

Golden Lion pub, Luddesdown Rd, Luddesdown, Gravesend DA13 0XE.



**Preliminary Ecological Assessment &
Biodiversity Net Gain Plan**

JW Biodiversity Management
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Executive Summary

JW Biodiversity Management has been commissioned to carry out a Preliminary Ecological Appraisal (PEA) and an initial Biodiversity Net Gain Assessment (BNG) of a public house and restaurant located in Luddesdown, Kent. This report will provide a baseline assessment of the site reporting on the current conditions of the habitats present within the Biodiversity Net Gain Metric and provide an assessment of the sites potential to support protected and notable species.

Site Description

The site comprises of a pub/ restaurant situated to the north of the site with associated carparking and pub garden areas. Several outbuildings are located across the site and the main pub building appeared to have several additions and extensions. The site is located at the confluence of Luddesdown road (west and north of site), Henly Street (north of site) and Cutter Ridge Road (east of site). The site is adjacent to a farm to the south and agricultural land to other points.

The site is located in a rural area. The site is located in the northern section of the small village of Luddesdown. The local landscape is dominated by agricultural areas with large areas of woodland located in the wider landscape.

The site is with the Medway Local Planning Authority and the North Downs National Character Area (NCA). The site (as shown on figure 1) is located in Luddesdown, Kent TQ67226668.

Protected and Notable Species

Following the site visit and desktop assessment the site was assessed for its potential to support protected and notable species. The table below summarises the sites potential to support these species.

Species	Sites potential to support
Bat roost Trees	Negligible
Bat roost Buildings	Main pub- Moderate Shelters- low
Bat foraging/ commuting areas	Low
Badgers	Negligible
Dormice	Negligible
Small mammals	Negligible
Reptiles	Negligible
Amphibians	Negligible
Breeding birds	Low
Invertebrates	Negligible

BNG Results

The table below provides a summary of the results of the Biodiversity Net Gain Assessment. The proposed change in habitats will provide a 13.80% gain in habitat units. The target for net gain has been met.

FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	0.07
	<i>Hedgerow units</i>	0.00
	<i>Watercourse units</i>	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	13.80%
	<i>Hedgerow units</i>	0.00%
	<i>Watercourse units</i>	0.00%
Trading rules satisfied?	Yes ✓	

Recommendations

A Biodiversity Net Gain assessment and PEA has been conducted by a competent ecologist and recommendations have been made to ensure the projects achieves a net gain. This is in line with local and national planning policies. Recommendations have also been made in relation to protected and notable species.

Recommendation	Action	Justification
Protection of breeding birds*	Carry out building demolition outside of breeding bird season or under supervision of ecologist following a breeding bird survey	The buildings are likely providing several opportunities for breeding birds.
Appropriate lighting for bats*	Avoid illuminating bat foraging and commuting habitat- woodland/ scattered trees. During and post development.	This will help limit disturbance to bat species in the longer term.
Adequate pollution control	Habitats on site should be adequately protected to ensure no polluted runoff in on site or adjacent land. All oils, fuels and chemicals should be adequately stored on site in bunded contains with appropriate spill kits and emergency procedures in place.	This will protect habitats on site and those in the nearby landscape.
Inclusion of bird and bat boxes in the development/ landscaping	Place boxes in suitable locations within the landscaping.	This would benefit local bird and bat populations on the site and within the local area.
Finalise BNG assessment	Complete BNG Assessment once plans are agreed.	This will ensure compliance with BNG legislation.
Compile long term management plan	Once layout agreed compile Habitat Management and Monitoring Plan.	This will ensure long term management of habitats on site.

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1. Introduction

JW Biodiversity Management has been commissioned to carry out a Preliminary Ecological Appraisal (PEA) and an initial Biodiversity Net Gain Assessment (BNG) of a public house and restaurant located in Luddesdown, Kent. This report will provide a baseline assessment of the site reporting on the current conditions of the habitats present within the Biodiversity Net Gain Metric and provide an assessment of the sites potential to support protected and notable species.

