury were also noted. Open areas were dominated by bramble thicket.

Plantation Broadleaved Woodland

- 4.16 Adjacent to the western boundary a linear plantation (PBW1) on sloping ground of the M1 Motorway verge supported frequent common ash. Sallow *Salix sp.*, domestic apple *Malus domestica*, hawthorn *Crataegus monogyna* and field maple *Acer campestre* were also recorded. The latter formed a dense trimmed barrier at the boundary with arable field margin in some places. A ground flora of rough grassland supported red fescue *Festuca rubra agg.*, cow parsley *Anthriscus Sylvestris* and meadow vetchling *Lathyrus pratensis*.
- 4.17 A small semi-mature plantation (PBW2) associated with the sports pitch north of Tankersley Lane was dominated by wild plum *Prunus domestica*, other shrubs and trees present included hawthorn, field maple and horse chestnut *Aesculus hippocastanum*. Ground flora noted included hedge garlic, cleavers *Galium aparine*, frequent wood avens *Geum urbanum* and bramble.
- 4.18 Small compartments of recently planted trees and scrubs (PBW3) associated with the A6195 and A6135 roundabout adjacent to the northern Site boundary included lime *Tilia sp.*, pine *Pinus sp.*, silver birch *Betula pendula* and hornbeam *Carpinus betulus*. Plantings were set within a coarse grassland sward including Yorkshire fog, cocksfoot, creeping buttercup and greater willowherb.

Scrub

- 4.19 Much of the Site comprised heavily managed agricultural compartments with scrub largely managed-out. Where arable prevailed sparse scattered scrub margins were recorded and a narrow strip of bramble noted beside a public path at the south eastern boundary leading to Bell Ground (wood). One notable exception was a compartment of scattered mature hawthorn scrub within poached pony pasture adjoining F5 and adjacent to an embankment to the M1 with a ground flora of pony grazed and poached pasture dominated by perennial rye-grass *Lolium perenne*. Embankment beside Tankersley Road close to this location also supported mature hawthorn and bramble scrub.

Broadleaved Trees

- 4.20 Very few mature trees were associate with arable and grassland compartments south of Tankersley Lane. Two were pedunculate oak with some limited storm damage and signs of ageing as detailed in the faunal section below.
- 4.21 Within scrub bordering Tankersley Lane several mature, squat goat willows were noted also with some signs of aging including burring. In association with sports pitches in the north a number of ornamental tree groups were recorded, though mature, none were of great age and species included alder *Alnus sp.* and cherry *Prunus sp.*

Grasslands

Improved grassland

- 4.22 F9 recorded to the rear of residential property along Tankersley Lane the grassland was mown and supported a uniform short sward (approx. 5cm high) dominated by perennial rye-grass and with frequent creeping buttercup.

Semi-improved grasslands

- 4.23 Eight compartments of sheep and pony grazed pasture were recorded. At the eastern boundary with Sheffield Road two compartments (F1 and F2) supported a very short (1-3cm) sheep grazed sward dominated by perennial rye-grass. Both compartments supported a similar species composition with frequent white clover *Trifolium repens* and occasional Yorkshire fog *Holcus lanatus* and common nettle *Urtica dioica*. Crested dog's-tail *Cynosurus cristatus* was also recorded in F2. A third compartment (F3) adjoining the north of the above fields was intensively grazed and poached by ponies with approximately 40% bare soils. Bent grasses *Agrostis* sp. were frequent as was ribwort plantain *Plantago lanceolata* and creeping buttercup *Ranunculus repens*. Cocksfoot *Dactylis glomerata*, meadow buttercup *Ranunculus acris* and broadleaved dock *Rumex obtusifolius* were also noted.
- 4.24 Two compartments of pony grazed grassland were recorded south east of Bell Ground (wood). F4 was an irregularly shaped field following the woodland boundary and was dominated by meadow foxtail *Alopecurus pratensis* with a sward height of around 40cm. Yorkshire fog, cocksfoot and creeping bent *Agrostis stolonifera* were all frequent. A limited cover of flowering herbs was recorded, all rare: common mouse-ear *Cerastium fontanum*, creeping cinquefoil *Potentilla reptans*, greater willowherb *Epilobium hirsutum* and creeping thistle *Cirsium arvense*. F5, adjacent to the southern hedge boundary of F4, was also pony grazed and supported a shorter 10-15cm sward. Perennial rye-grass dominated and cocksfoot was frequent. Frequent herbs were limited to white clover and dandelion *Taraxacum officinale* agg. red clover *Trifolium pratense* and broadleaved dock were occasional. Curled dock *Rumex crispus* and tufted vetch *Vicia cracca* were rare.
- 4.25 In the north, adjacent to Tankersley Lane a further three compartments supported a longer, pony grazed, sward indicative of less intensive grazing. F6 supported a 20cm sward height and some dead thatch and F7 supported a 40 cm sward with a light tussock structure. F8 supported a shorter approx. 10 cm sward.
- 4.26 F6 and F7 supported a similar species composition; creeping bent *Agrostis stolonifera* and perennial rye-grass dominated F6 while Yorkshire fog and common sorrel *Rumex acetosa* were frequent. Broadleaved dock was locally frequent, meadow buttercup *Ranunculus acris*, common ragwort *Jacobaea vulgaris* and greater plantain *Plantago major* were rare. Creeping bent dominated F7 and Yorkshire fog was locally dominant. Other species recorded at lower frequency included ribwort plantain, lesser stitchwort *Stellaria graminea*, creeping thistle and common nettle.
- 4.27 F8 supported a more heavily grazed sward with abundant perennial rye-grass, daisy *Bellis perennis* and creeping buttercup were frequent, white clover was occasional and ribwort plantain was rare.
- 4.28 F10 and F11 both supported a coarser unmanaged sward with a light tussock and some rank areas. F10 was dominated by creeping bent and creeping buttercup was abundant. Cocksfoot, tufted hair-grass *Deschampsia cespitosa*, perennial rye-grass were also noted. F11 supported abundant perennial rye-grass, cocksfoot and creeping buttercup were also noted.

Open Water

Wet Ditches

- 4.29 Short lengths of wet ditch (D1 and D2) were recorded at a field boundaries south of Tankersley Lane. The features were approximately 1m wide. D1 supported approximately 30% cover of vegetation (bent grass) within the flooded channel. D2 supported a shallow water channel and banks were vegetated by bramble and ruderal herbs.
- 4.30 A further ditch (D3) was recorded at the boundary of F2 and comprised a 1.5m wide channel with shallow banks vegetated by grasses and greater willowherb. The water was approximately 20cm deep with a slow flow draining to the adjoining brook (described below).
- 4.31 D4 comprised a short section of ditch bordering F11, it supported bramble, ruderal herbs and grasses.

