



Hampshire  
County Council

# Ecological Appraisal and Biodiversity Net Gain Assessment

2 Hexham Road, Reading

For  
Reading Borough Council

February 2023  
updated May 2023 (Rev2)

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# Report conditions

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|------------------------------|------------------------------------------------------------------------------------|-------------------------|---------------------------------|
| <i>HCCET reference</i>       | 21.0245                                                                            | <i>Client reference</i> | E05076                          |
| <i>Report title</i>          | Ecological Appraisal and Biodiversity Net Gain Assessment – 2 Hexham Road, Reading |                         |                                 |
| <i>Client</i>                | Reading Borough Council                                                            |                         |                                 |
| <i>Report status</i>         | Final rev2 (15 May 2023)                                                           |                         |                                 |
| <i>Survey dates</i>          | Extended Phase 1: 21 May 2021<br>Updated site walkover: 19 October 2022            |                         |                                 |
| <i>Surveyor(s)</i>           | Adam Egglesfield                                                                   |                         |                                 |
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## Summary

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A Preliminary Ecological Appraisal (PEA) was undertaken in May 2021 at the site of a vacant care home at 2 Hexham Road, Reading to support Prior Approval to allow the demolition of the building. Demolition of the site commenced in late 2022. A further site survey was carried out in October 2022 to inform this Ecological Appraisal report which provides information to support a new planning application for a day centre providing social care services (Use Class E(f)) and specialist housing (Use Class C3) with landscaping, car parking and access at the site.

Following the 2021 and 2022 survey work, the findings fed into the detailed design for the scheme, with particular focus on the soft landscaping elements to ensure that the development delivered measurable net gains to biodiversity in line with national and local policy.

Habitats to be directly impacted by the proposed works are unmanaged garden and amenity type habitats common to urban settings, including amenity grassland, hardstanding, species-poor semi-improved grassland, and a range of overgrown and unmanaged herbaceous beds and shrubs.

The survey work concluded that:

- Badgers, bats, hazel dormice, reptiles, and notable amphibians are unlikely to be present at the site.
- The unmanaged scrub and trees at the site are likely to support a typical assemblage of more widespread urban bird species during the spring and summer breeding season.
- The site is likely to be exploited by small numbers of foraging bats more associated with urban environments as a part of their wider foraging activity.

Measures are set out in the report that demonstrate how the development will not harm nesting birds and will not adversely affect bat foraging activity. Species-specific enhancements are proposed such as bat and swift boxes.

Impact assessment taking into account any factors of the development that would be considered inherent or embedded mitigation such as landscape design was carried out. This identified that the development proposals, which include a well-considered

soft landscaping scheme with a strong focus on biodiversity, would not result in a net loss of biodiversity. The proposals protect the darker areas of the site along the south and west, where there are areas of better-quality bat foraging habitat.

A formal Biodiversity Net Gain assessment was carried out. This identified that the development would result in a net gain of 14.82% in biodiversity value at the site. In addition, the project will secure the planting of a number of further street trees in the surrounding residential area, resulting in further net gains to biodiversity.

Additional habitat enhancements for particular species are included, including swift and bat boxes, and a hedgehog refuge / hibernaculum.

A summary habitat management plan is set out to ensure the new habitats are monitored and managed to achieve the identified biodiversity gain.

Provided the various embedded and additional mitigation and enhancement measures are implemented, it is considered that the development would not result in adverse impacts to nearby sites of biodiversity interest, or to on-site or nearby protected species, would deliver a net gain in biodiversity, and would accord with relevant biodiversity policy.

15 May 2023 – Rev2 minor updates:

Following comments from the Local Planning Authority, the provision of new bat roosting opportunities has been amended from the tree-mounted boxes to integrated roost units within the external walls of the building. See Paragraph 6.8 and the plan in Appendix 6.

# 1. Introduction

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## *Objectives*

- 1.1. The purpose of this study was to gather ecological information about the site at Hexham Road, Reading, and assess the impacts of the proposals to construct a day centre providing social care services (Use Class E(f)) and specialist housing (Use Class C3) with landscaping, car parking and access.
- 1.2. The Ecological Appraisal comprises a number of elements; initially a desk-based assessment was carried out, followed by field survey work based on Extended Phase 1 survey methodology to assess the potential for the site to support protected habitats and species. Following this, review of the proposals and survey findings to date concluded that no further species-specific survey work was required (such as for reptiles or bats). Further assessment was carried out to draw together a formal Biodiversity Net Gain (BNG) assessment using the DEFRA Metric 3.1.
- 1.3. This Ecological Appraisal sets out the methods and findings of all these elements of survey work and uses the findings to fully assess the ecological impacts of the proposed development.
- 1.4. The Ecological Appraisal supports the proposed development by demonstrating the proposal accords with relevant biodiversity legislation and policy.

## *Site Description*

- 1.5. The Hexham Road site is located in a suburban area in Whitley, a suburb to the southern part of Reading. The site is roughly square in plan, comprising a main central building with several wings, set in a mature plot with gardens, trees, and associated service areas.
- 1.6. The building was in the process of being demolished at the time of the October 2022 updating site survey.
- 1.7. The site faces north onto Hexham Road and is accessed through a gate along this boundary. There is a large area of parking to the front of the site, with grass and trees around the sides and rear. There is a small courtyard garden to the

centre courtyard and a larger area of formal garden to the south-eastern part of the site.

- 1.8. A location plan and aerial photo of the site showing the site boundary and its setting are shown in Appendix 1. Appendix 2 shows photos of the site.

### *Proposed works*

- 1.9. It is proposed to construct a day centre providing social care services (Use Class E(f)) and specialist housing (Use Class C3) with landscaping, car parking and access. Proposed plans are shown in Appendix 3.

### *Limitations*

- 1.10. The courtyard area and the formal garden area to the south-eastern part of the site were inaccessible during the initial 2021 survey due to the metal security shuttering that has been fitted to the windows and doors since the building was vacated. However, these could be viewed from between the mesh bars. Given that these areas are formal garden areas, this is not seen as a significant limitation to the survey work.
- 1.11. All external areas of the site were accessible during the 2022 updating survey.
- 1.12. There are therefore no significant limitations to the survey work.

## 2. Methods

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### *Desk-based assessment*

- 2.1. A desk-based assessment was carried out by HCCET in April 2021 and updated in December 2022. This comprised the following elements:

#### Zone of influence (Zoi)

- 2.2. The development proposals and the site were reviewed to establish the likely extent of impacts from the scheme at which potential ecological receptors might be affected. This was based on established criteria (such as Natural England's Impact Zones for Sites of Special Scientific Interest (SSSI)) or published zones around certain European designated sites. Where established criteria are not present, the Zoi was based on the ecologist's professional judgement. Where necessary, the Zoi for relevant receptors are discussed in the following sections.

#### Scoping

- 2.3. An initial review of the site and the proposals were carried out to consider the likelihood of particular ecological receptors being present at the site or nearby (within relevant Zoi). Where this scoping confidently concluded that a particular receptor is likely absent (for example there are unlikely to be water vole at a site with no on-site or nearby waterbodies), these are not considered in detail in the report.

#### Data search

- 2.4. Geographical Information Systems (GIS) mapping was used in order to identify records of statutory designated sites within a 1km radius of the site and to examine the site's ecological context.
- 2.5. The Reading Borough Council Local Plan Proposals Map was examined to identify other areas of identified biodiversity interest such as other patches of more ecologically rich habitats, and existing or proposed green links<sup>1</sup>.

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<sup>1</sup> <https://www.reading.gov.uk/planning/planning-policy/new-local-plan/>

- 2.6. The findings of the desk-based assessment in terms of establishing the local and wider ecological context of the site has also been used where relevant to inform recommendations for biodiversity net gain, as set out in Section 5.

### *Field survey*

- 2.7. Field survey work was carried out on 21 May 2021 and updated in October 2022. This followed the Phase 1 Habitat Survey methodology of the Joint Nature Conservation Committee (JNCC, 2010) and the Institute of Environmental Assessment (IEA, 1995). Phase 1 Habitat Survey is a standard technique for classifying and mapping British habitats. The aim is to provide a record of habitats that are present on site. It should be noted that the habitat categories used by the Phase 1 Habitat Survey Methodology do not mirror the habitat types considered to be conservation priorities. Where relevant and necessary, this is discussed further in Section 4.
- 2.8. The site survey entailed two surveyors, Adam Egglesfield (Senior Ecologist) and Camilla Mitchell (Ecologist) undertaking a methodical investigation of all areas of the site in order to identify the presence of, or habitat considered suitable for supporting, legally-protected species. Assessment of the nature and value of habitats and vegetation at the site was also carried out. A brief description of the survey methods used is provided below.
- 2.9. The site was inspected for field signs of badger *Meles meles* such as badger setts, latrine sites, dung piles, well-used trails, prints, foraging activity, and hairs.
- 2.10. An assessment was made of the suitability of habitat on site to support hazel dormice *Muscardinus avellanarius*. Key habitats for this species are woodland, scrub and hedgerows, particularly where these offer dense vegetation for nesting or hibernation, along with food resources such as hazelnuts, fruiting and nectar-rich plants (e.g. hawthorn, bramble) and honeysuckle (for nesting material). The presence of important landscape-scale habitat linkages between suitable habitats was considered.
- 2.11. The survey also included a consideration of the site's suitability to support breeding bird species. These will utilise a broad range of habitats, including

structures such as houses and outbuildings, trees, scrub, isolated shrubs, dense herbaceous vegetation (terrestrial and aquatic) and open grassland.

- 2.12. The site's suitability to support reptiles was also considered. Key habitat features for reptiles include tussocky or patchy grassland, scrub edge, linear watercourses, ponds, compost heaps, brash piles and rubble/soil heaps. Linkage to suitable habitat within the surrounding landscape will increase the potential for reptiles to occur, although populations can occur within isolated or fragmented habitats even within urban areas.
- 2.13. An assessment was made of all water bodies and terrestrial habitat within the site and within the surrounding landscape for their suitability to support populations of amphibians, particularly great crested newt *Triturus cristatus* (GCN). Ponds were assessed where possible according to the Habitat Suitability Index (HSI) assessment method (Oldham et al, 2000).
- 2.14. Any suitable on site or nearby accessible waterbodies such as lakes, rivers, ditches and streams were inspected for signs of water voles and otter. Signs of otter include spraints (droppings), holts and couches (resting places), haul outs, and anal jelly. Water vole signs include burrows (particularly with a grazed 'lawn' around their entrance), runs along the bank, latrines, feeding signs, runs, and footprints.
- 2.15. Trees were assessed for their potential to support bats, using methods guided by and consistent with that set out in Collins (ed) (2016). Relevant trees were inspected from ground level to identify evidence of bat activity and/or identify the presence of any potential roost features (PRFs) such as rot holes, flaking bark, cracks or splits and areas of extensive deadwood.
- 2.16. Trees were inspected using Opticron Discovery 10x42 close-focussing binoculars and where necessary and safely possible, a ladder. High-powered torches (Clulite Clubman CB2 and Lenser P7.2) were used to illuminate potential roost and roost access features.
- 2.17. An assessment was made of the suitability of the site and the surrounding landscape to support foraging, commuting and other flying behaviours such as swarming and social interactions. The assessment was based on the presence

of key habitat features such as woodland, scrub, hedgerows, grassland, and open water and watercourses, which are highly attractive to bats as both a foraging resource and as commuting routes. The presence of such habitats, particularly in a mosaic with other suitable habitats, typically increases the potential for structures to be exploited by bats where suitable roost and access opportunities are present. The presence of unlit semi-natural vegetation and habitat linkages between the site and the surrounding landscape were also considered.

- 2.18. Bat roost suitability and foraging habitat quality was assessed according to the criteria set out in Collins (2016).

### 3. Results

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#### *Desk-based assessment*

##### Designated sites and notable habitats

- 3.1. There are no statutory designated sites such as Sites of Special Scientific Interest (SSSIs) within the search area.
- 3.2. There are several Local Wildlife Sites (LWS) in the surrounding area, including The Cowsey LWS, an area of deciduous woodland and grassland managed by Reading Borough Council, approximately 700m to the south-east. Further afield, the Reading University Whiteknights campus lies approximately 1.2km north-east. This includes large areas of woodland and wood pasture / parkland habitat. Further afield, approximately 1.3km to the west, lies the broad expanse of floodplain meadows / grazing marsh at Fobney and along the floodplain of the River Kennet as it flows into Reading.
- 3.3. There is an area of biodiversity interest mapped on the Proposals Map around the western part of the Sherfield Hall site, approximately 400m north-east.
- 3.4. There are several other nearby open spaces including Cintra Park and Longbarn Lane recreation ground. These are managed more as public amenity parks.
- 3.5. Examination of the Local Plan proposals map identifies a green link a short distance to the south of the Hexham Road site. This links several green space areas, running between Longbarn Lane recreation ground, south-east to the Reading Girls School playing field and then north-east to the Sherfield Hall area of biodiversity interest.