1.1 Development outline

JW Biodiversity Management Ltd understands that the project will involve the extension and refurbishment of the main buildings on site. Several outbuildings are located on site

1.2 Site Description

The site comprises of a pub/ restaurant situated to the north of the site with associated carparking and pub garden areas. Several outbuildings are located across the site and the main pub building appeared to have several additions and extensions. The site is located at the confluence of Luddesdown road (west and north of site), Henly Street (north of site) and Cutter Ridge Road (east of site). The site is adjacent to a farm to the south and agricultural land to other points.

The site is located in a rural area. The site is located in the northern section of the small village of Luddesdown. The local landscape is dominated by agricultural areas with large areas of woodland located in the wider landscape.

The site is with the Medway Local Planning Authority and the North Downs National Character Area (NCA). The site (as shown on figure 1) is located in Luddesdown, Kent TQ67226668.

1.3 Aims of Report

The aim of this PEA is to:

- Identify the likely ecological constraints associated with a project;
- Identify any mitigation measures likely to be required, following the 'Mitigation Hierarchy'
- Identify any additional surveys that may be required to inform an Ecological Impact Assessment (EclA); and
- Identify the opportunities offered by a project to deliver ecological enhancement.

The aim of the BNG assessment is to:

- Provide a baseline assessment of the habitats on the site using the DEFRA metric.
- Provide a predicted score based on proposed habitat creation and enhancement using DEFRA metric.
- Provide suitable long term management recommendations for the site, to ensure habitats reach and maintain their desired condition.

1.4 Limitations

The contents of this report are based on a single site visit and a search of the local records bureau. Though the survey and interpretations of the data were carried out by a competent ecologist there may be things that have been overlooked or missed.

The area measurements are based on plans provided by third parties.

1.5 Relevant Legislation and Planning Policies

Relevant legislation implications for this site include;

- The Conservation of Habitats and Species Regulations 2010 (as amended);
- The Wildlife and Countryside Act 1981 (as amended);
- The Countryside and Rights of Way Act 2000;
- The Natural Environment and Rural Communities Act (NERC Act) 2006;
- Environment Act (2021)

Planning policies, both local and national, may affect any proposed development. Relevant planning policies to this development include;

- National Planning Policy Framework (NPPF)
- Local planning policy
- Medway Council BNG information¹

¹ [Biodiversity Net Gain \(BNG\) | Biodiversity Net Gain \(BNG\) | Medway Council](#)