Arable

- 4.32 Cultivated fields supported recently sown grass leys and smaller fields, which in the north were freshly ploughed at the time of survey. Margins were generally less than 1m wide and supported coarse grasses and ruderals including false oat-grass *Arrhenatherum elatius*, common nettle *Urtica dioica*, broadleaved dock *Rumex obtusifolius* and cleavers *Galium aparine*. A single field in the south supported a 35m margin of fallow brassica crop at its western boundary.

Amenity Grassland

- 4.33 Sports pitches in the north supported a short mown and rolled tight sward (F12) dominated by creeping bent and white clover was frequent. Other species recorded included perennial rye-grass, slender speedwell *Veronica filiformis*, thyme leaved speedwell *V. serpyllifolia*, ribwort plantain and lesser stitchwort *Stellaria graminea*. Common bird's foot trefoil *Lotus corniculatus* and cuckoo flower *Cardamine pratensis* occurred rarely at the margins.
- 4.34 A second compartment to the south (F13) supported a short, regularly mown sward but which was not rolled. Here creeping bent dominated and red fescue *Festuca rubra* and common sorrel were frequent. Other species recorded included sweet vernal grass, yarrow *Achillea millefolium*, common bird's foot trefoil and common knapweed *Centaurea nigra*.
- 4.35 Grass verges flanking Tankersley Lane supported a short-mown sward around 3-5cm high and dominated by perennial rye-grass. White clover was frequent and occasional species included ribwort plantain, common mouse-ear, daisy and dandelion.

Ephemeral/short perennial

- 4.36 A rectangle of land associated with the A6195 and A6135 roundabout in the north of the Site was approximately 45m x 9m and supported thin soils colonised by a sparse cover of low growing vegetation. Approximately 60% cover of moss was noted; grasses and herbs were frequent and included smooth hawkbeard *Crepis capillaris*, common mouse-ear, tufted hair-grass, common couch *Elymus repens*, common stork's bill *Erodium cicutarium*, autumn hawkbit *Scorzoneroide autumnalis* and doves-foot cranes-bill *Geranium molle*.

Hedgerow

- 4.37 Of the 21 hedgerows detailed below the vast majority were species poor hawthorn dominated features. Many of these, associated with cultivated arable fields, were heavily trimmed boundaries with limited connectivity.
- 4.38 A small number of hedgerows (H11, H16 and H23) supported a greater diversity of canopy species while others supported a more established dense and bushy structure (H3, H11, H12) or associated features close association with broadleaved woodland (H16 to H21).
- 4.39 The hedgerows described above include those graded as supporting 'moderately high to high value' under HEGS (see those with HEGS scores of 2 in Table 3 below). Those to be lost or impacted by proposals were assessed under the Hedgerow Regulation 1997 Wildlife and Landscape criteria (H3 – H13, H18 - H19a and H23). None were assessed as 'Important' under these regulations due to low canopy diversity and lack of associated features.

Table 3: Hedgerow Descriptions

Hedge No.	Structural Features (approx. dimensions W = width, H = height)	Total Canopy Species	Average Canopy Species (*rounded up)	HEGS Score
1	2-4m H x 1-2m W, defunct hedge, unmanaged. No connections.	3	-	-4
2	>4m H x >3m W, defunct hedge, unmanaged. No connections.	4	2.5	-3
3	2-4m H x 3+m W, trimmed, single tree. One connection.	5	2*	3
3a	2-4m H x 3+m W, trimmed, no connections	2	1	-3
4	2-4m H x 2-3m W, trimmed. Two connections.	1	1	-3
5	2-4m H x 1-2m W, trimmed. No connections. 10% gaps.	2	1	-3
6	4+m H x 3+m with over-shaded wet ditch. Two connections	4	2	+3
7	2-4m H x 2-3m W, trimmed, roadside feature. One connection	4	2*	3
8	2-4m H x 2-3m W, unmanaged. One connection	1	1	-2
9	Recently laid, two connections.	6	2*	+3
10	4+m H x 2-3m W, roadside hedge trimmed hedge. Two connections.	4	2	+3
11	1-2m H x 1-2m W, trimmed hedge with one tree. Two connections	8	4*	+3
11a	1-2m H x 1-2m W, trimmed hedge, three connections.	3	1	-2
12	2-4m H x 2-3m W, trimmed. Two connections	5	2	+3
13	1m H x 1m W, trimmed, box-shaped hedge. Two connections	3	3*	3
14	2-4m H x 1-2m W, trimmed. No connections.	3	-	3
15	2-4m H x 2-3m W, trimmed, trackside hedge. Two connections. Adjacent to public path.	3	-	3

Hedge No.	Structural Features (approx. dimensions W = width, H = height)	Total Canopy Species	Average Canopy Species (*rounded up)	HEGS Score
16	1m H x 1m W, trimmed, box-shaped, trackside hedge. Wood edge. Mixed dominance. Adjacent to public path.	7.5	-	+3
17	4+m H x 3+m W, trimmed, one tree. Four connections.	5	3	-2
18	1-2m H x 1-2m W, trimmed. Wood edge. Three connections.	6	4	4
19	2-4m H x 2-3m W, trimmed, two connections.	3	2	-2
20	1-2m H x 1-2m W, trimmed, box-shaped. Over four connections. Adjacent to public path.	6	-	-2
21	1-2m H x 1-2m W, trimmed, box-shaped. Four connections. Adjacent to public path.	4	-	-2
22	2-4m H x 2-3m W, trimmed, bushy, no connections.	4	-	-3
23	2-4m H x 2-3m W, unmanaged, gappy with many trees	8	2	-2

Buildings

- 4.40 Assessment of 10 buildings and ancillary animal sheds is detailed in the faunal section below.

Hardstanding

- 4.41 Tankersley Lane bisecting the north of the Site (flanked by tarmac pavement) and further tarmac covered paths and parking associated with the community centre and sports pitches further north comprised metallised infrastructure which was maintained in good condition free from vegetation.
- 4.42 Barnsley Barrier Walk public path supported a bare substrate linking Sheffield Road (at the eastern site boundary) with Black Lane (western site boundary). The Trans Pennine Trail public path (Black Lane) was adjacent to the western and southern boundary in the south supporting compacted hardcore.

Fauna

Reptiles

- 4.43 Due to the heavily managed nature of field compartments, including short-grazed pasture, opportunities for reptiles over much of the Site were limited to hedgerow bases, associated ditches and limited scrub associated with arable boundaries and the Tankersley Lane verge.
- 4.44 On-site habitats with greater suitability included the scrubby margins of dense and broad hedges such as H3, H11 and H12 and woodland boundary associated with Black Lane in the south (at Target Note 1). Habitat providing some suitability for hibernating reptiles was limited to stone and rubble heaps highlighted by Target Note 1 and found in association with the northern Bell Ground Wood boundary and BW3 adjacent to Black Lane in the south. Beside Black Lane a substantial mound was noted atop concrete blocks and although the heavily managed hedgerow bases and general lack of graded scrub margin to the woodland provided limited opportunities for basking

reptiles these habitats are connected via railway sidings to more suitable habitat including Skier's Spring Wood to the east and provide some limited suitability for this group.