##### Fieldwork scoping / Zone of influence

- 3.6. Initial assessment identified no watercourses on or near the site and therefore impacts on riparian mammals were scoped out from the assessment.
- 3.7. The surrounding habitat is largely urban residential, and the site itself is an existing building with a mature, if unmanaged, garden. There appear to be no potentially sensitive areas within the immediate adjacent areas. The proposals

are for demolition and construction of a new residential accommodation. Therefore, the zone of influence is considered to be the site itself plus a small surrounding radius of no more than 50m.

## Field Survey

### Habitats

- 3.8. The main habitats present at and around the site are shown in the Phase 1 habitat map in Appendix 4. The redline boundary includes the site itself, and the pavement and verge along Hexham Road to the north of the site.
- 3.9. Species in the amenity grassland sward include, for example at Target Note (TN) 1 prickly lettuce *Lactuca serriola*, dandelion *Taraxacum* agg., cinquefoil *Potentilla reptans*, hedgerow cranesbill *Geranium pyrenaicum*, doves-foot cranesbill *G. molle*, yarrow *Achillea millefolium*, red dead-nettle *Lamium purpureum*, white dead-nettle *L. album*, common field speedwell *Veronica persica*, and field bindweed *Convolvulus arvensis*. See Photo 2.
- 3.10. During the 2022 update survey, the grassland to the front (north) of the site and the west does appear to be still under some degree of occasional mowing as it appeared to have a more even sward height. The species diversity remains low.
- 3.11. There is a smaller area of more shaded semi-improved grassland to the north-east corner (TN2). This area is somewhat shaded by trees, and herb species found in this area are common and widespread. They include ivy *Hedera helix*, wood avens *Geum urbanum*, meadow buttercup *Ranunculus acris*, herb-Robert *Geranium robertianum*, cleavers *Galium aparine*, smooth sow-thistle *Sonchus oleraceus*, great willowherb *Epilobium hirsutum*, common vetch *Vicia sativa*, sweet violet *Viola odorata*, daisy *Bellis perennis*, yarrow, cats-ear *Hypochaeris radicata*, ox-eye daisy *Leucanthemum vulgare*, and common cinquefoil. See Photo 3.
- 3.12. There is a larger area of semi-improved grassland to the south-west part of the site (TN3, Photo 4). Species here include smooth sow-thistle, cow parsley *Anthriscus sylvestris*, sweet violet, hairy wood rush, common vetch, creeping buttercup *R. repens*, wood avens, dandelion, cleavers, yarrow, ox-eye daisy,

herb-Robert, green alkanet *Pentaglottis sempervirens*, as well as garden escapes such as aquilegia and Spanish bluebell *Hyacinthoides hispanica*.

- 3.13. There are several mature cherry *Prunus* sp. and sycamore *Acer pseudoplatanus* trees in this area, as well as numerous cherry and sycamore saplings across the grass sward.
- 3.14. The south-eastern part of the site is largely a more ornamental garden area. This could not be fully accessed in 2021 but was visible to some extent through the security mesh over the windows and doors (Photos 5 and 6). Much of this area appeared to be occasionally managed amenity grassland, with extensive herbaceous beds and introduced garden shrubs.
- 3.15. In October 2022, this area could be more fully accessed. As a result of the lack of management, the areas of grassland in the rear garden area have since become reduced in area due to the encroachment of ephemeral / perennial vegetation, tall ruderals, and encroaching unmanaged scrub.
- 3.16. The garden area to the south-east part of the site previously supported an area of amenity grassland during the 2021 survey; however, the unmanaged nature of much of the site has led to this grassland reverting to less managed semi-improved grassland, with ruderal and sparse bramble scrub encroaching from the unmanaged ornamental shrub beds around the perimeter (Photo 7). However the species diversity of these grassland areas remains low.
- 3.17. As can be seen from Photo 8 the taller scrub encroachment is largely from the ornamental / introduced amenity shrub planting at the site becoming overstood. However, there are developing belts of low sparse bramble scrub around the edges of many of the old shrub beds, encroaching over the areas of old planting, grassland, and hardstanding pathways and patio areas.

#### Badger

- 3.18. No direct evidence of badger was seen on site. The site is in an urban area with no areas of likely habitat nearby. Badgers are considered absent.

### Bats – built structures

3.19. The buildings have been previously assessed for bat roost suitability. These were in the process of being demolished in 2022. There are no remaining structures on site that could support bats.

### Bats – trees

3.20. There are several mature trees around the site. These were closely inspected from ground level and no potential roost features were noted.

### Bats – foraging and commuting

3.21. The site presents a small area of more vegetated habitat within a largely urban landscape. While its small size is unlikely to mean it is a key foraging resource, it is likely to be regularly exploited by bats from the surrounding area that are more habituated to urban environments such as common pipistrelle *Pipistrellus pipistrellus* bats.

### Hazel dormouse

3.22. The site is isolated from any suitable dormouse habitat in the wider landscape and does not support suitable dormouse habitat. Dormice are considered absent from the site.

### Birds

3.23. The unmanaged amenity shrub and trees on site are highly suitable for supporting small numbers of common and widespread bird species. There are therefore likely to be active nests present during the spring and summer.

### Reptiles

3.24. Some of the longer grassland habitats nominally appear suitable for supporting reptiles due to the structure of the habitat. However, the grass is occasionally managed and has only become longer in the recent past since the building was vacated. Until mid-2019, the grassland areas were all tightly managed short amenity grass sward.

3.25. The surrounding habitat is either hardstanding (such as roads) or residential development at a reasonably high density. There are no adjacent areas that appear suitable for supporting reptiles.

- 3.26. Therefore, while the structure of the habitat across some parts of the site is becoming suitable for supporting reptiles, the recent management changes, and the isolated setting of the habitat with no likely adjacent source of colonising animals, it is concluded that reptiles are likely absent.

#### Amphibians

- 3.27. There are no ponds on site and examination of Ordnance Survey mapping finds no ponds within 250m. The surrounding landscape is highly urbanised. It is therefore considered that the site is unlikely to support great crested newts or other notable amphibians.

#### Other mammals

- 3.28. A distinct mammal track was noted around the south-eastern part of the site from beneath a push-under beneath the fence dividing the more formal rear gardens from the western part of the site in 2021. It is considered more likely that this path and push-under is evidence of fox *Vulpes vulpes*.
- 3.29. In 2022, a further search of the site was carried out prior to the demolition, to ensure that the work did not harm foxes. No excavated fox earths were identified; however, worn tracks through the vegetation were noted and an above-ground den identified in a patch of bramble towards the north-east corner of the rear garden area (Photo 9).
- 3.30. Given the ongoing recent demolition activity, and lack of signs of excavated fox earths, it is considered that the site will not be used in the future for excavating more semi-permanent dens or for breeding.
- 3.31. The site is likely to support a range of more widespread small mammals. In particular, it is likely to support hedgehog *Erinaceous europaeus*.

## 4. Impact Assessment

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### *Planning policy and legislation*

4.1. Paragraph 180 of the National Planning Policy Framework (NPPF) (MHCLG, 2021) requires that when determining planning applications, if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused.

4.2. Policy EN12 'Biodiversity and the Green Network' of the Reading of the Reading Borough Council Local Plan (November 2019) states that:

*"Development should not result in a net loss of biodiversity and geodiversity, and should provide a net gain for biodiversity wherever possible.*

*Development should:*

*Protect and wherever possible enhance features of biodiversity interest on and adjacent to the application site, incorporating and integrating them into development proposals wherever practicable; and*

*Provide new tree planting, wildlife friendly landscaping and ecological enhancements (such as wildlife ponds, bird and bat boxes) wherever practicable."*

4.3. The Environment Act 2021<sup>2</sup> requires a 10% net gain in biodiversity value through developments; however, this 10% requirement does not become a legal requirement until November 2023. The Local Plan does not currently specify a particular level of net gain in biodiversity.

4.4. Many species of animal are legally protected under both domestic or international law (the Wildlife and Countryside Act 1981 (as amended)<sup>3</sup> and the

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<sup>2</sup> [Environment Act 2021 \(legislation.gov.uk\)](https://legislation.gov.uk/ukpga/2021/24/section/1)

<sup>3</sup> [Wildlife and Countryside Act 1981 \(legislation.gov.uk\)](https://legislation.gov.uk/ukpga/1981/61/section/1)

Conservation of Habitats and Species Regulations 2017<sup>4</sup> respectively). Badgers and their setts are protected under the Badgers Act 1992<sup>5</sup>.

- 4.5. With reference to bats, hazel dormice, and great crested newts, these are European Protected Species (EPS). This legislation makes it an offence to kill, injure or disturb them, or to destroy or damage their breeding sites and resting places (even when the animals are not present). For such work to legally proceed, Natural England (the Government's statutory nature conservation agency) will issue a licence for the work to be able to proceed legally, subject to the proposals meeting certain criteria.
- 4.6. The following sections consider the potential impacts on any identified ecological features and whether the development would be in accordance with policy and legislation.

### *Potential impacts on sites, habitats and species*

#### Designated sites

- 4.7. The demolition work will not adversely affect any statutory or non-statutory designated sites.

#### Vegetation and habitats

- 4.8. The habitats at the site are common and widespread and are not of high ecological value in the wider context. However, they do have some intrinsic biodiversity value at the site level and will contribute to the local biodiversity resource, particularly given the proximity of the nearby green link to the south (highlighted above in paragraph 3.4).
- 4.9. A detailed Biodiversity Net Gain assessment has been carried out – see Section 5 of this report. This concludes that provided the landscaping scheme is implemented and managed, the development will not result in any net loss of biodiversity and will result in measurable net gains.

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<sup>4</sup> <https://www.legislation.gov.uk/ukxi/2017/1012/contents/made>

<sup>5</sup> <http://www.legislation.gov.uk/ukpga/1992/51/contents>

Badger

4.10. Badgers are considered likely absent from the site. It is therefore concluded that the demolition work will have a negligible impact on badgers.

Hazel dormouse

4.11. Hazel dormice are considered likely absent from the site. It is therefore concluded that the demolition work will have a negligible impact on hazel dormice.

Breeding birds

4.12. Clearance of the site would result in a reduction in the extent of available nesting habitat. If active nests were present at the time, this clearance would result in destruction of active nests contrary to the Wildlife and Countryside Act.

Reptiles

4.13. Reptiles are considered likely absent from the site. It is therefore concluded that the demolition work will have a negligible impact on reptiles.

Great crested newts

4.14. GCN are considered likely absent from the site. It is therefore concluded that the demolition work will have a negligible impact on GCN.

Bat roosts

4.15. Bats and bat roosts are considered likely absent from the site. It is therefore concluded that the demolition work will have a negligible impact on bats.

Bat foraging and commuting activity

4.16. The proposed development will retain the vegetation to the western parts of the site, and the layout also retains landscaped plantings to the south and east. There will be minimal new external lighting at the proposed site. Lighting design is to be low level strip or bollards and will avoid intense and high-level floodlights such as were present at the site prior to its demolition.

4.17. The development proposal is therefore not considered to have any significant adverse impacts on bat foraging habitat.

### Other mammals

4.18. Development can impede the dispersal of small mammals across the local areas when site perimeter fencing is installed.

### *Summary*

4.19. In summary, in the absence of measures to avoid, mitigate, or compensate for impacts, it is concluded that the demolition work would have the potential for the following impacts:

- Direct harm to active bird nests if site clearance undertaken in the spring or summer.
- Creation of dispersal barriers to hedgehogs and other small mammals.

## 5. Biodiversity Net Gain Assessment

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### *Method*

- 5.1. The Biodiversity Metric compares the existing extent and condition of the habitats against the proposed development. GIS was used to measure the extents of the existing habitats as mapped by the Phase 1 habitat survey (see map in Appendix 4). The survey work was designed to enable the condition of the various habitat parcels to be assessed in line with the condition scoring set out in the metric. For the purposes of the assessment, a habitat parcel is a contiguous area of habitat of the same type and condition.
- 5.2. These results give a value for the existing 'habitat units' that the site currently provides.
- 5.3. Following this, the habitats that would be created on the site as a result of the development proposals were mapped out. This map is shown in Appendix 5, based on the proposed site plan in Appendix 3. Based on the likely success of the implementation of the establishment and long-term management, a condition score was determined for the new and retained post-development habitats.
- 5.4. Where this assessment identified that the development would result in a net loss of biodiversity, further discussion was had with the applicant to identify additional opportunities for off-site biodiversity enhancements. These discussions have informed the final site layout and landscaping.
- 5.5. Further modifiers are applied based on factors such as the time taken to achieve the proposed condition, and whether there would be any delay or early delivery of these.
- 5.6. The BNG assessment is based on UKHab habitat types (Butcher et al, 2020). However, the site has been mapped according to JNCC habitat types. The BNG metric includes conversion to ensure that the Phase 1 habitat type identified as either present at the site, or would be present post-development, is accurately translated to the appropriate UKHab definition.