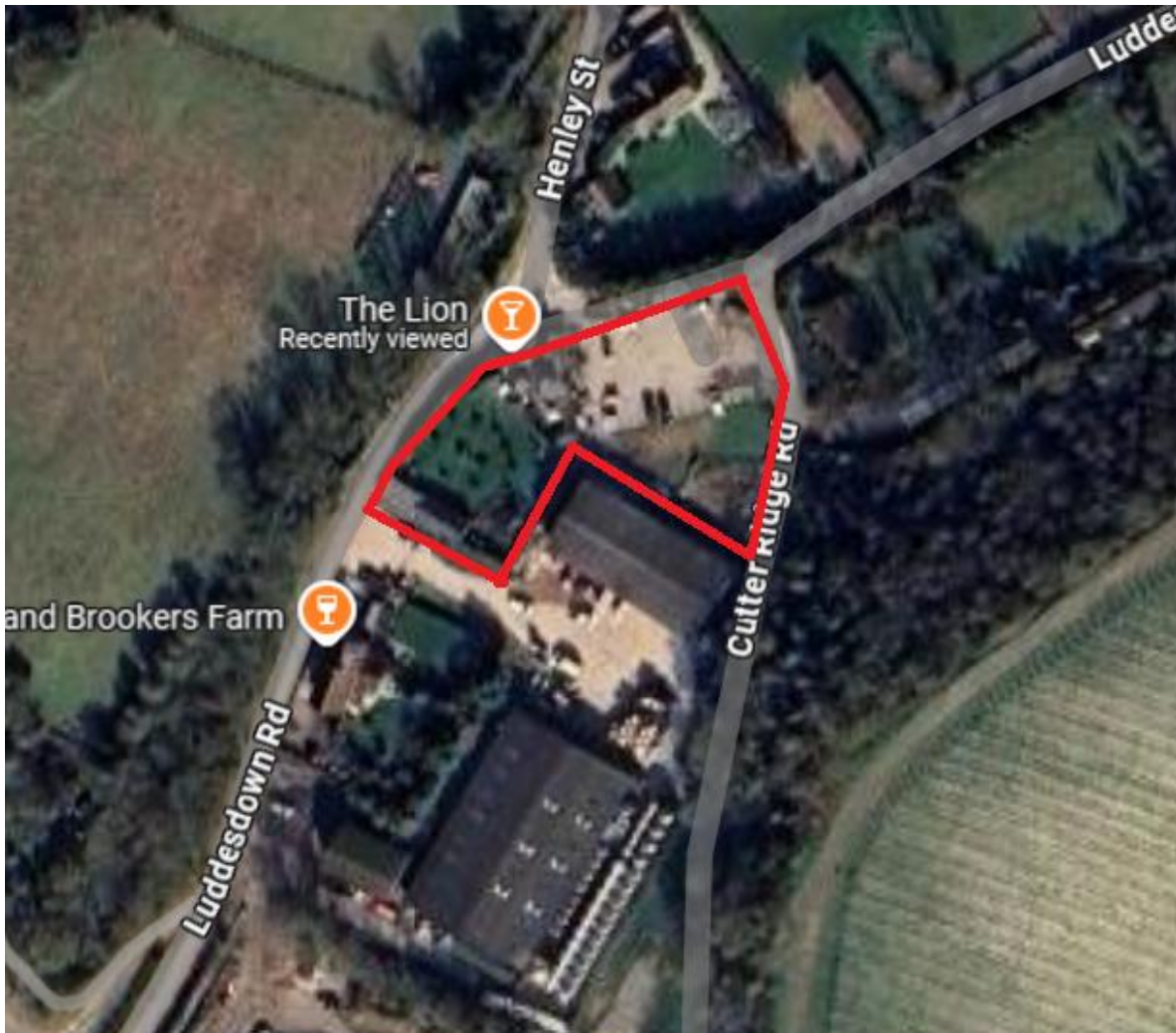


Figure 1: Approx. Assessment area (image from google).

2. Methods

2.1 Site Visit

JW Biodiversity management undertook a PEA site visit on the 29th of August 2024. This was to carry out a walk over of the site, determining the basic habitats present and their current condition. The potential for these habitats to support protected and notable species was also recorded. The site visit was carried out by an experienced ecologist who is able to appropriately identify habitats and assess their quality and suitability to support species.

The methodology followed that of an Extended Phase 1 Habitat Survey following the methodology of JNCC (1993) as modified by IEA (1995). The 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 likely to be ecologically important.

2.2 Protected Species

The following evidence of protected species or habitats to support them was assessed;

2.2.1 Badgers

Evidence of badger activity on site was assessed by searching for:

- Presence of setts, indicated by suitably sized holes or burrows with evidence of badgers such as badger hair and footprints
- Evidence of well runs supported by secondary evidence such as foraging signs or footprints; and
- Presence of badger latrines

2.2.2 Bats

The site was assessed for its potential to support:

- Roosting bats; and
- Foraging and commuting bats.

Features which could indicate a potential bat roost include:

- Holes and fissures in trees; and
- Gaps in buildings that could allow access to areas such as roof voids, e.g. holes in soffits, broken, loose or missing tiles, damaged lead flashing, etc.

The methodology for assessing bat roost potential followed that recommended by the Bat Conservation Trust².

2.2.3 Breeding Birds

The site was assessed for its potential to support nesting and breeding birds, considering factors including sufficient habitat cover and food sources.

2.2.4 Dormice

The site was surveyed for suitable dormouse habitat, such as the presence of a well-connected understorey broadleaf habitat, and suitable food sources such as hazel, oak and other nut-bearing trees, fruiting trees and shrubs, flowers and invertebrates. Where hazel nut shells were found, these were inspected for evidence of dormouse feeding.

2.2.5 Aquatic Mammals

Aquatic habitats were assessed for their potential to support aquatic mammals such as Otter or water vole. Signs including; foot prints, droppings and evidence of feeding were searched for.

2.2.6 Reptiles

The site was assessed for its potential to support reptile populations. Suitable habitat for reptiles includes long grass, scrub, woodland and hedgerow borders and wood/rubble piles that act as hibernacula.