- 4.45 Further suitable offsite habitat includes scrubby mounds within grassland associated with Bell Ground House to the east of Bell Ground (wood).

Birds

- 4.46 Hedgerows and boundary features including broadleaved woodland provided nesting and foraging habitat for a range of bird species including potential value for farmland birds. Field centres also provided potential for ground nesting birds such as lapwing and skylark. Detailed assessment will be provided in separate breeding and winter bird reports.

Badgers

- 4.47 Refer to confidential badger appendix (Appendix A).

Bats

Trees

- 4.48 Two trees were noted to provide some potential for roosting bats. T1 was a pedunculate oak *Quercus robur* that supported a branch tear-out with a possible cavity facing the sky considered to provide low potential for roosting bats. T2, another pedunculate oak, this time in a field, supported several dead limbs in the crown with small splits also considered to provide low potential for roosting bats.

Buildings

Table 4: Building Descriptions

Ref.	Description	Features of Note	Bat Roost Potential
B1	Single storey pitched roof community centre building constructed of composite panels. Flat roof elevations adjoining south and east aspects.	Supported brick chimneys with flashing an enclosed soffits of plyboard. Plyboard had delaminated in places forming small, shallow cavities c.4cm wide and 4cm deep covered by a single skin of plyboard.	Negligible
B2	Single storey pitched roof shed constructed of concrete block with felted roof. Used for band practice.	UPVC panel gables and soffit boxes. Damage at apex of northern gable supporting a gap between roof and wall. Internally lined with Kingspan foam sheet flush with concrete but with gaps between panels.	Low
B3	Blockwork built garage with flat felt roof.	Timber fascias and steel garage door. Some small gaps behind timber fascia boards. Hole above garage door c.20cm x 10cm.	Low

Ref.	Description	Features of Note	Bat Roost Potential
B4	A stone built single storey building with pitched roof supporting plain tiles.	Timber barge boards and soffit boxes. Lifted tiles and gaps behind barge boards. Southern elevation/lean-to of corrugated sheet material. Walls and ceiling of southern elevation supporting large gaps and internal space well lit.	Low
B4a	Southern elevation/lean-to adjoining B4 constructed of corrugated sheet material.	Walls and ceiling of southern elevation supporting large gaps and internal space well lit.	None
B5	Small timber panel shed with pitched felt roof constructed of single-skin materials.	None	None
-	Tightly sealed steel shipping containers associated with B1 and B5	None	None
B6	Detached two storey stone built residential dwelling with pitched roofs (over multiple elevations) supporting plain tiles and gables over two elevations.	Stone chimneys and valleys supporting lead flashing. Timber fascia boards and cement verges. Roof void present and a 10cm x 20cm gap in stonework on western gable end.	Moderate
B6a	Free standing brick built single storey garage with pitched plain tile roof	None	Negligible
B7	Detached two storey stone built dwelling house supporting plain tiled pitched roof. Western single storey elevation also with pitched plain tile roof.	UPVC soffit boxes supported on all aspects. Lead flashing where single storey elevation adjoins main structure. Velux windows in roof. Possible small roof void present. Some lifted tiles.	Moderate
B7a	Two storey garage/outhouse associated with B7 supporting pitched plain tile roof.	UPVC soffit boxes	Low
B8	Commercial shed unit constructed of single skin sheet metal and supporting a pitched roof with large skylights.	None	Negligible
B9	Disused chicken shed constructed of single skin timber boards with pitched corrugated sheet roof also of a single skin.	Entrances for birds at ground level approximately 20cm x 20cm. Meshed vents in roof.	Low to negligible
B10	Single storey outhouse constructed of blockwork and supporting single pitched roof of single-skin sheet material.	Tight fitting timber doors and tight roof plate.	Negligible
B10a	Green house associated with B10 supporting single skin cement asbestos panel walls and pitched glass roof.	Open doorway.	None

Ref.	Description	Features of Note	Bat Roost Potential
-	Ancillary horse sheds associated with fields F6 – F8 adjacent to Tankersley Lane comprised dilapidated single-skin structures constructed of various materials such as corrugated sheet metal. Tongue-and-groove boards, timber planks, pallets and tarpaulins and felt.	Supported on timber frames these animal shelters were largely open to the elements.	Negligible

Foraging and Commuting Habitat

- 4.49 The network of native hedges, standard trees and associated scrub and pasture fields provided foraging opportunities for bats. In the south this also included woodland edge habitat with links to woodland blocks and linear tree cover associated with Blackburn Valley Railway Line to the south.

Great Crested Newts (GCN)

- 4.50 The majority of the Site supported heavily cultivated arable fields or short-grazed pasture of low value for terrestrial GCN. Greater suitability for shelter, foraging, hibernation and dispersal included outgrown hedge bottoms and woodland. Stone heaps associated with a collapsed stone wall at the boundary of Bell Ground (wood) (BW1) and an earth mound with concrete blocks (Target Note 1) provide some shelter/hibernation opportunities.
- 4.51 A single wet ditch to the south of Tankersley Lane was recorded as providing some suitability for breeding GCN during initial survey in winter of 2019/2020. Further water bodies were recorded outside the site boundary to the south. All features were subject to Habitat Suitability Index (HSI) assessments in spring and early summer 2020 and Table 5 below provides a summary of the ponds. The results of aquatic GCN survey are detailed in a separate GCN report, but in summary no GCN were recorded.

Table 5: Pond Descriptions and HSI Summary

Pond Ref.	Description (Dimensions approximate – Length x width)	HSI score	Pond suitability	Predicted presence
P1	Located south east of the Site in grazed pasture adjacent to Sheffield Road. Dimensions 5m x 3m in size, devoid of aquatic and marginal vegetation except shirt grasses.	0.62	Average	55%
P2	Recorded within grassland fields associated with Bell Ground. Supported limited small areas of open standing water. Much of the feature supported large rushes and bulrush colonising damp mud. Dimensions 20m x 10m.	0.62	Average	55%
P3	In woodland edge (Bell Ground wood) close to the south western Site boundary. Dimensions 5m x 3m with no marginal or aquatic vegetation. Recorded dry on the second visit.	0.56	Below Average	20%
P4	Scrape in Bell Ground wood supporting damp mud and no vegetation.	Dry		
P5	Large located in the garden of a residential property. Dimensions 70m x 30m with marginal zone supporting	0.72	Good	79%

Pond Ref.	Description (Dimensions approximate – Length x width)	HSI score	Pond suitability	Predicted presence
	bulrush, and iris. Presence of wildfowl and fish were considered to have a minor impact on amphibian suitability with few signs of eutrophication.			
P6	Recorded in Bell Ground wood. Dimensions 15m x 10m supporting no aquatic or marginal vegetation. The water level in the pond reduced dramatically over the course of the survey period.	0.52	Below Average	20%
P7	A small scrape within Bell ground wood. Dimensions 3m x 5m. No marginal or aquatic vegetation was present and basin supported soft mud (dried out by second survey visit).	0.55	Below Average	20%
P8	Wet ditch (D4) bordering grassland of F11. Banks supported bramble, ruderal herbs and grasses and the channel supported damp mud (no water on first survey visit).	Dry		
P9	Within unmanaged grassland (F11) in the north of Site. Comprised a shallow basin compacted rubble colonised by short grasses and was dry on first survey visit.	Dry		
P10	Wet ditch (D1) bordering grazed pasture. Banks and channel supported short grass tussock. No water present on first survey visit).	Dry		