## Habitat classification and condition scoring

5.7. While there are some more complex habitats that do not readily translate between the two habitat categorisation systems, the habitats at the site are reasonably simple and widespread and the relationships between the various Phase 1 and UKHab types readily comparable as follows:

**Table 1** Existing Phase 1 and UKHab habitats at the site

| Phase 1 habitat                  | UKHab habitat                                                              | Comment                                                                                                   |
|----------------------------------|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| A2.1 Scrub                       | <u>Bramble scrub</u><br>(Medium distinctiveness)                           | Small areas of developing low bramble scrub interspersed with unmanaged ornamental introduced shrub       |
| B6 Poor semi-improved grassland  | <u>Modified grassland</u> (Low distinctiveness)                            | Area of unmanaged lawn to west of site and small area to north-east corner                                |
| C3.1 Tall ruderal                | <u>Sparsely vegetated land</u> – Ruderal / ephemeral (Low distinctiveness) | Small areas of ruderal vegetation colonising areas of bare ground / shrub beds                            |
| J1.2 Introduced shrub            | <u>Urban – Introduced shrub</u><br>(Low distinctiveness)                   | Areas of unmanaged and overgrown garden shrub beds around site                                            |
| J1.3 Short ephemeral / perennial | <u>Sparsely vegetated land</u> – Ruderal / ephemeral (Low distinctiveness) | Areas of developing short ephemeral vegetation colonising patches of old lawn and hardstanding            |
| J1.4 Amenity grassland           | <u>Modified grassland</u> (Low distinctiveness)                            | Area of more regularly managed grassland to front of site as well as grass highway verge to front of site |

5.8. Tables 2 to 4, below, show the condition scoring for the habitats at the site. The formal BNG spreadsheet (Metric v3.1) is provided separately.

**Table 2** On-site grassland current condition score

| Condition Assessment Criteria<br><b>MODIFIED GRASSLAND (Low distinctiveness)</b>                       |                                                                                                                                                                                     | Current Condition                                           |                                                                                              |
|--------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                                                                                        |                                                                                                                                                                                     | Amenity grassland                                           | Semi-improved grassland                                                                      |
| <b>1</b>                                                                                               | There must be 6-8 species per m <sup>2</sup> .<br><b>NB - this criterion is essential for achieving moderate condition.</b>                                                         | <b>Fail</b> – Poorer species diversity (<6/m <sup>2</sup> ) | <b>Fail</b> – Poorer species diversity (<6/m <sup>2</sup> )                                  |
| <b>2</b>                                                                                               | Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm).                                                                            | <b>Fail</b> – homogenous sward height                       | <b>Pass</b> – varied sward height                                                            |
| <b>3</b>                                                                                               | Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area.                                                              | <b>Pass</b> – negligible scrub present                      | <b>Pass</b> – Occasional scrub encroachment but <20%                                         |
| <b>4</b>                                                                                               | Physical damage is evident in less than 5% of total grassland area. E.g., poaching, damage from machinery, erosion caused by high levels of access, damaging management activities. | <b>Pass</b> – negligible damage to sward                    | <b>Pass</b> – negligible damage to sward                                                     |
| <b>5</b>                                                                                               | Cover of bare ground is between 1% and 10%, including localised areas.                                                                                                              | <b>Pass</b> – limited bare ground                           | <b>Pass</b> – limited bare ground                                                            |
| <b>6</b>                                                                                               | Cover of bracken less than 20%.                                                                                                                                                     | <b>Pass</b> – no bracken present                            | <b>Pass</b> – no bracken present                                                             |
| <b>7</b>                                                                                               | Absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).                                                                                                      | <b>Pass</b> – none present                                  | <b>Pass</b> – none present                                                                   |
| Condition Assessment Result                                                                            |                                                                                                                                                                                     | Condition Assessment Score                                  | Habitat Condition Score                                                                      |
| Passes 6 or 7 of 7 criteria including passing essential criterion 1                                    |                                                                                                                                                                                     | Good (3)                                                    | -                                                                                            |
| Passes 4 or 5 of 7 criteria; OR<br>Passes 4 or 5 of 7 criteria including passing essential criterion 1 |                                                                                                                                                                                     | Moderate (2)                                                | -                                                                                            |
| Passes 0, 1, 2 or 3 of 7 criteria; OR<br>4, 5 or 6 of criteria but failing criterion 1                 |                                                                                                                                                                                     | Poor (1)                                                    | <b>POOR</b> – meets <b>5</b> criteria but fails on essential Criterion 1 (species diversity) |
|                                                                                                        |                                                                                                                                                                                     |                                                             | <b>POOR</b> – meets <b>6</b> criteria but fails on essential Criterion 1 (species diversity) |

**Table 3 On-site ruderal/ephemeral habitats - current condition score**

| Condition Assessment Criteria<br>URBAN – Ruderal/Ephemeral (Low distinctiveness)                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Current Condition                                |                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------|
|                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Ruderal                                          | Short ephemeral perennial                                   |
| 1                                                                                                                                                                                                    | Vegetation structure is varied, providing opportunities for insects, birds and bats to live and breed. A single ecotone (i.e. scrub, grassland, herbs) should not account for more than 80% of the total habitat area.                                                                                                                                                                                                                             | <b>Fail</b> – Poorer even, undeveloped structure | <b>Fail</b> – Poorer species diversity (<6/m <sup>2</sup> ) |
| 2                                                                                                                                                                                                    | There is a diverse range of flowering plant species, providing nectar sources for insects. These species may be either native, or non-native but beneficial to wildlife.<br>NB - To achieve GOOD condition, criterion 2 must be satisfied by native species only (rather than non-natives beneficial to wildlife). Note that Biodiverse green roofs are exempt from this requirement, and can include non-native sedums, as set out in footnote 1. | <b>Fail</b> – limited species diversity          | <b>Fail</b> – limited species diversity                     |
| 3                                                                                                                                                                                                    | Invasive non-native species (Schedule 9 of WCA) cover less than 5% of total vegetated area.<br>NB - To achieve GOOD condition, criterion 3 must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).                                                                                                                                                                                                         | <b>Pass</b> – no invasive species                | <b>Pass</b> – no invasive species                           |
| Condition Assessment Result                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Condition Assessment Score                       | Habitat Condition Score                                     |
| <ul style="list-style-type: none"> <li>Passes 3 of 3 core criteria; AND</li> <li>Meets the requirements for good condition within criteria 2 and 3</li> </ul>                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Good (3)                                         | -                                                           |
| <ul style="list-style-type: none"> <li>Passes 2 of 3 core criteria; OR</li> <li>Passes 3 of 3 core criteria but does not meet the requirements for good condition within criteria 2 and 3</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Moderate (2)                                     | -                                                           |
| <ul style="list-style-type: none"> <li>Passes 0 or 1 of 3 core criteria</li> </ul>                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Poor (1)                                         | <b>POOR</b> – only meets one criterion                      |

**Table 4** On-site scrub habitat - current condition score

| Condition Assessment Criteria                  |                                                                                                                                                                                                                                                              | Current Condition                                                                                                 |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| SCRUB – Bramble scrub (Medium distinctiveness) |                                                                                                                                                                                                                                                              | <i>Ruderal</i>                                                                                                    |
| <b>1</b>                                       | Habitat is representative of UKHab description (where in its natural range). There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be up to 100% cover). | <b>Fail</b> – Dominated by sparse bramble colonising old flowerbeds                                               |
| <b>2</b>                                       | There is a good age range – all of the following are present: seedlings, young shrubs and mature shrubs.                                                                                                                                                     | <b>Fail</b> – limited age range as area has only recently started to become scrubbed up                           |
| <b>3</b>                                       | There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and species indicative of sub-optimal condition make up less than 5% of ground cover.                                                                              | <b>Pass</b> – no invasive species                                                                                 |
| <b>4</b>                                       | The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s).                                                                                                                  | <b>Pass</b> – reasonably developed edge grading into adjacent grassland and associated unmanaged ornamental shrub |
| <b>5</b>                                       | There are clearings, glades or rides present within the scrub, providing sheltered edges.                                                                                                                                                                    | <b>Fail</b> – no glades / clearings within bramble scrub areas                                                    |
| Condition Assessment Result                    |                                                                                                                                                                                                                                                              | Habitat Condition Score                                                                                           |
| Passes 5 of 5 criteria                         |                                                                                                                                                                                                                                                              | -                                                                                                                 |
| Passes 3 or 4 of 5 criteria                    |                                                                                                                                                                                                                                                              | -                                                                                                                 |
| Passes 0, 1 or 2 of 5 criteria                 |                                                                                                                                                                                                                                                              | <b>POOR</b> – meets 2 criteria                                                                                    |

5.9. With respect to the on-site tree stock, the existing value of these has been calculated per the guidance in Panks et al 2022. As the AIA for the development proposals (Hampshire Highways Arboriculture, 2023) includes detailed information on the existing trees, the more precise stem diameter measurements in the AIA have been used to calculate the habitat units the trees deliver as this provides a more accurate measurement of individual tree Root Protection Areas (RPA) than the quick 'urban tree helper' in the BNG spreadsheet.