2.2.7 Amphibians

Any aquatic habitat was assessed for its potential to support amphibian species, including Great Crested Newts. Any ponds on site were assessed, using the Habitat Suitability Index, for its potential to support Great Crested Newts. Terrestrial habitat was also assessed for its ability to support amphibians.

2.2.8 Other species

The site was assessed for its potential to support other notable species.

2.3 Desktop Study

Magic.gov.uk was also reviewed for additional relevant protected species and habitat information. Information of protected species and habitats within 1 km of the site was obtained from the Kent and Medway Biological Records Centre (KMBRC).

² Collins J. (ed) (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition)*. The Bat Conservation Trust, London).

2.4 Biodiversity net Gain

A Biodiversity Net Gain Assessment has been conducted using the DEFRA Statutory Biodiversity Metric. This was conducted by a competent and qualified ecologist. The methodology set out in the Statutory Biodiversity Metric User guide was followed³. The statutory metric uses habitats, the places in which species live, as a proxy to describe biodiversity. These habitats are converted into 'biodiversity units'. These biodiversity units are the 'currency' of the metric.

More detail is provided on calculating units further on in the report.

³ The Statutory Biodiversity Metric: User Guide. February 2024. DEFRA.

3. Results

3.1 Habitat Assessment

The location and extent of the habitats are shown in appendix 1. TN refers to a target note. CIEEM guidance recommends that the value or potential value of an ecological resource or feature should be determined within a defined geographical context. It recommends the following frame of reference.

- International;
- UK;
- National (i.e. England/Northern Ireland/Scotland/Wales);
- Regional;
- County (or Metropolitan - e.g. in London);
- District (or Unitary Authority, City, or Borough);
- Local or Parish; and
- Site
- Within zone of influence only (which might be the project site or a larger area).

The habitats will be assessed based on these criteria.

The current habitat layout is shown on figure 2. The previous 2022 habitat layout is shown in appendix 1.

3.1.1 Modified Grassland.

Located across the pub garden and adjacent to car parking area. This was short mown areas of grassland with damage from recreational use; a playground was located in the pub garden. Several picnic benches were located across the grassland, these contained a paved base which have not been mapped.

Species noted included; Perennial Rye-grass (*Lolium perenne*), white clover (*Trifolium repens*), common daisy (*Bellis perennis*), Cock's-foot (*Dactylis glomerata*), greater plantain (*Plantago major*), yarrow (*Achillea millefolium*), dandelion (*Taraxacum officinale*) and red fescue (*Festuca rubra*).

The short-mown length of the sward mean it is unlikely to attract protected and notable species and is species poor. The modified grassland is considered as having a benefit at a zone of influence level.



Photo 1: Showing modified grassland in pub garden.

3.1.2 Tall Forbs

A small patch of unmanaged land dominated by tall forbs located in corner of pub garden. Species included; common mallow (*Malva sylvestris*), cleavers (*Galium aparine*), spear thistle (*Cirsium vulgare*), sow thistle (*Sonchus oleraceus*), prickly lettuce (*Lactuca serriola*) and bristly oxtongue (*Helminthotheca echioides*). This is a small patch of vegetation though it does provide some structural and species diversity on site. The tall forbs are considered as having a benefit at a site level.



Photo 2: Showing tall forbs.

3.1.3 Bare Ground

An area of recently disturbed land located to the east of site near the modified grassland. This lacked species or structural diversity. The bare ground is considered as having a benefit at a zone of influence level.

3.1.4 Developed land; sealed surface

The site contained a relatively large pub building which was two storeys with a pitched tiled roof. The building was mostly constructed of rendered brick work. Several single storey extensions had been added including a glass/uPVC conservatory. Outbuildings are located in the pub garden which were shed like with open fronts. One of these (easternmost) had a pitched tiled roof.

A large tarmac car park is located to the northeast of the site and there are areas of hardstanding around the pub buildings. There are some small areas of paving under some of the picnic tables though these are too small to map.

The buildings have potential to support protected and notable species. The areas of developed land are considered as having a benefit at a site level.



Photo 3: Showing the main pub building.

3.1.5 Individual tree

A Small ivy (*Hedera helix*) covered tree was located towards the northwest of the site. The species was unknown as crown had been removed. The tree at the time of the site visit had no branches and was little more than an ivy-covered stump. The nesting bird opportunities are likely to be limited. The tree is considered as having a benefit at a site level.