5.0 DISCUSSION & RECOMMENDATIONS

Statutory Designations

- 5.1 Potter Holes LNR and Elsecar Reservoir LNR are 540m and 1.8km from the site respectively and designated for semi-natural woodland and wetland. Given the distance from the proposed development and lack of similar habitats within the Site proposals are not considered likely to significantly impact these designations.
- 5.2 Considering the type of development proposed (employment) and the distance of the LNRs from the site it is not considered likely that any increase in recreational pressure from the proposed development will have a significant effect on them. Considering the presence of the M1 between Potter Holes LNR and the proposed development site proposals are considered unlikely to lead to a significant increase in traffic in proximity to this LNR.

Non-statutory Designations

- 5.3 Two non-statutory sites are present between 730m and 830m from the site (Skier's Spring Wood LWS and Black Lane LWS) designated respectively for ancient semi-natural woodland and species-rich hedges. Given the intervening distances, habitat losses within the proposals are considered unlikely to impact these non-statutory sites. There is some low potential for infrastructure works to affect Black Lane LWS, and as such best practice mitigation recommended to minimise these. Given the type of development proposed it is not considered likely that there would be a significant increase in recreation to these LWS as a result of employment development.

Best Practice Habitat Protection

- 5.4 Infrastructure works are proposed in the vicinity of Black Lane LWS (albeit separated by the Blackburn Valley Railway Line). To minimise harm to this designated site the below best practice Guidance for Pollution Prevention⁶ (GPP) should be followed:

- GPP 21: Pollution incident response planning; and
- GPP 22: Dealing with spills;

Habitats/Flora

- 5.5 The degree to which habitats receive consideration within the planning system relies on a number of mechanisms, including:
- Inclusion within specific policy (e.g. veteran trees, ancient woodland and linear habitats in the National Planning Policy Framework (NPPF) or non-statutory site designation,
 - Identification as a habitat of principal importance for biodiversity under Natural Environment and Rural Communities Act (NERC) 2006 or identification as a Priority Habitat on the local Biodiversity Action Plan (LBAP).
- 5.6 The arable field compartments supported narrow margins dominated by common and widespread plant species and these fields are considered to be of negligible value and their loss is not likely to have a significant impact on biodiversity. The pasture and grassland fields covered a more limited area and survey outside the optimal season noted they were dominated by common grasses indicative of agricultural improvement with limited cover of flowering herbs. The majority of the grasslands will be lost to proposals and given their limited diversity these losses are not considered likely significantly impact local wildlife.
- 5.7 The amenity grassland was recorded to support a slightly greater species diversity than the above habitats. Given its current intensive management and homogenous structure it is also considered to be of low biodiversity value. More limited losses are proposed to this habitat and habitat creation proposed as part of the green infrastructure scheme will compensate such that no significant impact to local wildlife is considered likely.
- 5.8 All the boundary hedgerows are native species dominant and therefore a priority S41 (NERC Act) habitat. The proposed development requires the loss of the majority of hedgerows, most graded as moderate nature conservation value under HEGS. Four hedges considered of moderately high – high value will also be either wholly or partially lost to facilitate access and drainage infrastructure provision.
- 5.9 Hedge losses for access and other infrastructure will reduce losses to the minimum required and make use of existing gaps where they exist. It is recognised however that, owing to the nature of the development (large commercial units) losses are unavoidable. As indicated by the Illustrative Masterplan a scheme of green infrastructure (GI) will include a significant extent of native structural planting providing corridors of movement around and through the proposed development. The enhancements will help mitigate hedgerow losses such that wildlife is not considered likely to be significantly impacted.
- 5.10 Anecdotal evidence from a local invertebrate recorded has highlighted the potential presence of breeding white-letter hairstreak in boundary scrub bordering Tankersley Lane close to B2 (the

⁶ Cedrec – legislation made simple. www.cedrec.com/news/index.htm?news_id=26159. [accessed 12.05.20].

sports/community centre in the north of the site). It is recommended that wych elm at this location are retained within the landscaping scheme wherever feasible.

- 5.11 Provided the recommendations for site wide GI design as detailed below are implemented it is considered that impacts resulting from habitat losses are would be below significant levels.

Protected/Notable Species

- 5.12 Consideration was given throughout the survey to the potential presence of protected species. Principal pieces of legislation protecting wild species to be considered are Part 1 of the Wildlife and Countryside Act 1981 (as amended) (WCA) and the Conservation of Habitats and Species Regulations 2017 (Habitats Regulations). Some species, for example badgers, also have their own protective legislation (Protection of Badger Act 1992) and are also considered. The impact that this legislation has on the Planning system is outlined in ODPM 06/2005 Government Circular: Biodiversity and Geological Conservation – Statutory obligations and their Impact within the Planning System.
- 5.13 This guidance states that as the presence of protected species is a material consideration in any planning decision, the presence or otherwise of protected species, and the extent to which they are affected by proposals is established prior to planning permission being granted. Furthermore, where protected species are present and proposals may result in harm to the species or its habitat, steps should be taken to ensure the long-term protection of the species.
- 5.14 In addition to protected species, those of principal importance for the purpose of conserving biodiversity under the NERC Act 2006 (previously UK BAP priority species) should also be considered. These are recognised in the NPPF which advises that when determining planning applications, LPA's should aim to conserve and enhance biodiversity by applying a set of principles including:
- If significant harm resulting from a development cannot be avoided....., adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
 - Development proposals where the primary objective is to conserve or enhance biodiversity should be encouraged.
- 5.15 The implications that various identified species or those that are thought reasonably likely to occur (or where their presence cannot at this stage be entirely ruled out) may have for development of the site are outlined below:

Reptiles

- 5.16 All common reptile species are partially protected under Sections 9(1) and 9(5) of Schedule 5 of the WCA. This legislation includes protection from intentional killing or injury.
- 5.17 Habitats peripheral to the core development area are considered to provide suitability for common reptiles recorded in the vicinity. Further reptile survey targeting this suitable habitat is underway and detailed assessment will be provided in a separate report. The proposed GI, including biodiversity recommendations outlined below, will provide significant enhancement for reptiles should they be present, that would secure a net benefit for this group.

Badgers

- 5.18 Refer to Appendix A for confidential badger data – not for release into the public domain.