5.10. Table 5 below shows these, together with the summary of the condition assessments for each of the trees.

**Table 5** On-site existing trees - current condition score

| From AIA |                 |                  | Calculated |       |          |          | From BNG Habitat Condition Sheets for Urban Trees |                                     |                   |                                          |                        |                                                   | Score | Overall condition |
|----------|-----------------|------------------|------------|-------|----------|----------|---------------------------------------------------|-------------------------------------|-------------------|------------------------------------------|------------------------|---------------------------------------------------|-------|-------------------|
| Tree no  | Species         | Dia at 1.5m (mm) | Dia (m)    | r (m) | RPA (m2) | RPA (ha) | Native?                                           | Canopy cover is largely continuous? | Mature / veteran? | Little evidence of anthropogenic damage? | Microhabitats present? | >20% of canopy overhanging vegetation underneath? |       |                   |
| T1       | Norway maple    | 480              | 0.48       | 5.76  | 104.23   | 0.01     | N                                                 | Y                                   | N                 | Y                                        | N                      | Y                                                 | 2     | Poor              |
| T2       | Macrocarpa      | 530              | 0.53       | 6.36  | 127.08   | 0.01     | N                                                 | Y                                   | N                 | Y                                        | Y                      | Y                                                 | 3     | Moderate          |
| T3       | Macrocarpa      | 800              | 0.8        | 9.6   | 289.53   | 0.03     | N                                                 | Y                                   | N                 | Y                                        | Y                      | Y                                                 | 3     | Moderate          |
| T4       | Hornbeam        | 320              | 0.32       | 3.84  | 46.32    | 0.00     | Y                                                 | Y                                   | N                 | Y                                        | Y                      | Y                                                 | 4     | Moderate          |
| T5       | Cherry          | 390              | 0.39       | 4.68  | 68.81    | 0.01     | Y                                                 | Y                                   | N                 | Y                                        | Y                      | Y                                                 | 4     | Moderate          |
| T6       | Norway maple    | 590              | 0.59       | 7.08  | 157.48   | 0.02     | N                                                 | Y                                   | N                 | Y                                        | N                      | Y                                                 | 2     | Poor              |
| T7       | Norway maple    | 310              | 0.31       | 3.72  | 43.47    | 0.00     | N                                                 | Y                                   | N                 | Y                                        | N                      | Y                                                 | 2     | Poor              |
| T8       | Norway maple    | 550              | 0.55       | 6.6   | 136.85   | 0.01     | N                                                 | Y                                   | N                 | Y                                        | N                      | Y                                                 | 2     | Poor              |
| T9       | Norway maple    | 380              | 0.38       | 4.56  | 65.33    | 0.01     | N                                                 | Y                                   | N                 | Y                                        | Y                      | Y                                                 | 3     | Moderate          |
| T10      | Cherry          | 460              | 0.46       | 5.52  | 95.73    | 0.01     | Y                                                 | Y                                   | N                 | Y                                        | Y                      | Y                                                 | 4     | Moderate          |
| T11      | Weeping willow  | 210              | 0.21       | 2.52  | 19.95    | 0.00     | Y                                                 | Y                                   | N                 | Y                                        | N                      | Y                                                 | 3     | Moderate          |
| T12      | Norway maple    | 490              | 0.49       | 5.88  | 108.62   | 0.01     | N                                                 | Y                                   | N                 | Y                                        | N                      | Y                                                 | 2     | Poor              |
| T13      | Liquidambar     | 180              | 0.18       | 2.16  | 14.66    | 0.00     | N                                                 | Y                                   | N                 | Y                                        | N                      | Y                                                 | 2     | Poor              |
| T14      | Cypress         | 250              | 0.25       | 3     | 28.27    | 0.00     | N                                                 | Y                                   | N                 | Y                                        | N                      | Y                                                 | 2     | Poor              |
| T15      | Cypress         | 250              | 0.25       | 3     | 28.27    | 0.00     | N                                                 | Y                                   | N                 | Y                                        | N                      | Y                                                 | 2     | Poor              |
| T16      | Cypress         | 210              | 0.21       | 2.52  | 19.95    | 0.00     | N                                                 | Y                                   | N                 | Y                                        | N                      | Y                                                 | 2     | Poor              |
| T17      | Cypress         | 250              | 0.25       | 3     | 28.27    | 0.00     | N                                                 | Y                                   | N                 | Y                                        | N                      | Y                                                 | 2     | Poor              |
| T18      | Cypress         | 250              | 0.25       | 3     | 28.27    | 0.00     | N                                                 | Y                                   | N                 | Y                                        | N                      | Y                                                 | 2     | Poor              |
| T19      | Cypress         | 200              | 0.2        | 2.4   | 18.10    | 0.00     | N                                                 | N                                   | N                 | Y                                        | Y                      | N                                                 | 2     | Poor              |
| T20      | Golden cypress  | 250              | 0.25       | 3     | 28.27    | 0.00     | N                                                 | Y                                   | N                 | Y                                        | N                      | Y                                                 | 2     | Poor              |
| T21      | Lawsons cypress | 220              | 0.22       | 2.64  | 21.90    | 0.00     | N                                                 | Y                                   | N                 | Y                                        | N                      | Y                                                 | 2     | Poor              |
| T22      | Weeping willow  | 650              | 0.65       | 7.8   | 191.13   | 0.02     | Y                                                 | Y                                   | N                 | Y                                        | Y                      | Y                                                 | 4     | Moderate          |
| T23      | Corkscrew hazel | 200              | 0.2        | 2.4   | 18.10    | 0.00     | N                                                 | Y                                   | N                 | Y                                        | N                      | Y                                                 | 2     | Poor              |
| T24      | Cherry          | 280              | 0.28       | 3.36  | 35.47    | 0.00     | Y                                                 | Y                                   | N                 | Y                                        | Y                      | Y                                                 | 4     | Moderate          |
| T25      | Norway maple    | 550              | 0.55       | 6.6   | 136.85   | 0.01     | N                                                 | Y                                   | N                 | Y                                        | Y                      | Y                                                 | 3     | Moderate          |
| T26      | Beech           | 260              | 0.26       | 3.12  | 30.58    | 0.00     | Y                                                 | Y                                   | N                 | Y                                        | N                      | Y                                                 | 3     | Moderate          |
| T27      | Cherry          | 260              | 0.26       | 3.12  | 30.58    | 0.00     | Y                                                 | Y                                   | N                 | Y                                        | N                      | Y                                                 | 3     | Moderate          |
| T28      | Purple plum     | 250              | 0.25       | 3     | 28.27    | 0.00     | Y                                                 | Y                                   | N                 | Y                                        | N                      | Y                                                 | 3     | Moderate          |
| T29      | Lawsons cypress | 150              | 0.15       | 1.8   | 10.18    | 0.00     | N                                                 | Y                                   | N                 | Y                                        | N                      | Y                                                 | 2     | Poor              |
| T30      | Robinia         | 350              | 0.35       | 4.2   | 55.42    | 0.01     | N                                                 | Y                                   | N                 | Y                                        | Y                      | Y                                                 | 3     | Moderate          |

5.11. The figures in Table 5 above are then used to calculate the total RPAs for trees of each condition category (good, moderate, or poor). These are shown in Table 6, below. The calculated figures for RPAs in hectares for each condition category were then inputted into the BNG Metric spreadsheet.

**Table 6** RPA figures for existing and retained trees used for BNG Metric

|                              | Existing      |               |               |                | Retained      |               |               |
|------------------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|
|                              | Good          | Moderate      | Poor          |                | Good          | Moderate      | Poor          |
| <b>Total RPA / type (ha)</b> | <b>0.0000</b> | <b>0.1221</b> | <b>0.0795</b> |                | <b>0.0000</b> | <b>0.0181</b> | <b>0.0551</b> |
| Total RPA / type (m2)        | 0.00          | 1221.04       | 794.89        |                | 0.00          | 181.00        | 550.65        |
| No / type:                   | 0             | 14            | 16            |                | 0             | 3             | 5             |
| <u>Tree ref</u>              |               |               |               | <u>Retain?</u> |               |               |               |
| T1 Norway maple              |               |               | 104.23        | Yes            |               |               | 104.23        |
| T2 Macrocarpa                |               | 127.08        |               |                |               |               |               |
| T3 Macrocarpa                |               | 289.53        |               |                |               |               |               |
| T4 Hornbeam                  |               | 46.32         |               |                |               |               |               |
| T5 Cherry                    |               | 68.81         |               |                |               |               |               |
| T6 Norway maple              |               |               | 157.48        | Yes            |               |               | 157.48        |
| T7 Norway maple              |               |               | 43.47         | Yes            |               |               | 43.47         |
| T8 Norway maple              |               |               | 136.85        | Yes            |               |               | 136.85        |
| T9 Norway maple              |               | 65.33         |               | Yes            |               | 65.33         |               |
| T10 Cherry                   |               | 95.73         |               | Yes            |               | 95.73         |               |
| T11 Weeping willow           |               | 19.95         |               | Yes            |               | 19.95         |               |
| T12 Norway maple             |               |               | 108.62        | Yes            |               |               | 108.62        |
| T13 Liquidambar              |               |               | 14.66         |                |               |               |               |
| T14 Cypress                  |               |               | 28.27         |                |               |               |               |
| T15 Cypress                  |               |               | 28.27         |                |               |               |               |
| T16 Cypress                  |               |               | 19.95         |                |               |               |               |
| T17 Cypress                  |               |               | 28.27         |                |               |               |               |
| T18 Cypress                  |               |               | 28.27         |                |               |               |               |
| T19 Cypress                  |               |               | 18.10         |                |               |               |               |
| T20 Golden cypress           |               |               | 28.27         |                |               |               |               |
| T21 Lawsons cypress          |               |               | 21.90         |                |               |               |               |
| T22 Weeping willow           |               | 191.13        |               |                |               |               |               |
| T23 Corkscrew hazel          |               |               | 18.10         |                |               |               |               |
| T24 Cherry                   |               | 35.47         |               |                |               |               |               |
| T25 Norway maple             |               | 136.85        |               |                |               |               |               |
| T26 Beech                    |               | 30.58         |               |                |               |               |               |
| T27 Cherry                   |               | 30.58         |               |                |               |               |               |
| T28 Purple plum              |               | 28.27         |               |                |               |               |               |
| T29 Lawsons cypress          |               |               | 10.18         |                |               |               |               |
| T30 Robinia                  |               | 55.42         |               |                |               |               |               |

## Development site habitat changes

### Area-based habitats

- 5.12. With the exception of the retained trees, the vegetation within the site will be permanently lost during the construction phase of the development. While the development will result in large areas of new building and hardstanding, the other areas of the site include a range of soft landscaping with a focus on biodiversity in a number of areas.
- 5.13. The more formal outdoor space is largely dominated by more ornamental and non-native planting with several planters and beds for residents to use. However, the larger area of space along the western side of the site will remain a grassy open space with trees. Most of the trees here will be retained from the existing tree stock, supplemented by occasional smaller trees. The south-west corner will be planted up with a small area of native scrub including dogwood *Cornus sanguinea* and hazel *Corylus avellana* to create an area of understorey type habitat.
- 5.14. The grassland in this area is planned to be an area of species-rich wildflower meadow type habitat. While the section of this nearest the building is likely to require mowing more regularly for the amenity of the residents, the western half will be allowed to grow taller and be subject to a mowing regime that promotes a greater degree of structural diversity as well as ensuring that this area is not mown between spring and late summer, to allow flowers to fully develop and set seed before a late summer cut and collect.
- 5.15. Given the likely higher degree of shade in this area, a seed mix that will tolerate and thrive in this area will be used, for example [Wildflower Seeds for Woodland and Heavy Shade 100% - Landlife Wildflower](#), which contains species such as wood avens *Geum urbanum*, upright hedge parsley *Torilis japonica*, wood sage *Teucrium scorodonia*, and agrimony *Agrimonia eupatoria*.
- 5.16. In the northern part of this strip, where light levels will be higher, a more traditional meadow mix will be used (for example [Wildflower Seeds for Hedgerows and Light Shade 100% - Landlife Wildflower](#) or [Traditional Wildflower Meadow Seeds 100% - Landlife Wildflower](#), which would include typical species such as greater knapweed *Centaurea nigra*, ox-eye daisy

*Leucanthemum vulgare*, hedge bedstraw *Galium mollugo*, and red and whiteampions *Silene dioica* and *S. alba*.

- 5.17. The area that will be kept shorter, as well as the new areas of more dedicated amenity grass to the front of the site and the small square of lawn in the garden area will be sown using a seed mix that includes a larger diversity of wildflower species that tolerate regular close mowing, such as selfheal *Prunella vulgaris*, birds-foot trefoil *Locus corniculatus*, and black medick *Medicago lupulina*, (for example [WFG20 Eco Species Rich Lawn \(germinalamenity.com\)](https://www.germinalamenity.com/))
- 5.18. The seed mix in the western band of grassland will include yellow rattle to help reduce soil fertility, which will aid the establishment and long-term viability of the species diversity. The seed mix will avoid the use of perennial ryegrass *Lolium perenne*, as is this would be inconsistent with achieving the required habitat composition. (The UKHab neutral grassland definition allows up to 25% cover of perennial ryegrass; however, as this is a common species, it is likely to remain to some degree in the seedbank and to colonise the site from elsewhere, hence the proposal to not include it in the seed mix).
- 5.19. Table 7 below shows the target conditions for the areas of grassland at the proposed site.
- 5.20. This shows that the on-site grassland areas will be able to achieve good condition through careful selection of appropriate seed mixes that take account of the conditions at various areas of the site as well as the management constraints and opportunities.
- 5.21. The assessment also demonstrates that the areas of native scrub will achieve moderate condition, as the small sizes of the habitat patches will preclude the development of meaningful open glades within these.
- 5.22. The building will have several areas of green roof. These will be typical lower-maintenance sedum roofs, classified as 'other green roof' in the BNG metric. These do not receive a condition score. The planting specification for these is shown in Appendix 7.