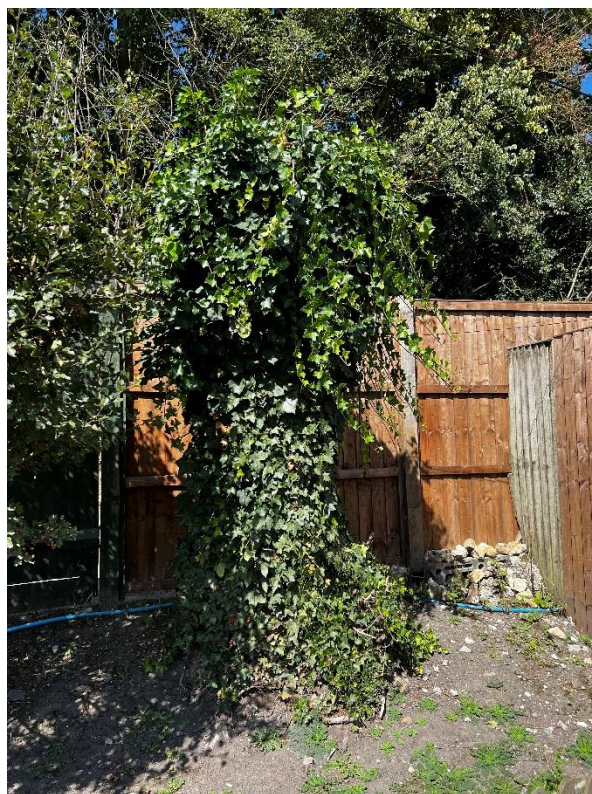


Photo 4: Single tree located on site.

3.1.6 Summary

The table below summaries the habitats on site and their value within a geographical context.

Habitat	Value	Comments
Modified grassland	Zone of influence	Areas of species poor short-mown lawn habitat.
Tall Forbs	Site	Small area of tall forbs with floral diversity.
Bare ground	Zone of influence	Area of bare ground from recent disturbance.
Individual trees	Site	Small tree with no crown, ivy covered.

Table 1: Summary of value of habitats on site.