Birds

- 5.19 A suite of winter bird surveys have been completed and full assessment is within the separate bird report. A number of notable species were recorded though overall these were noted in low numbers. Impacts for wintering farmland and other notable species are likely to be at the Local scale. Proposals including extensive structural planting will provide corridors of movement and retain interest for species associated with scrub and woodland. Impacts to these species are likely to be negligible or beneficial. Proposals should, where feasible, incorporate more open habitats such as bare ground, reedbeds and/or grassland such as may be provided in association with attenuation features to retain interest for species such as lapwing.
- 5.20 A suite of breeding bird surveys is currently underway and assessment covering these groups will be provided in a separate reports.
- 5.21 All nesting birds are protected under the WCA. Any removal of woody vegetation including hedgerow, scrub and trees should therefore occur outside of the bird breeding season (March to August inclusive) to minimise the risk of disturbance to nesting birds. If this is not possible such vegetation should be checked prior to removal by a suitably experienced ecologist. If active nests are found, vegetation will be left untouched and suitably buffered from works until all birds have fledged. Specific advice should be sought prior to undertaking the clearance.

Great Crested Newts

- 5.22 GCN are protected under the WCA and The Conservation of Habitats and Species Regulations 2017 (as amended) from intentional or reckless disturbance, deliberate capture, killing and injury.
- 5.23 Aquatic GCN surveys have targeted ponds within the site and its vicinity and results are provided in a separate report. In summary the majority of ponds were found to be unsuitable for breeding amphibians as they dried out early in the breeding season. No GCN were recorded during surveys. A single pond (in a residential garden) approximately 230m from proposed development and separated by cultivated arable could not be fully surveyed due to access arrangements leading health and safety risks relating to Covid-19. Even if they were to be present in this offsite pond, due to the distance from proposed works and because works here will only impact heavily cultivated arable habitat the risks to GCN from killing or injury are considered negligible. A constraint to development from GCN has therefore been ruled out.

Bats

- 5.24 Two trees were noted with low potential to support roosting bats and in accordance with the bat survey guidelines (BCT, 2016) no further survey is required. If unavoidable, loss of these trees would not represent a constraint due to roosting bats.
- 5.25 No buildings supporting suitability for roosting bats will be lost. Five buildings were found to provide some suitability for roosting bats; B2 and B3 supported features considered of low suitability; B6, B7 and B7a ha features considered to be of moderate suitability. Proposed hedgerow losses would break potential bat foraging/commuting links between these buildings and suitable foraging to the south and potentially impact roosting bats should they be present. To ascertain the presence of

roosting bats in these buildings which may be impacted by connecting habitat loss further survey is recommended, including nocturnal emergence/dawn re-entry survey in the optimal season (late May to early September) for summer roosts. In accordance with the guidance a single survey is recommended for B2 and B3 and two surveys for B6, B7 and B7a to determine presence/absence.

- 5.26 The majority of hedgerows present in northern and central site areas will be lost. A suite of seasonal bat activity surveys, including passive monitoring are underway to assess use of the existing hedgerow network by bats and detailed reporting will be provided in a separate document.
- 5.27 The detailed planting plans provide for a network of structural planting through and around the site including buffering of adjacent to suitable woodland edge foraging. The envisaged scheme provides ample opportunities to mitigate proposed losses including retention of connectivity to offsite buildings with bat roost potential should roosting bats be identified.
- 5.28 To retain accessibility and interest for commuting and foraging bats within the proposals the following best practice advice, recommended in accordance with industry guidance (BCT, 2018⁷) will be implemented as part of any lighting scheme:
- Reducing height of lighting columns;
 - Placing lighting away from areas of interest, such as woodland edge;
 - Use of directional lighting;
 - Limiting lighting proposals to the minimum required;
 - Having lights not operational when not required; and
 - Use of white rather than yellow lighting.

Recommendations for Site Design

- 5.29 The Site design will provide a network of green corridors through and around the proposed commercial development plots.
- 5.30 The key off-plot green corridors that will buffer existing woodland at the western and southern boundaries will provide broad native structural planting boundaries and more open native grassland creation facilitating wildlife movement and incorporating enhancements for a variety of wildlife. Design will incorporate the following:
- Native woodland, thicket and hedgerow planting including use of wych elm to provide new breeding habitat for white-letter hairstreak recorded in the locality.
 - Native species-rich grassland linked to structural planting or other green corridors such as along easements.
 - Attenuation providing some permanent water enhanced with native aquatic flora.
 - Open ground supporting thin soils and native flower-rich short grassland such as on the slopes and margins of attenuation to provided habitat for ground nesting birds.
- 5.31 On-plot planting should provide ornamental species of value to wildlife such as shrubs and herbaceous perennials with single blooms providing food for pollinating insects. These areas would

⁷ Bat Conservation Trust and Institute of Lighting Professionals (2018) *Guidance Note 08/18 Bats and artificial lighting in the UK – Bats and the Built Environment series*. Institute of Lighting Professionals

be linked to the off-plot green corridor features above and suitable shelter/hibernation for insects such as provision of 'insect hotels' provided for additional enhancement.

- 5.32 A scheme of bat and bird boxes or artificial features incorporated onto retained trees would provide additional value to these groups.
- 5.33 To help ensure long-term benefits to biodiversity the creation and management of new and retained habitats should be set out in an overarching landscape and ecology management plan document, the details of which could be set out in an appropriately worded planning condition.

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Appendix B: Botanical Species Lists (Key: D – dominant, A – abundant, F – frequent, O – occasional, R – rare, L – local, P – present)

Common Name	Scientific Name	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Tankersley Lane (grass verge)
a bent-grass	<i>Agrostis sp.</i>	-	-	F	-	-	-	-	-	-	-	-	-	-	-
a cat's-ear	<i>Hypochaeris sp.</i>	-	-	-	-	-	-	-	-	-	-	-	P	-	-
Common mouse-ear	<i>Cerastium fontanum</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	O
a sow-thistle	<i>Sonchus sp.</i>	-	-	-	-	-	-	-	-	-	-	-	P	P	-
Annual Meadow-grass	<i>Poa annua</i>	-	-	-	-	R	-	P	-	-	-	-	P	-	-
Broad-leaved Dock	<i>Rumex obtusifolius</i>	-	-	P	R	O	LF	P	-	-	-	-	P	-	-
Cock's-foot	<i>Dactylis glomerata</i>	-	-	P	F	F	-	P	-	-	P	P	-	-	-
Common Bent	<i>Agrostis capillaris</i>	-	F	-	-	-	-	-	-	-	-	-	-	-	-
Common Bird's-foot-trefoil	<i>Lotus corniculatus</i>	-	-	-	-	-	-	-	-	-	-	-	P	P	-
Common Couch	<i>Elytrigia repens</i>	-	-	-	-	-	-	P	-	-	-	-	-	-	-
Common Knapweed	<i>Centaurea nigra</i>	-	-	-	-	-	-	-	-	-	-	-	-	P	-
Common Mouse-ear	<i>Cerastium fontanum</i>	-	-	-	R	R	P	-	-	-	-	-	O	-	-
Common Nettle	<i>Urtica dioica</i>	O	O	-	-	R	-	P	-	-	-	-	-	-	-
Common Ragwort	<i>Senecio jacobaea</i>	-	-	-	-	-	R	P	-	-	-	-	P	-	-
Common Sorrel	<i>Rumex acetosa</i>	-	-	-	-	-	F	-	-	-	-	-	-	F	-
Cow Parsley	<i>Anthriscus sylvestris</i>	-	-	-	-	-	-	P	-	-	-	-	-	-	-
Creeping Bent	<i>Agrostis stolonifera</i>	-	-	-	F	R	D	D	-	-	D	-	D	D	-
Creeping Buttercup	<i>Ranunculus repens</i>	R	R	F	-	O	-	P	F	F	A	P	-	P	-
Creeping Thistle	<i>Cirsium arvense</i>	-	-	-	-	R	-	P	-	-	-	-	-	-	-
Crested Dog's-tail	<i>Cynosurus cristatus</i>	P	-	-	R	-	-	-	-	-	-	-	-	-	-
Cuckoo-flower	<i>Cardamine pratensis</i>	-	-	-	-	-	-	-	-	-	-	-	P	-	-
Curled Dock	<i>Rumex crispus</i>	-	-	-	-	R	-	-	-	-	-	-	-	P	-