**Table 7** Habitat target condition score – low distinctiveness grassland

| Condition Assessment Criteria                                                                          |                                                                                                                                                                                                                                                | Proposed Condition                                                                                                                               |
|--------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b>                                                                                               | There must be 6-8 species per m <sup>2</sup> . NB - this criterion is non-negotiable for achieving good condition.                                                                                                                             | <b>Pass</b> – seed mix will include a high diversity of native wildflowers selected to include species that flower even in regularly mown areas. |
| <b>2</b>                                                                                               | Sward height is varied (at least 20% of the sward is less than 7cm and at least 20% is more than 7cm) creating microclimates which provide opportunities for insects, birds, and small mammals.                                                | <b>Fail</b> – Amenity grass areas will be homogenous and regularly mown short                                                                    |
| <b>3</b>                                                                                               | Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type. | <b>Pass</b> – no scrub will be present                                                                                                           |
| <b>4</b>                                                                                               | Physical damage evident in less than 5% of total grassland area, such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities.                                     | <b>Pass</b> – Ongoing management to avoid / remedy any damaged areas                                                                             |
| <b>5</b>                                                                                               | Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.                                                                                                                                                | <b>Pass</b> – Ongoing management to address significant bare patches; although very small (<5%) bare areas likely to be present.                 |
| <b>6</b>                                                                                               | Cover of bracken less than 20%.                                                                                                                                                                                                                | <b>Pass</b> – use of areas will ensure no bracken establishment                                                                                  |
| <b>7</b>                                                                                               | There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species make up less than 5% of ground cover.                                                                                        | <b>Pass</b> – management will ensure no invasive spp. establishment                                                                              |
| Condition Assessment Result                                                                            |                                                                                                                                                                                                                                                | Proposed Condition                                                                                                                               |
| Passes 6 or 7 of 7 criteria including passing essential criterion 1                                    | Good (3)                                                                                                                                                                                                                                       | <b>GOOD</b> – passes 6/7 criteria including Criterion 1                                                                                          |
| Passes 4 or 5 of 7 criteria; OR<br>Passes 4 or 5 of 7 criteria including passing essential criterion 1 | Moderate (2)                                                                                                                                                                                                                                   | -                                                                                                                                                |
| Passes 0, 1, 2 or 3 of 7 criteria; OR<br>4, 5 or 6 of criteria but failing criterion 1                 | Poor (1)                                                                                                                                                                                                                                       | -                                                                                                                                                |

**Table 8** Habitat target condition score – medium distinctiveness grassland

| Condition Assessment Criteria                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                  | Proposed Condition                                                                                                                        |
|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b>                                                                                       | The appearance and composition of the vegetation closely matches characteristics of the specific grassland habitat type (see UKHab definition). Wildflowers, sedges and indicator species for the specific grassland habitat type are very clearly and easily visible throughout the sward. NB - This criterion is essential for achieving moderate condition for non-acid grassland types only. | <b>Pass</b> – seed mix will include herb species typical of enclosed dry neutral grassland, and that does not include perennial ryegrass. |
| <b>2</b>                                                                                       | Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.                                                                                                                                                                       | <b>Pass</b> – Management will ensure varied sward height                                                                                  |
| <b>3</b>                                                                                       | Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.                                                                                                                                                                                                                                                                                                  | <b>Pass</b> – Ongoing management to address significant bare patches; although very small (<5%) bare areas likely to be present.          |
| <b>4</b>                                                                                       | Cover of bracken less than 20% and cover of scrub (including bramble) less than 5%.                                                                                                                                                                                                                                                                                                              | <b>Pass</b> – use and management of areas will ensure no bracken establishment                                                            |
| <b>5</b>                                                                                       | There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981). Combined cover of species indicative of sub-optimal condition <sup>1</sup> and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area.                    | <b>Pass</b> – management will ensure no invasive spp. establishment; management will ensure area is not subject to damage.                |
| <b>6</b>                                                                                       | There are greater than 9 species per metre squared. NB - This criterion is essential for achieving good condition (non-acid grassland types only).                                                                                                                                                                                                                                               | <b>Pass</b> – seed mix will include a high diversity of native wildflowers typical of neutral grasslands.                                 |
| Condition Assessment Result                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                  | Proposed Condition                                                                                                                        |
| Passes 5 or 6 criteria, including essential criteria 1 and 6.                                  | Good (3)                                                                                                                                                                                                                                                                                                                                                                                         | <b>GOOD</b> – passes all criteria                                                                                                         |
| Passes 3 or 4 of 6 criteria, including essential criterion 1.                                  | Moderate (2)                                                                                                                                                                                                                                                                                                                                                                                     | -                                                                                                                                         |
| Passes 0, 1, 2 criteria of 6 criteria; OR<br>Passes 3 or 4 criteria excluding criteria 1 and 6 | Poor (1)                                                                                                                                                                                                                                                                                                                                                                                         | -                                                                                                                                         |

**Table 9** Habitat target condition score – native scrub

| Condition Assessment Criteria  |                                                                                                                                                                                                                                                              | Proposed Condition                                                                                                                                                        |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b>                       | Habitat is representative of UKHab description (where in its natural range). There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be up to 100% cover). | <b>Pass</b> – species mix to include >3 species of native scrub.                                                                                                          |
| <b>2</b>                       | There is a good age range – all of the following are present: seedlings, young shrubs and mature shrubs.                                                                                                                                                     | <b>Pass</b> – Within 10 years, there will be a range of ages present as by then, young plants will have started to develop as the originally planted shrubs produce seeds |
| <b>3</b>                       | There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and species indicative of sub-optimal condition make up less than 5% of ground cover.                                                                              | <b>Pass</b> – management will ensure no invasive spp. establishment                                                                                                       |
| <b>4</b>                       | The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s).                                                                                                                  | <b>Pass</b> – management will ensure that scrub edge grades into adjacent taller grass with a range of structures.                                                        |
| <b>5</b>                       | There are clearings, glades or rides present within the scrub, providing sheltered edges.                                                                                                                                                                    | <b>Fail</b> – habitat patches are too small to have meaningful glades / clearings.                                                                                        |
| Condition Assessment Result    |                                                                                                                                                                                                                                                              | Proposed Condition                                                                                                                                                        |
| Passes 5 of 5 criteria         | Good (3)                                                                                                                                                                                                                                                     | -                                                                                                                                                                         |
| Passes 3 or 4 of 5 criteria    | Moderate (2)                                                                                                                                                                                                                                                 | <b>MODERATE</b> – passes 4/5 criteria including Criterion 1                                                                                                               |
| Passes 0, 1 or 2 of 5 criteria | Poor (1)                                                                                                                                                                                                                                                     | -                                                                                                                                                                         |

### Trees

5.23. In addition to retaining a number of the more mature on-site trees, the development will result in a further four small and eight medium trees being planted on the site. It is unlikely these will achieve good condition as they are unlikely to develop significant areas of microhabitats (e.g. deadwood, ivy growth, woodpecker holes) within the management period, or to attain mature or veteran status. However, it is likely that their canopy characteristics and overall health (through proper management) will ensure that at least three of

the six criteria are met. The native trees planted will also achieve an extra 'point', making a total of four out of six. Therefore, these will achieve moderate condition. While a total of 20 new trees will be planted within the site, only the 12 small and medium ones would be large enough to be counted within the BNG metric for urban trees; the others (the eight cedars *Cupressus sempervirens* 'Totem' are <75mm stem diameter and are accommodated in the general 'introduced shrub' category. The planting plan is shown in Figure A3.3 in Appendix 3. Table 10 shows the trees from the landscaping schedule against their BNG size criteria:

**Table 10** Habitat areas for proposed new on- and off-site trees

| Common name    | Latin name / variety                      | Quantity | BNG size               |
|----------------|-------------------------------------------|----------|------------------------|
| Field maple    | <i>Acer Campestre</i> 'Louisa Redshine'   | 2        | Medium                 |
| Amelanchier    | <i>Amelanchier lamarckii</i> 'Robin Hill' | 1        | Medium                 |
| Downy Birch    | <i>Betula pubescens</i>                   | 3        | Medium                 |
| Katsura        | <i>Cercidiphyllum japonicum</i>           | 1        | Small                  |
| Pencil Cypress | <i>Cupresses sempervirens</i> 'Totem'     | 8        | N/A – introduced shrub |
| Walnut         | <i>Juglans regia</i>                      | 1        | Medium                 |
| Sweet Gum      | <i>Liquidambar styraciflua</i>            | 1        | Small                  |
| Red Oak        | <i>Quercus rubra</i>                      | 1        | Medium                 |
| Mountain Ash   | <i>Sorbus aucuparia</i> 'Joseph Rock'     | 2        | Small                  |

- 5.24. With respect to the off-site trees, these are likely to be smaller specimens, and again, for similar reasons, it is anticipated these would achieve moderate condition within the management period.
- 5.25. Using the 'urban tree helper' in the metric spreadsheet, this gives an overall area as follows:

**Table 11** Habitat areas for proposed new on- and off-site trees

**NEW**  
**(on-site)**

| Tree size | Number of trees and area (ha) for each condition state |        |          |        |      |        |
|-----------|--------------------------------------------------------|--------|----------|--------|------|--------|
|           | Poor                                                   | Area   | Moderate | Area   | Good | Area   |
| Small     |                                                        | 0.0000 | 4        | 0.0163 |      | 0.0000 |
| Medium    |                                                        | 0.0000 | 8        | 0.2930 |      | 0.0000 |
| Large     |                                                        | 0.0000 |          | 0.0000 |      | 0.0000 |
| Total     | 0                                                      | 0.0000 | 12       | 0.3093 | 0    | 0.0000 |

**NEW**  
**(off-site)**

| Tree size | Number of trees and area (ha) for each condition state |        |          |        |      |        |
|-----------|--------------------------------------------------------|--------|----------|--------|------|--------|
|           | Poor                                                   | Area   | Moderate | Area   | Good | Area   |
| Small     |                                                        | 0.0000 | 10       | 0.0407 |      | 0.0000 |
| Medium    |                                                        | 0.0000 |          | 0.0000 |      | 0.0000 |
| Large     |                                                        | 0.0000 |          | 0.0000 |      | 0.0000 |
| Total     | 0                                                      | 0.0000 | 10       | 0.0407 | 0    | 0.0000 |

5.26. With respect to the new off-site trees, it is anticipated that ten trees will be planted. These will be planted in locations of highway verge in nearby residential areas as shown in the AIA. The existing habitat in these areas is either managed amenity grass verge or hardstanding. As the biodiversity value of trees for BNG purposes is calculated in addition to the underlying habitat, the planting of these trees will not result in any loss of existing biodiversity value at the off-site planting locations.

### Multipliers

5.27. The BNG metric applies various 'multipliers' when calculating the value of enhanced, new on-site and new off-site habitats. These multipliers allow the calculations to account for delays in habitat planting or, for example, if off-site habitat creation is to take place several years before the on-site habitat is removed. One such multiplier relates to the location of any habitat work, allowing areas that are in a more ecologically desirable location to score higher.

5.28. At the Hexham Road site, the desk-based assessment (see paragraph 3.5) identified that the site lies in 'green link' as set out in the Local Plan. There is no particular strategy focussed on these beyond protecting and enhancing them through the planning process, but these are nevertheless more ecologically important than other nearby residential areas that may be less well integrated into the local ecological network. Therefore, any biodiversity measures in this area have been scored accordingly, as being 'ecologically desirable but not in local strategy'.

### Summary

- 5.29. Table 12 shows the area-based habitat units at the development site as existing, while Table 13 shows the post-development habitat units for are-based habitats. As can be seen, the site currently provides 1.96 habitat units, of which 0.40 would be retained.
- 5.30. The development would result in the loss of 1.56 habitat units. Post-development, the site would deliver 2.25 habitat units of newly created habitats (1.85 new plus 0.4 retained).
- 5.31. There are no existing or proposed hedgerows or other linear features and thus no requirement to consider linear habitat units.
- 5.32. Overall, the development will result in a net gain of 14.82% within the redline boundary of the development site which satisfies the NPPF and Local Plan requirement for a net gain. When ten off-site new trees are accounted for, the development would result in an overall net gain of 21.17%
- 5.33. A detailed breakdown of these can be seen in the accompanying Excel spreadsheet.

**Table 12** Existing on-site biodiversity value

| Broad habitat           | Habitat type                   | Area (ha) | Distinctiveness | Condition                | Total habitat units | Area retained                               | Area enhanced | Baseline units retained | Baseline units enhanced | Area lost (ha) | Units lost |
|-------------------------|--------------------------------|-----------|-----------------|--------------------------|---------------------|---------------------------------------------|---------------|-------------------------|-------------------------|----------------|------------|
| Heathland and shrub     | Bramble scrub                  | 0.013     | Medium          | Condition Assessment N/A | 0.06                | 0                                           | 0             | 0.00                    | 0.00                    | 0.01           | 0.06       |
| Grassland               | Modified grassland             | 0.0848    | Low             | Poor                     | 0.19                | 0                                           | 0             | 0.00                    | 0.00                    | 0.08           | 0.19       |
| Sparsely vegetated land | Ruderal / Ephemeral            | 0.0122    | Low             | Poor                     | 0.03                | 0                                           | 0             | 0.00                    | 0.00                    | 0.01           | 0.03       |
| Grassland               | Modified grassland             | 0.0739    | Low             | Poor                     | 0.16                | 0                                           | 0             | 0.00                    | 0.00                    | 0.07           | 0.16       |
| Sparsely vegetated land | Ruderal / Ephemeral            | 0.0126    | Low             | Poor                     | 0.03                | 0                                           | 0             | 0.00                    | 0.00                    | 0.01           | 0.03       |
| Urban                   | Introduced shrub               | 0.0331    | Low             | Condition Assessment N/A | 0.07                | 0                                           | 0             | 0.00                    | 0.00                    | 0.03           | 0.07       |
| Urban                   | Developed land; sealed surface | 0.111     | V.Low           | N/A - Other              | 0.00                | 0                                           | 0             | 0.00                    | 0.00                    | 0.11           | 0.00       |
| Urban                   | Developed land; sealed surface | 0.1557    | V.Low           | N/A - Other              | 0.00                | 0                                           | 0             | 0.00                    | 0.00                    | 0.16           | 0.00       |
| Urban                   | Urban Tree                     | 0.1221    | Medium          | Moderate                 | 1.07                | 0.0181                                      | 0             | 0.16                    | 0.00                    | 0.10           | 0.92       |
| Urban                   | Urban Tree                     | 0.0795    | Medium          | Poor                     | 0.35                | 0.0551                                      | 0             | 0.24                    | 0.00                    | 0.02           | 0.11       |
| Totals                  |                                | 0.7ha     |                 |                          | 1.96                | 0.07ha                                      | 0.00ha        | 0.40                    | 0.00                    | 0.62ha         | 1.56       |
|                         |                                |           |                 |                          |                     | Area lost not including urban trees: 0.50ha |               |                         |                         |                |            |