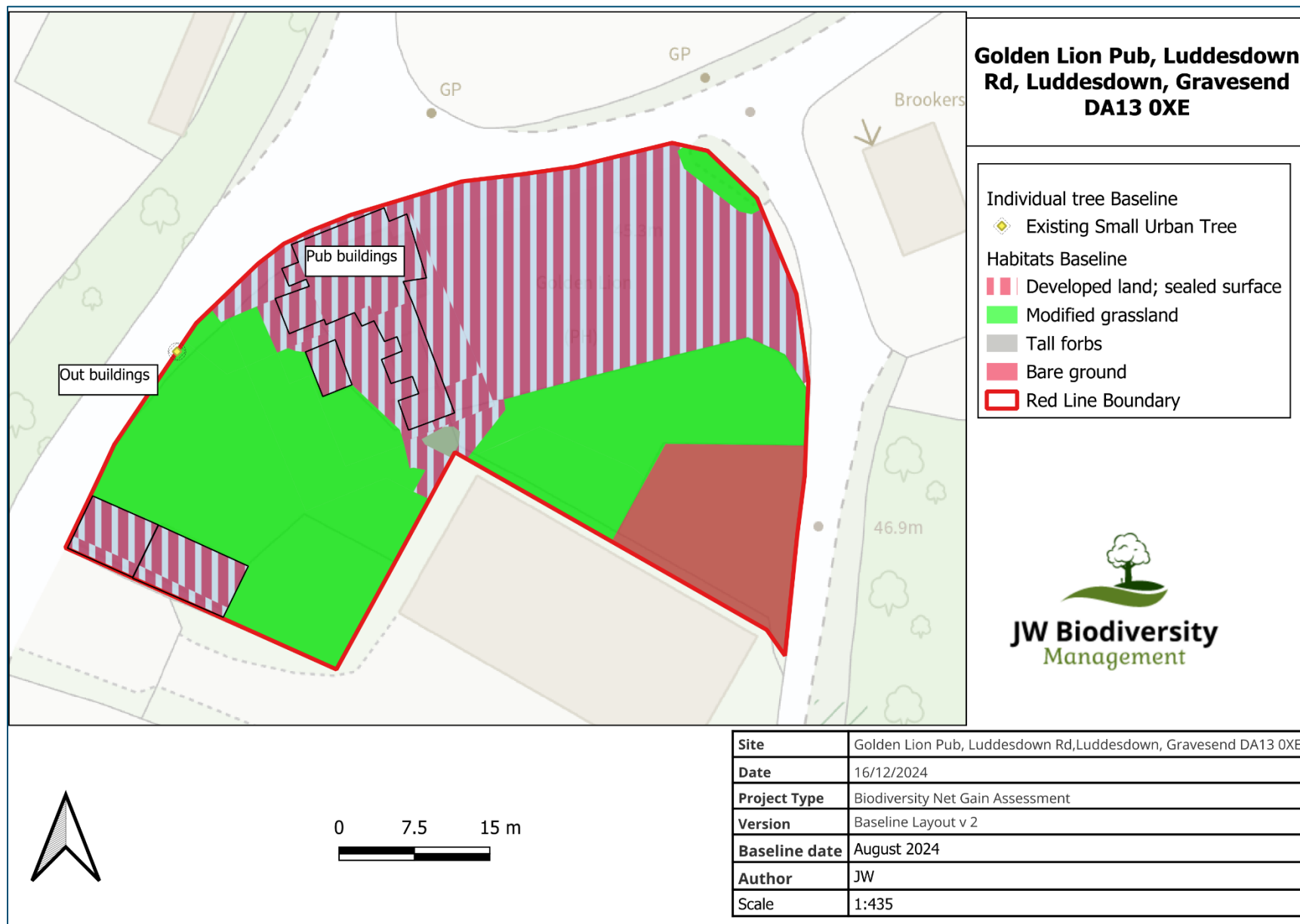


Figure 2: Current habitat layout.

3.2 Species Desktop Results

A recent biological record bureau search from KMBRC produced some records of protected and Species of Conservation Concern (SoCC) within 1 km of the site. Table one below summarises the key species groups and protected areas within these results. A full list of the species can be seen on request.

Protected species are those listed on EC Habitats Directive- Annexes II and IV, EC Bird Directive- Annex I, Conservation (Natural Habitats) Regulations 1994- Schedules 2 & 5, NERC 2006 Section 41, Wildlife and Countryside Act 1981 (as amended)-Schedules 1, 5 & 8, Protection of Badgers Act 1992. Notable species are categorised as being a: BAP priority National, Red list species (not least concern) and or Red status bird species, Red Data Book Species, NERC species. Legislation and BAP designation are explained in the appendix.

Sites and Habitats	Present/Absent	Details		
Statutory sites	Present	A SSSI is located in the wider landscape.		
Non-Statutory sites or Local Wildlife Sites	Absent	Local Wildlife Sites are located within 1 km of the site.		
Ancient Woodland	Present	Ancient woodland is located within 1 km of the site.		
Priority Habitats	Present	The local landscape contains areas of priority habitat including deciduous woodland. Priority woodland habitat is located close to the site.		
Protected and Notable Species	Number of species	Number of records	Date of earliest record	Date of recent record
Amphibian Species	3	5	1990	2019
Reptile Species	3	7	1987	2004
Invertebrate species	15	48	1971	2021
Terrestrial Mammal Species (excl. Bats)	7	17	1976	2016
Bat Species	9	513	1995	2016

Table 2: Summary of protected areas and species information.

3.3.1 Other desktop results

Additionally, the Natural England resource; Magic map⁴, was consulted for any granted protected species licences that may be in the area. The closest is a record of a bat licence located approximately 2.6 km to the east of the site.