Common Name	Scientific Name	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Tankersley Lane (grass verge)
Daisy	<i>Bellis perennis</i>	-	-	-	-	-	-	-	F	-	-	-	P	-	O
Dandelion	<i>Taraxacum officinale</i> agg.	-	-	P	R	F	-	P	-	-	-	-	P	-	O
a St. John's-wort	<i>Hypericum</i> sp.	-	-	-	-	-	R	-	-	-	-	-	-	-	-
False Oat-grass	<i>Arrhenatherum elatius</i>	-	-	-	-	-	-	P	-	-	-	-	-	-	-
Field Wood-rush	<i>Luzula campestris</i>	-	-	-	-	-	-	-	-	-	-	-	P	P/LF	-
Great Willowherb	<i>Epilobium hirsutum</i>	-	-	-	-	-	R	P	-	-	-	-	-	-	-
Greater Plantain	<i>Plantago major</i>	-	-	P	-	P	R	-	-	-	-	-	P	-	-
Hard Rush	<i>Juncus inflexus</i>	-	-	-	R	-	-	-	-	-	-	-	-	-	-
Hogweed	<i>Heracleum sphondylium</i>	-	-	-	R	R	-	-	-	-	-	-	-	-	-
Hop Trefoil	<i>Trifolium campestre</i>	-	-	-	-	R	-	-	-	-	-	-	-	-	-
Lesser Stitchwort	<i>Stellaria graminea</i>	-	-	-	-	-	-	P	-	-	-	-	P	-	-
Meadow Buttercup	<i>Ranunculus acris</i>	-	-	P	R	-	R	-	-	-	-	-	-	-	-
Meadow Foxtail	<i>Alopecurus pratensis</i>	-	-	-	D	R	-	-	-	-	-	-	-	-	-
Perennial Rye-grass	<i>Lolium perenne</i>	D	D	-	O	F	D	P	A	A	P	A	P	-	D
Red Clover	<i>Trifolium pratense</i>	-	-	-	-	O	-	-	-	-	-	-	-	-	-
Red Fescue	<i>Festuca rubra</i> agg.	-	-	-	-	-	-	P	-	-	-	-	-	F	-
Ribwort Plantain	<i>Plantago lanceolata</i>	-	-	F	-	-	P	P	R	-	-	-	P	P	O
Rough Meadow-grass	<i>Poa trivialis</i>	-	-	-	R	-	-	-	-	-	-	-	-	-	-
Slender Speedwell	<i>Veronica filiformis</i>	-	-	-	-	-	-	-	-	-	-	-	O	-	-
Smooth Hawk's-beard	<i>Crepis capillaris</i>	-	-	-	-	-	R	-	-	-	-	-	-	-	-
Soft Rush	<i>Juncus effusus</i>	-	-	-	-	-	-	P	-	-	-	-	-	-	-
Spear Thistle	<i>Cirsium vulgare</i>	-	-	-	-	-	-	P	-	-	-	-	-	-	-
Sweet Vernal Grass	<i>Anthoxanthum odoratum</i>	-	-	-	R	-	-	-	-	-	-	-	-	LF	-

Common Name	Scientific Name	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Tankersley Lane (grass verge)
Thyme-leaved Speedwell	<i>Veronica serpyllifolia</i>	-	-	-	-	-	-	-	-	-	-	-	O	-	-
Timothy	<i>Phleum pratense</i> sens.lat.	-	-	-	-	-	R	-	-	-	-	-	-	-	-
Tufted Hair-grass	<i>Deschampsia caespitosa</i>	-	-	-	-	-	R	P	-	-	P	-	-	-	-
Tufted Vetch	<i>Vicia cracca</i>	-	-	-	-	R	-	-	-	-	-	-	-	-	-
White Clover	<i>Trifolium repens</i>	F	F	-	-	F	-	-	O	-	-	-	F	-	F
White Dead-nettle	<i>Lamium album</i>	-	-	-	-	-	-	P	-	-	-	-	-	-	-
Yarrow	<i>Achillea millefolium</i>	-	-	-	-	-	-	-	-	-	-	-	-	P	-
Yorkshire-fog	<i>Holcus lanatus</i>	O	O	-	F	R	F	LD	-	-	-	-	P	-	-

Common Name	Scientific Name	BW1	BW2	PBW1	PBW2
a bent-grass	<i>Agrostis</i> sp.	P	-	-	-
a lime	<i>Tilia</i> sp.	O	-	-	-
a meadow-grass	<i>Poa</i> sp.	O	-	-	-
a willow	<i>Salix</i> sp.	-	-	P	-
Apple	<i>Malus domestica</i>	-	-	P	-
Ash	<i>Fraxinus excelsior</i>	D	D	F	-
Beech	<i>Fagus sylvatica</i>	D	-	-	-
Bittersweet	<i>Solanum dulcamara</i>	R	-	-	-
Bluebell	<i>Hyacinthoides non-scripta</i>	R	P	-	-
Bramble	<i>Rubus fruticosus</i> agg.	LD	D	F	P
Broad Buckler-fern	<i>Dryopteris dilatata</i>	R	-	-	-
Broad-leaved Willowherb	<i>Epilobium montanum</i>	R	-	-	-