**Table 13** Target proposed biodiversity value (on-site habitats to be created plus off-site trees)

| Broad Habitat                              | Proposed habitat               | Area (ha) | Distinctiveness | Proposed Condition       | Temporal multiplier            |                                 | Difficulty multiplier        |                               | Habitat units delivered |
|--------------------------------------------|--------------------------------|-----------|-----------------|--------------------------|--------------------------------|---------------------------------|------------------------------|-------------------------------|-------------------------|
|                                            |                                |           |                 |                          | Time to target condition (yr.) | Final time to target multiplier | Final difficulty of creation | Difficulty multiplier applied |                         |
| Heathland and shrub                        | Mixed scrub                    | 0.0111    | Medium          | Moderate                 | 5                              | 0.837                           | Low                          | 1                             | 0.08                    |
| Grassland                                  | Other neutral grassland        | 0.0375    | Medium          | Good                     | 10                             | 0.700                           | Low                          | 1                             | 0.35                    |
| Grassland                                  | Modified grassland             | 0.0367    | Low             | Good                     | 7                              | 0.779                           | Low                          | 1                             | 0.19                    |
| Urban                                      | Other green roof               | 0.0522    | Low             | Condition Assessment N/A | 10                             | 0.700                           | Low                          | 1                             | 0.11                    |
| Urban                                      | Introduced shrub               | 0.0252    | Low             | Condition Assessment N/A | 1                              | 0.965                           | Low                          | 1                             | 0.05                    |
| Urban                                      | Developed land; sealed surface | 0.1442    | V.Low           | N/A - Other              | 0                              | 1.000                           | Medium                       | 0.67                          | 0.00                    |
| Urban                                      | Developed land; sealed surface | 0.1936    | V.Low           | N/A - Other              | 0                              | 1.000                           | Medium                       | 0.67                          | 0.00                    |
| Urban                                      | Ground level planters          | 0.0117    | Low             | Condition Assessment N/A | 1                              | 0.965                           | Low                          | 1                             | 0.02                    |
| Urban                                      | Urban Tree                     | 0.3093    | Medium          | Moderate                 | 27                             | 0.382                           | Low                          | 1                             | 1.04                    |
| Subtotals                                  |                                | 0.70ha    |                 |                          |                                |                                 |                              |                               | 1.85                    |
| Area created, not including urban trees:   |                                | 0.50ha    |                 |                          |                                |                                 |                              |                               |                         |
| Urban                                      | Urban Tree (off-site)          | 0.0407    | Medium          | Moderate                 | 27                             | 0.382                           | Low                          | 1                             | 0.12                    |
| Total biodiversity units from development: |                                |           |                 |                          |                                |                                 |                              |                               | 1.97                    |

## *Trading*

- 5.34. One of the key ‘rules’ of the assessment is that ‘trading down’ must be avoided – i.e. losses of habitat are to be compensated for on a ‘like for like’ or ‘like for better’ basis. New or restored habitats should aim to achieve a higher distinctiveness and/or condition than those lost.
- 5.35. Broadly speaking, there are two key elements to the trading:
- There must be no overall loss of extent of habitats of high distinctiveness
  - if habitats of medium distinctiveness are lost, this needs to be addressed by creating new habitat of the same broad habitat type (e.g. replace the loss of one type of scrub with another), *or* of habitat of a higher distinctiveness (e.g. replace medium-distinctiveness scrub with high-distinctiveness acid grassland).
  - There can be trade-offs that allow increases in high distinctiveness habitat to offset reductions in medium distinctiveness habitats.
- 5.36. At the proposed Hexham Road site, there are no elements of the scheme that would result in habitats of higher distinctiveness being replaced with those of lower distinctiveness. Thus, the trading rules are satisfied.

## *Management Plan and Monitoring*

- 5.37. The site will be subject to long-term habitat management as part of the management of the wider site. A detailed management plan will need to be developed if these proposals are granted planning permission, and it is suggested that the production, approval, and implementation of this is secured through a planning condition.
- 5.38. The broad objectives and operations of this management plan will be as follows:
- Maintain diversity of botanical species in the neutral grassland. The primary method for achieving this will be through the implementation of a mowing regime to encourage summer flowering plants (mid-autumn and early spring mowing regime).

- Pursue a management regime for the interface between the scrub and neutral grassland at the south-west corner to maintain in a more diverse sward height, including staggered mowing within the mowing periods, and leaving the areas unmown between mid-spring and late summer.
- These areas will also not be mown over the winter to ensure these areas can provide habitats for overwintering invertebrates and small mammals.

5.39. The site will need to be monitored to the proposed habitats have been successfully established, and that remedial work is undertaken as soon as possible should success not be achieved. Such monitoring should also ensure that management prescriptions are adjusted to reflect the overall objectives of the management plan. The site will be subject to a walk over survey by an ecologist and the site manager once a year for the first five years after completion and establishment of the habitats, and a report of success, failures and proposed remedial measures/changes to management submitted.

#### *Other ecological enhancements*

5.40. In addition to the habitat measures set out above, the development will incorporate in-wall swift and bat boxes, and a hedgehog refuge / hibernaculum, as shown indicatively on the plan in Appendix 6.

## 6. Mitigation and Enhancement

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### *Introduction*

- 6.1. This section provides details of recommendations considered necessary in order to ensure that potential ecological constraints are considered fully. This includes recommendations for additional survey works and for mitigation, compensation or enhancement measures to avoid, lessen or offset the identified impacts to ecological features arising from the proposed works.

### *Mitigation and enhancement measures*

#### Vegetation and habitats

- 6.2. No further measures are required, provided the agreed landscaping and ongoing management is implemented.

#### Nesting birds

- 6.3. It is recommended that any clearance of the vegetation at the site takes place outside the bird nesting season – i.e. it takes place between September and February inclusive.
- 6.4. Given the amount of vegetation at the site, it is not recommended to clear this during the breeding season, even with a watching brief / ecological supervision, as there is a high risk that nests would be encountered, resulting in delays to the programme.
- 6.5. By way of enhancement, six Manthorpe swift boxes will be installed on the new building as shown in the plan in Appendix 6.

#### Small mammals

- 6.6. Holes 150mm x 150mm will be left under the perimeter fencing to the south and east to allow hedgehogs and other small mammals to travel between the site and the wider area (see Appendix 6 for locations).
- 6.7. A hedgehog refugia will be constructed under the scrub to the south-west corner of the site.

Bats

- 6.8. To enhance the suitability of the site for bats, five integrated 'Habibat' in-wall bat roost units will be installed in the external walls of the new building, in the general areas indicated in Appendix 6.

## 7. Conclusions

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- 7.1. The Preliminary Ecological Appraisal at the Reading Borough Council site at Hexham Road, Reading, identified that the site supports habitats of generally lower ecological value, although the site as a whole does provide a locally useful biodiversity resource.
- 7.2. The survey found no evidence that the site supports badger, bats, reptiles, great crested newts, or hazel dormice.
- 7.3. The site is likely to support nesting birds during the spring and summer, and site clearance is likely to result in the destruction of active nests if carried out during that time. Recommendations are made to avoid this.
- 7.4. Formal BNG assessment has concluded that the development would not result in a net loss of biodiversity and would deliver measurable net gains of 14.82% within the redline boundary of the development site which satisfies the NPPF and Local Plan requirement for a net gain.
- 7.5. Additional species-specific enhancements for swifts, bats, and hedgehogs will be installed around the site.
- 7.6. Provided these measures set out in this report are followed, it is concluded that the development will have no adverse impacts on biodiversity accord with relevant national and local planning policy.
- 7.7. Unless otherwise advised, the findings and recommendations in this report are solely based on the plans and brief provided to HCCET. The results and findings are valid for two years from the date of the initial field survey. HCCET should be contacted if this report is to be used after this period to check if any updating work needs to be undertaken.

## References

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# Appendix 1 – Site Location and Aerial Photo