Common Name	Scientific Name	BW1	BW2	PBW1	PBW2
Cleavers	<i>Galium aparine</i>	R	-	-	P
Common Male Fern	<i>Dryopteris filix-mas</i>	O	-	-	-
Common Nettle	<i>Urtica dioica</i>	O	-	-	-
Compact Rush	<i>Juncus conglomeratus</i>	R	-	-	-
Cow Parsley	<i>Anthriscus sylvestris</i>	-	-	P	-
Creeping Buttercup	<i>Ranunculus repens</i>	P	-	-	-
Dog Rose	<i>Rosa canina</i> agg.	P	-	-	-
Dog's Mercury	<i>Mercurialis perennis</i>	P	P	-	-
Downy Birch	<i>Betula pubescens</i>	R	-	-	-
Elder	<i>Sambucus nigra</i>	P	-	-	-
Enchanter's-nightshade	<i>Circaea lutetiana</i>	O	-	-	-
Field Maple	<i>Acer campestre</i>	-	-	LD	P
Field Rose	<i>Rosa arvensis</i>	R	P	-	-
Garlic Mustard	<i>Alliaria petiolata</i>	P	P	-	P
Gooseberry	<i>Ribes uva-crispa</i>	P	-	-	-
Great Willowherb	<i>Epilobium hirsutum</i>	R	-	-	-
Hawthorn	<i>Crataegus monogyna</i>	O	F	P	P
Hedge Woundwort	<i>Stachys sylvatica</i>	P	-	-	-
Herb Bennet	<i>Geum urbanum</i>	F	-	-	P
Herb-robert	<i>Geranium robertianum</i>	P	-	-	-
Hoary Ragwort	<i>Senecio erucifolius</i>	P	-	-	-
Hogweed	<i>Heracleum sphondylium</i>	P	-	P	-
Horse-chestnut	<i>Aesculus hippocastanum</i>	R	-	-	P
Ivy	<i>Hedera helix</i>	F	D	-	P
Lesser Celandine	<i>Ranunculus ficaria</i>	R/LF	-	-	-
Lords-and-ladies	<i>Arum maculatum</i>	P	-	-	-

Common Name	Scientific Name	BW1	BW2	PBW1	PBW2
Meadow Vetchling	<i>Lathyrus pratensis</i>	-	-	P	-
Pedunculate Oak	<i>Quercus robur</i>	R	-	-	-
Red Fescue	<i>Festuca rubra</i> agg.	-	-	P	-
Sweet Chestnut	<i>Castanea sativa</i>	P	-	-	-
Sycamore	<i>Acer pseudoplatanus</i>	D	-	-	-
Tufted Hair-grass	<i>Deschampsia caespitosa</i>	F	-	-	P
Wavy Bitter-cress	<i>Cardamine flexuosa</i>	R	-	-	-
Wild Plum	<i>Prunus domestica</i>	-	-	-	D
Wood Dock	<i>Rumex sanguineus</i>	O	-	-	-
Wood Millet	<i>Milium effusum</i>	F	-	-	-
Wood Speedwell	<i>Veronica montana</i>	R/LF	-	-	-
Wych Elm	<i>Ulmus glabra</i>	LD	-	P	-

Common Name	Scientific Name	Ephemeral/short perennial
a crucifer	<i>Cardamine</i> sp.	P
a willowherb	<i>Epilobium</i> sp.	P
Autumnal Hawkbit	<i>Scorzoneroideis autumnalis</i>	P
Cock's-foot	<i>Dactylis glomerata</i>	P
Common Couch	<i>Elytrigia repens</i>	P
Common Mouse-ear	<i>Cerastium fontanum</i>	P
Common Stork's-bill	<i>Erodium cicutarium</i> agg	P
Creeping Bent	<i>Agrostis stolonifera</i>	P
Daisy	<i>Bellis perennis</i>	P
Dove's-foot Crane's-bill	<i>Geranium molle</i>	P
Red Clover	<i>Trifolium pratense</i>	P
a mayweed	<i>Matricaria</i> sp.	P

Common Name	Scientific Name	Ephemeral/short perennial
White Clover	<i>Trifolium repens</i>	P

Appendix C: Photographs



Photograph 1: Plantation woodland (PBW 2)



Photograph 2: Field F1 and H1



Photograph 3: Tankersley Lane grass verge



Photograph 4: Field F7



Photograph 5: F3



Photograph 5: Arable field and boundary woodland in south east of site



Photograph 6: Building B1



Photograph 7: B1 (roof)



Photograph 8: B1 (delaminating fascia)



Photograph 9: B2 (damage to gable)



Photograph 10: B3 (gap above door)



Photograph 11: B4



Photograph 12: B6 (hole in gable end)



Photograph 13: B10



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Site Boundary

1KM Buffer

2KM Buffer

Local Nature Reserves (LNR)

Local Wildlife Sites (LWS)

Species

Mammals

- Brown long-eared bat
- Common pipistrelle
- Pipistrelle sp.
- Whiskered bat
- Hedgehog

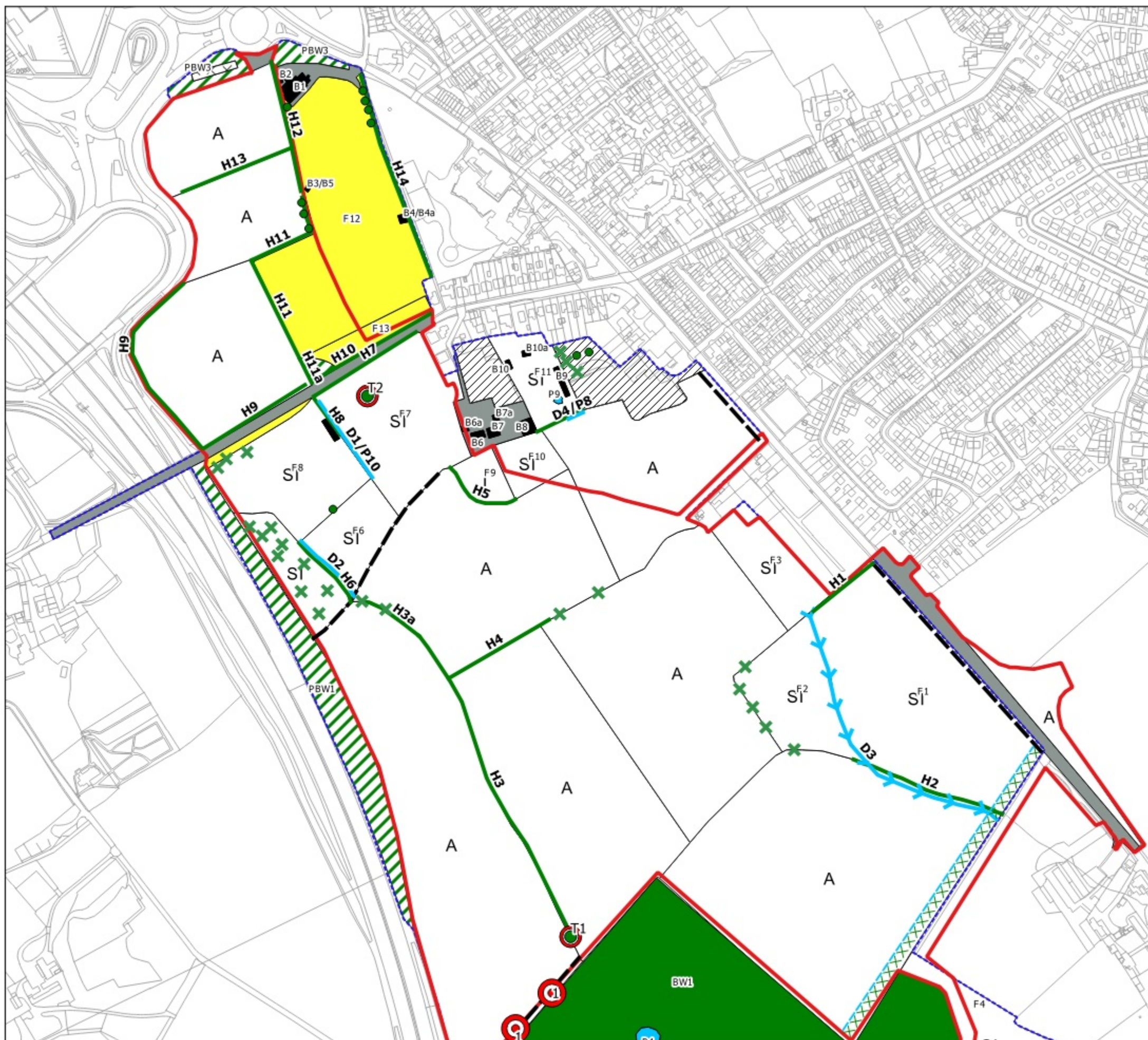
Other

- Grass Snake
- Great Crested Newt
- Cinnabar
- Dingy Skipper
- White-letter Hairstreak

Birds

- Bullfinch
- Dunnock
- Fieldfare
- House Martin
- House Sparrow
- Kestrel
- Lesser Redpoll
- Mistle Thrush
- Northern Lapwing
- Redwing
- Reed Bunting
- Skylark
- Song Thrush
- Starling
- Swift
- Tawny Owl
- Willow Tit
- Yellowhammer





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Key

- Site Boundary
- Survey Boundary
- Land not accessed for survey
- x Scrub - scattered
- Tree with bat potential
- Target note
- Broadleaved tree
- Wet Ditch
- Dry stone wall
- Stream
- Hedgerow
- Dry ditch
- xxx Scrub - scattered line
- Broadleaved woodland - plantation
- Broadleaved woodland - semi-natural
- Buildings
- Built Environment: Buildings/hardstanding
- Cultivated/disturbed land - amenity grassland
- Cultivated/disturbed land - arable
- Cultivated/disturbed land - ephemeral/short perennial
- Improved grassland
- Poor semi-improved grassland
- Pond

client
Newlands Developments

project
Land West of Sheffield Road,
Hoyland

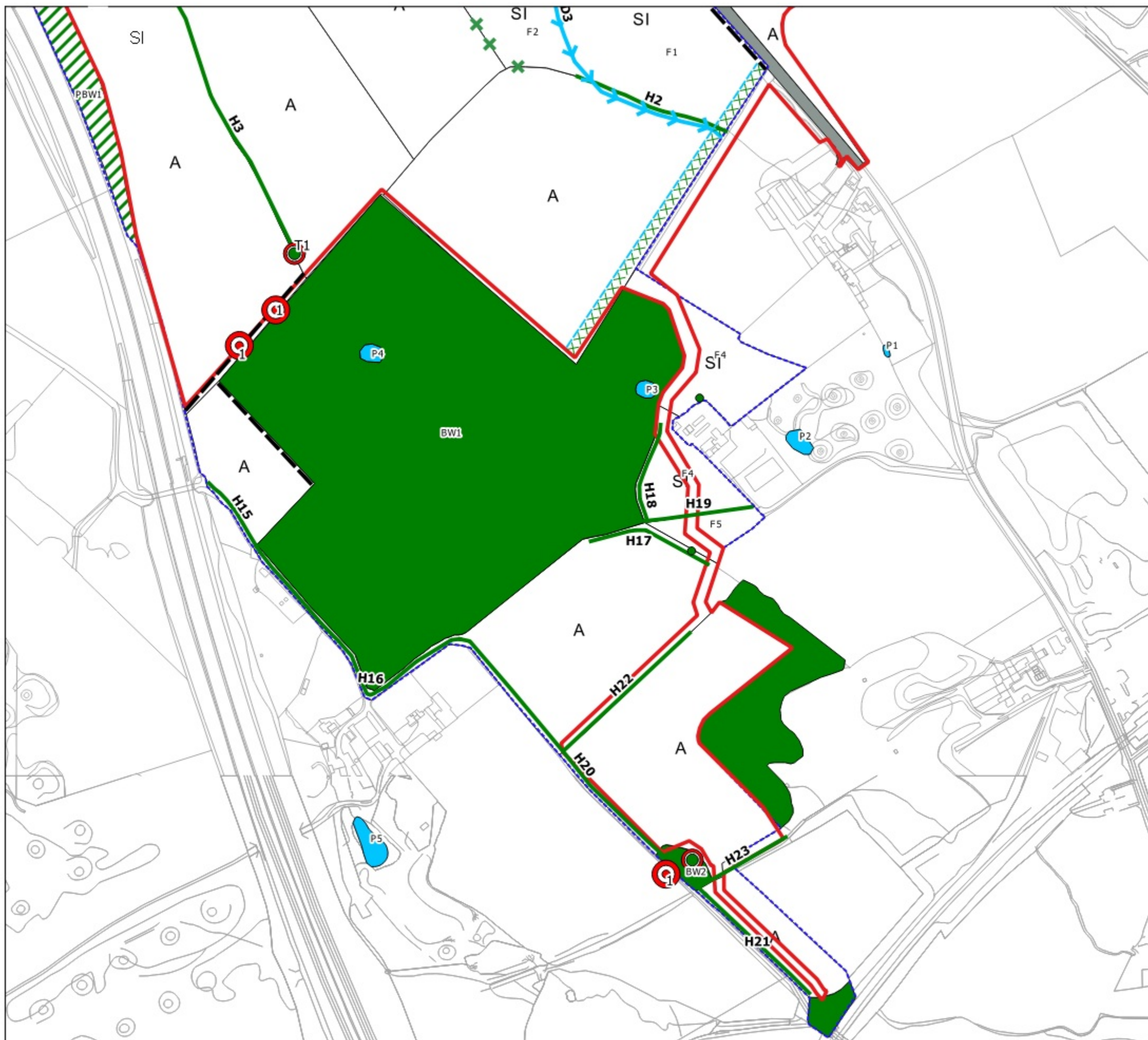
PHASE 1 HABITAT PLAN (north)

scale
1:4500

drawing / revision
HUF/AWB

date
8/6/2020

Figure 2a **9295**



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Key

- Site Boundary
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- Pond


client
 Newlands Developments
project
 Land West of Sheffield Road,
 Hoyland
drawing title
 PHASE 1 HABITAT PLAN (south)
scale
 1:4500
drawn
 HUF/AWB
date
 8/6/2020
figure
 Figure 2b
number
 9295