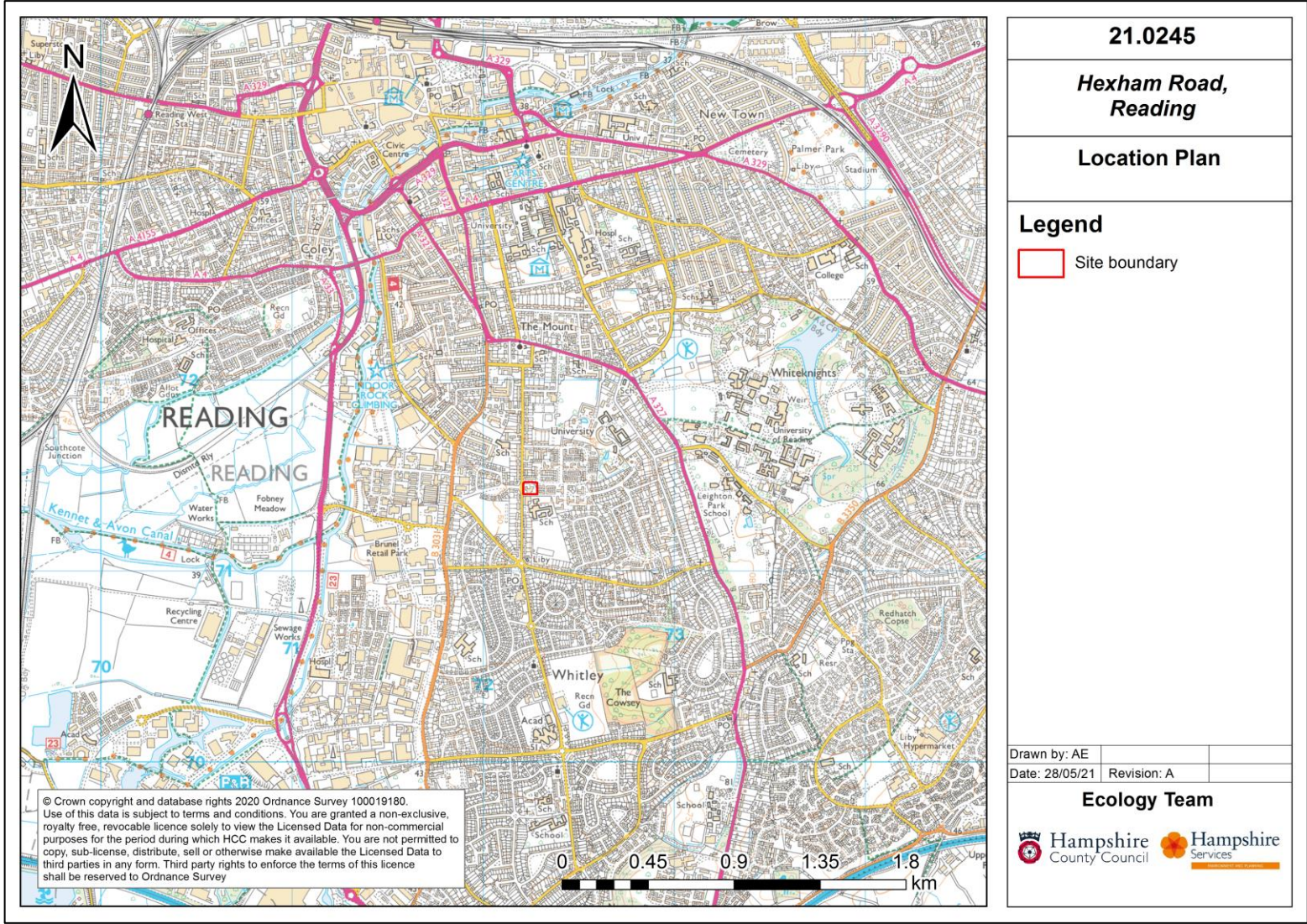


Figure A1.1 Site location

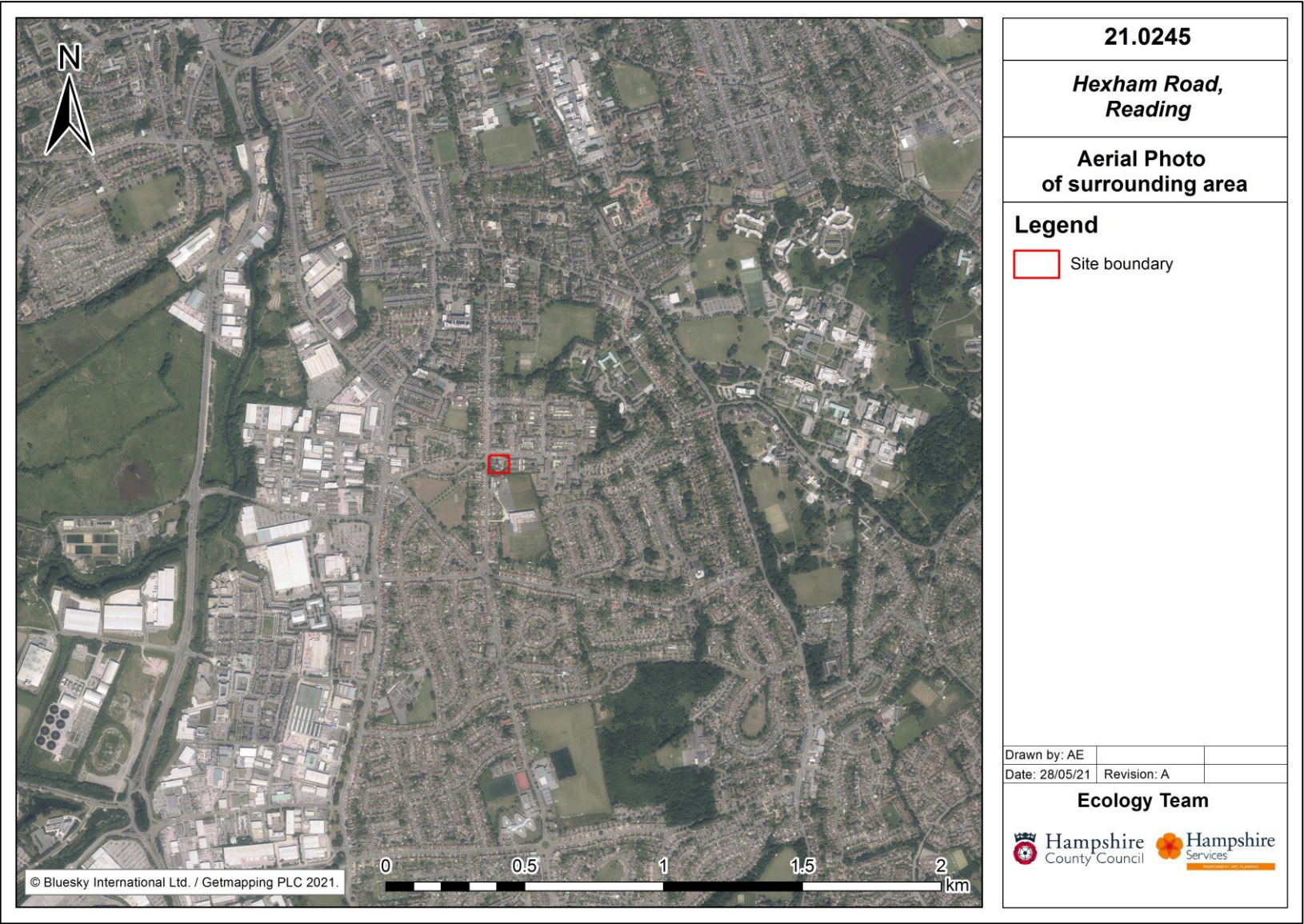


**Figure A1.2** Aerial photo of surrounding area

## Appendix 2 – Photos

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**Photo 1** Front of building (prior to demolition)



**Photo 2** Amenity grass along north frontage at TN1



**Photo 3** Semi-improved grass to TN2, front of building, north-east corner



**Photo 4** Taller semi-improved grassland and trees to western side of site at TN3



**Photo 5** Garden area to south-east part of site (2021)



**Photo 6** Central courtyard garden area (2021)



**Photo 7** Garden area in October 2022



**Photo 8** Garden area in October 2022



**Photo 9** Fox den in October 2022

## Appendix 3 – Proposed Plans

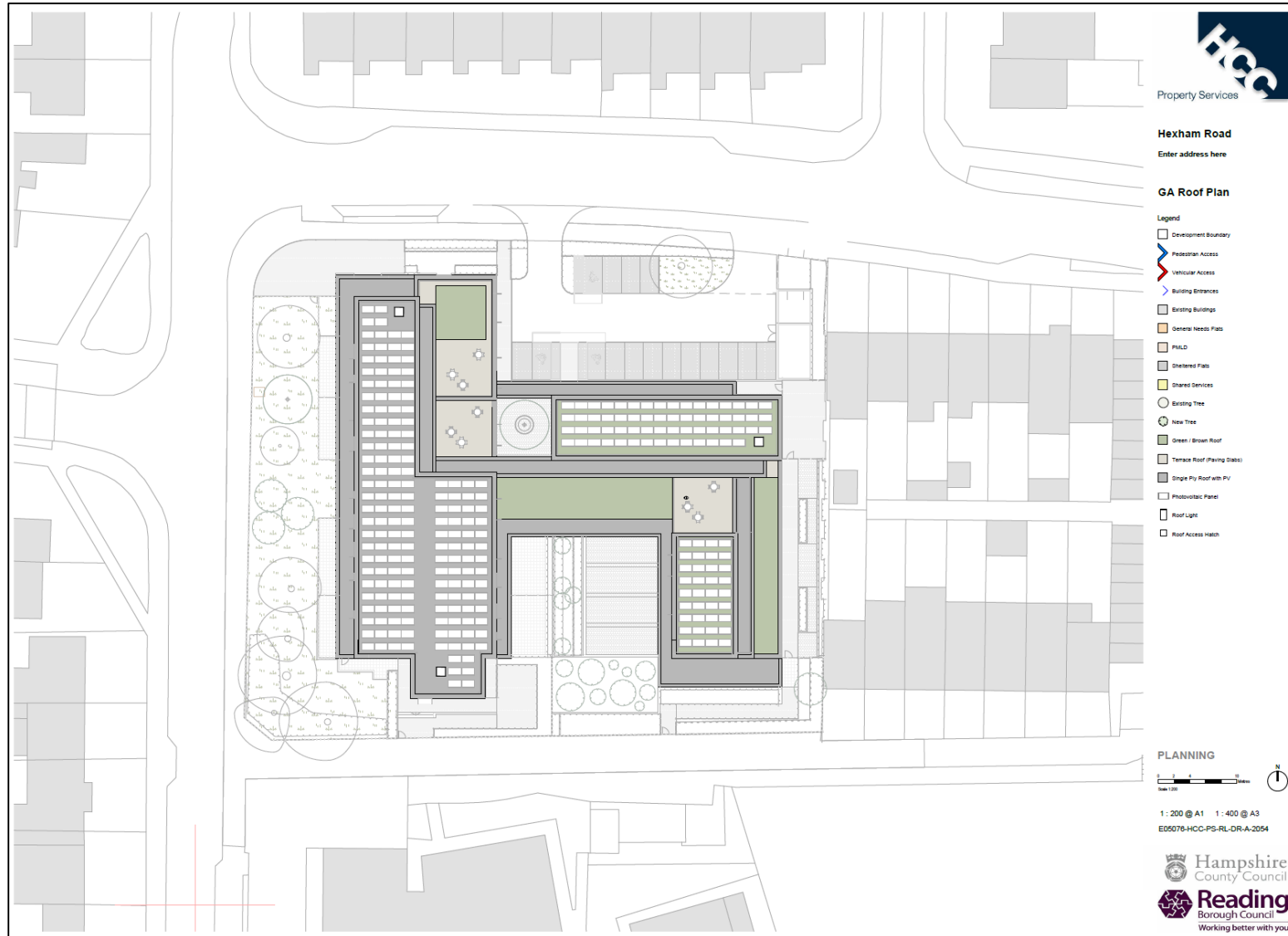


**Figure A3.1** Proposed plan showing areas of green roof

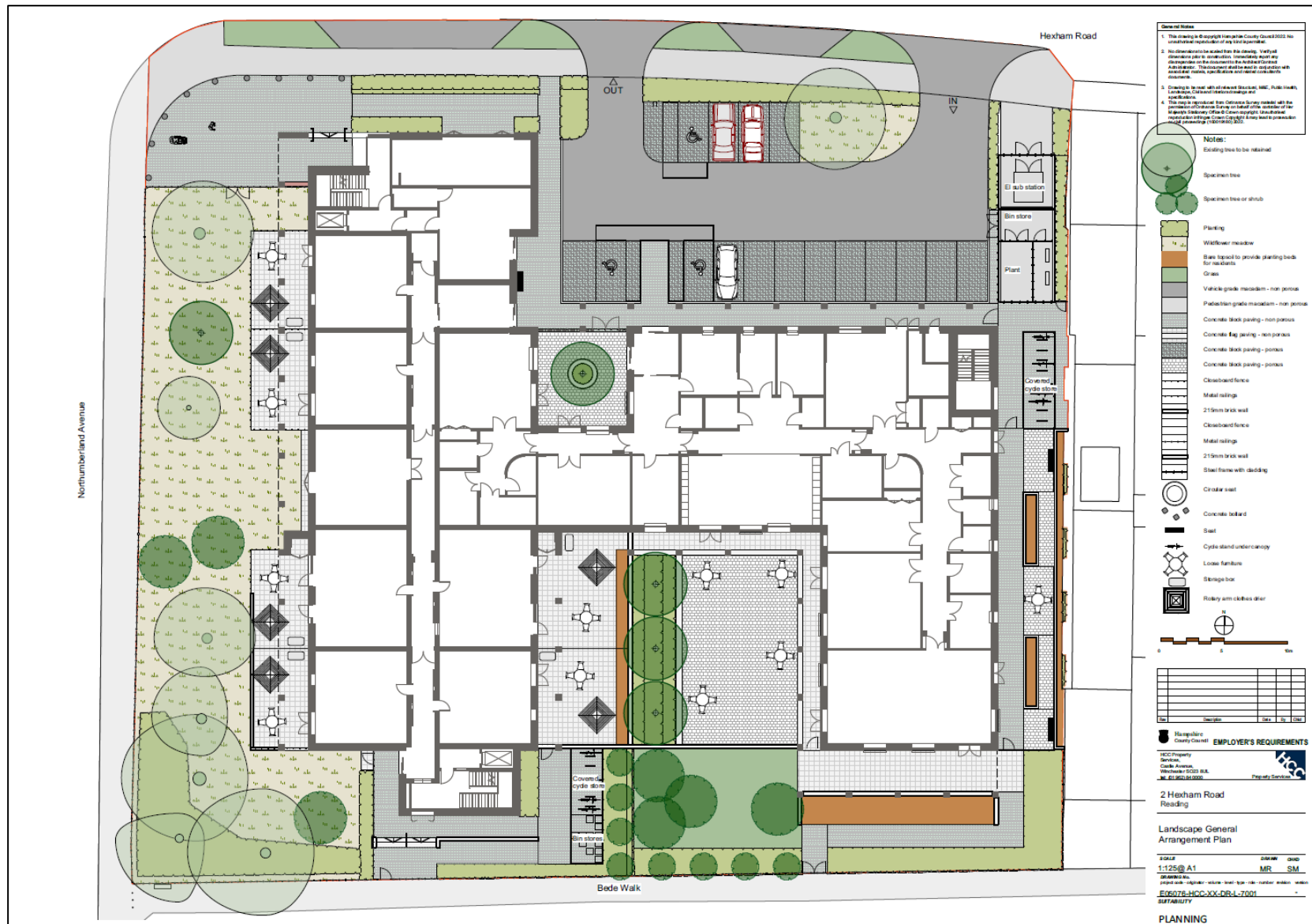
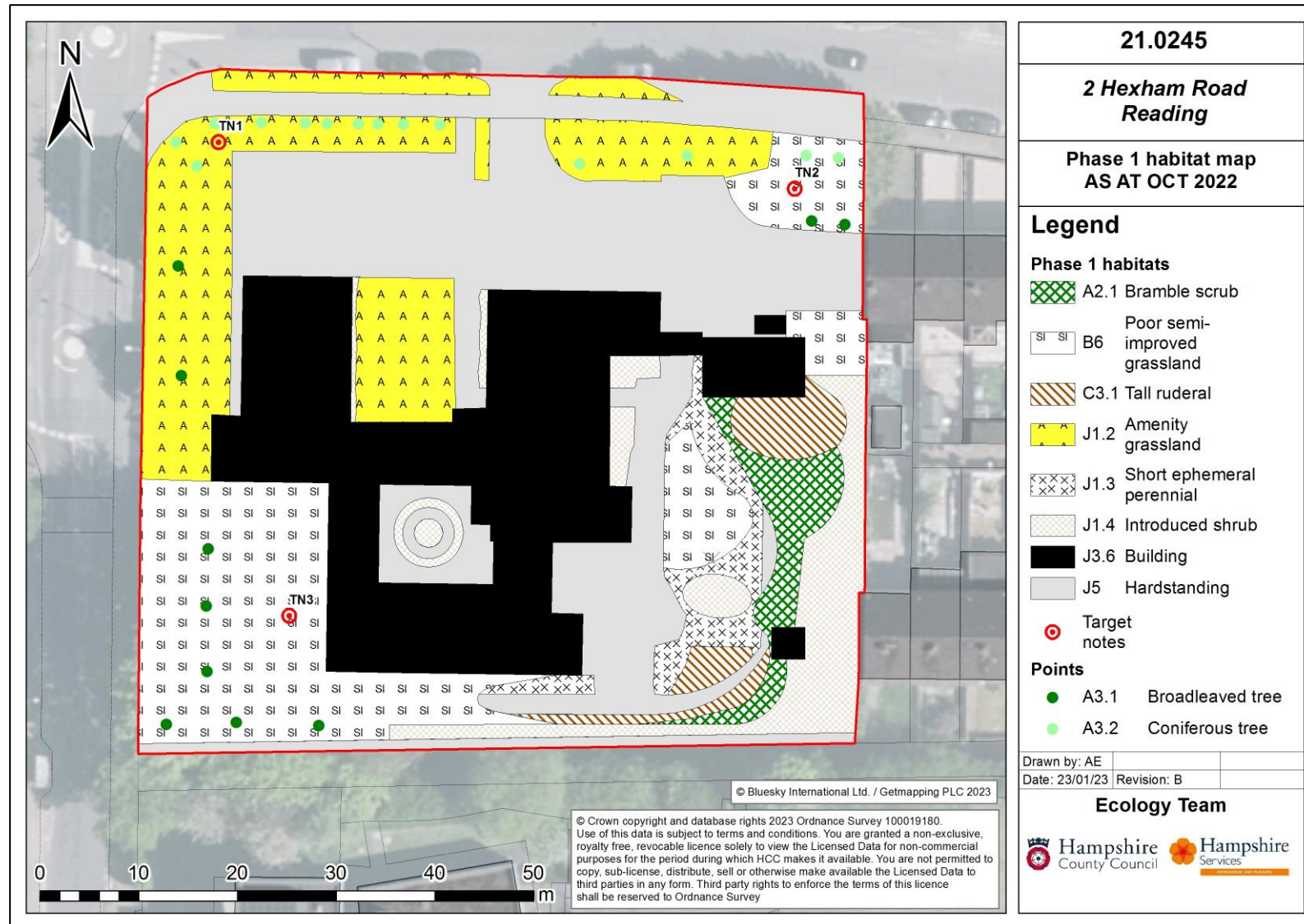


Figure A3.2 Proposed plan showing soft landscaping and planting

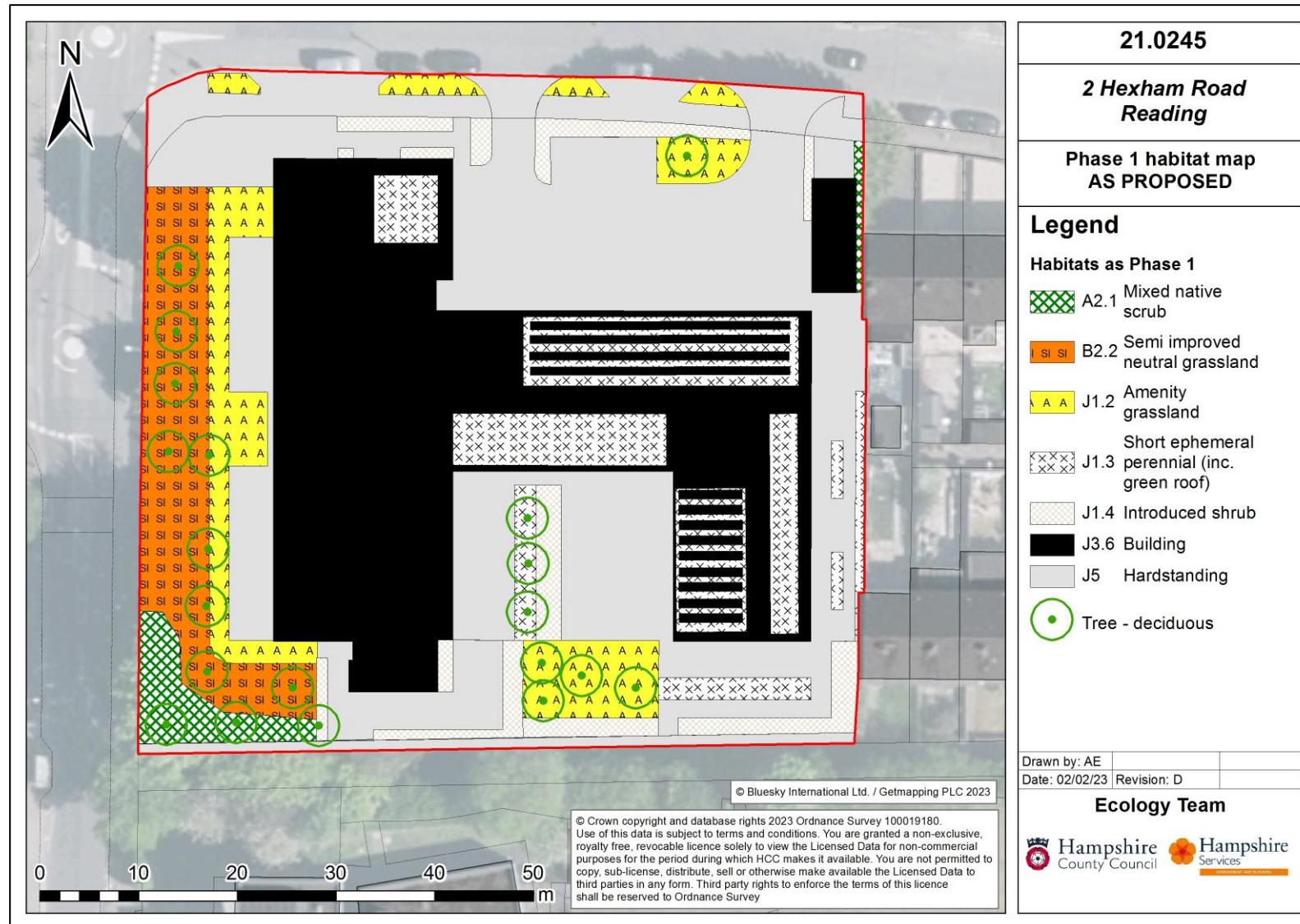


Figure A3.3 Tree planting plan

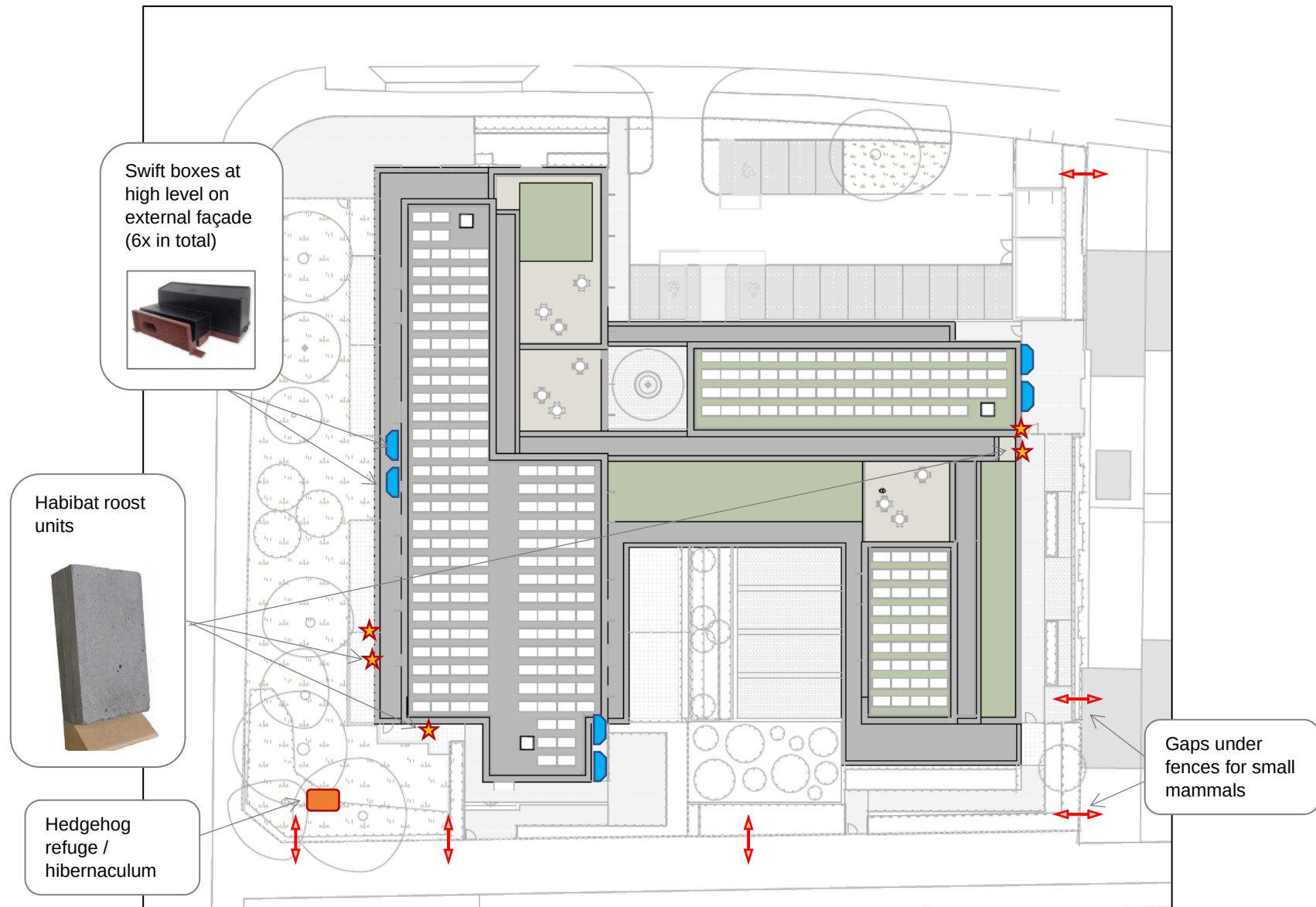
## Appendix 4 – Phase 1 Habitat Map as Existing



## Appendix 5 – Phase 1 Habitat Map as Proposed



## Appendix 6 – Proposed species enhancements



## Appendix 7 – Green roof species information

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### Simply Sedum - blanket specification

|                               |                  |
|-------------------------------|------------------|
| Fibre                         | Coir             |
| Fibre Content (%)             | 100%             |
| Top + Bottom Netting Type PP, | UV Deg           |
| Top + Bottom Netting Size     | 9 x 9 or 12 x 13 |
| Top + Bottom Netting Weight   | 48 g/m2          |
| Stitching Thread              | 6.5 Cn/dtex      |

### Substrate

|                                                                       |     |
|-----------------------------------------------------------------------|-----|
| Greenwaste compost                                                    | 80% |
| Crushed mineral fines                                                 | 20% |
| Slow release organic based fertiliser with additional micro-nutrients |     |

|                           |                  |
|---------------------------|------------------|
| Roll Size                 | 2m x 1.2m        |
| Pallet Quantity (average) | 48m <sup>2</sup> |
| Roll Weight               |                  |
| Dry                       | 15 - 20 kg       |
| Saturated                 | 30 - 40 kg       |
| Maximum pallet weight for |                  |
| Customer offload          | 1,000 kg         |

The specification presented above is to the best of our knowledge, true and accurate. Simply Sedum reserve the right to change any specification without prior notice. We cannot guarantee or offer warranty on products, unless agreed to in writing for specific conditions or for performance as the manner of handling, use and installation are beyond our control. We will not be liable for damages or losses, direct or indirect, of our range of products due to the above reasons. All comparative data was correct at time of print. ESOE.

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### Species (8-12 varieties per blanket – dependent on seasonal availability)

|        |                           |
|--------|---------------------------|
| SA 328 | Sedum album               |
| SA 352 | Sedum hybridum            |
| SA 348 | Sedum floriferum          |
| SA 368 | Sedum ellacombianum       |
| SA 369 | Sedum selskianum true     |
| SA 359 | Sedum pulchellum          |
| SA 364 | Sedum reflexum            |
| SA353  | Sedum middendorffianum    |
| SA 355 | Sedum montanum            |
| SA 354 | Sedum montanum orientale  |
| SA 371 | Sedum sexangulare         |
| SA 320 | Sedum acre                |
| SA 376 | Sedum spurium 'Coccineum' |



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