⁴ www.magic.gov.uk

3.2 Species Site Assessment

The following assessment takes into account the information from the desktop study as well as an assessment of the habitats on site and their potential to support protected and notable species. The likelihood of species being found on site is defined as follows;

- High- Definite signs of species identified on site and habitat considered suitable.
- Medium/ moderate- habitat considered suitable but obvious signs not necessarily detected.
- Low- no obvious signs and habitat considered sub-optimal. Though species may be present.
- Negligible- highly unlikely that species is present

3.2.1 Bat Commuting/ Foraging Habitat

The protected species licencing information from the Magic map produced a record of granted protected species licences within 2.6 km to the east of the site. All bat species in the UK eat insects and forage along habitats such as hedgerows, woodlands, grasslands and waterways⁵. Bats use woodland edges, hedgerows, rivers and other linear features like tree-lined footpaths as corridors to commute from one area of countryside to another⁶. The site does not contain any significant suitable foraging or commuting habitat. The site is located close to woodland areas which are likely to attract bats.

The local records data includes records of bats supplied by the Kent Bat Group. This includes records of common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), serotine (*Eptesicus serotinus*), whiskered bat (*Myotis mystacinus*), Daubenton's Bat (*Myotis daubentonii*), Long-eared Bat Brown (*Plecotus auratus*) and noctule (*Nyctalus noctule*). The closest record is located approximately 50m to the north of the site, record of brown-long eared bats from 2007. A map of roost locations, from Kent Bat Group, also shows a roost in this location. The most recent record is from 2016 located 2.5 km to the northeast of the site within a woodland.

The site is located directly next to potential bat habitat though lacks optimal habitat on the site. There are records of bats within the local area and suitable connectivity across the local landscape. The likelihood of bats being on site is considered to be **low**.

⁵ <https://www.bats.org.uk/about-bats/where-do-bats-live/bat-habitats/foraging-habitats>

⁶ <https://www.bats.org.uk/about-bats/where-do-bats-live/bat-habitats/commuting-habitats>

3.3.2 Bat Roost Assessment

Buildings are known to provide suitable roosting opportunities for a number of bat species⁷. An external inspection of the buildings on site was carried out to assess their potential to support bat roosts, following Bat conservation trust guidelines⁸. An internal inspection was undertaken where possible inspecting all roof voids and potential roosting locations with a high-powered torch looking for signs of bats in the form of staining, droppings, feeding remains and the bats themselves. This was followed by an external inspection of the buildings looking for potential ingress points through soffits, eaves, missing roof tiles/slates and brickwork and windows.

The table below summarises the guidelines for assessing the potential suitability of structures. This table is taken from the Bat Conservation Trust good practice guidelines 2023⁹.

Potential suitability	Description	
	Roosting habitats in structures	Potential flight-paths and foraging habitats
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels).	No habitat features on site likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade/protection for flight-lines, or generate/shelter insect populations available to foraging bats).
Negligible ^a	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.	No obvious habitat features on site likely to be used as flight-paths or by foraging bats; however, a small element of uncertainty remains in order to account for non-standard bat behaviour.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions ^b and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity and not a classic cool/stable hibernation site, but could be used by individual hibernating bats ^c).	Habitat that could be used by small numbers of bats as flight-paths such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions ^b and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for flight-paths such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions ^b and surrounding habitat. These structures have the potential to support high conservation status roosts, e.g. maternity or classic cool/stable hibernation site.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight-paths such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.
^a Negligible is defined as 'so small or unimportant as to be not worth considering, insignificant'. This category may be used where there are places that a bat could roost or forage (due to one attribute) but it is unlikely that they actually would (due to another attribute). ^b For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance. ^c Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten <i>et al.</i>, 2016 and Jansen <i>et al.</i>, 2022). Common pipistrelle swarming has been observed in the UK (Bell, 2022 and Tomlinson, 2020) and winter hibernation of numbers of this species has been detected at Seaton Delaval Hall in Northumberland (National Trust, 2018). This phenomenon requires some research in the UK, but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in prominent buildings in the landscape, urban or otherwise.		

Table 3: Summary of guidelines for assessing bat potential.

The main pub building, and associated extensions were assessed for their potential to support a bat roost. The main building contained a relatively large loft space showing a roof supported by wooden

⁷ Bats and Buildings. Bats and the Build Environment Series. Bat Conservation Trust. January 2012.

⁸ Collins J. (ed) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition). The Bat Conservation Trust, London).

⁹ Collins J. (ed) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition). The Bat Conservation Trust, London).

beams and joists. The tiles were backed by a fabric lining which appeared to be installed recently. No evidence of bats was seen in the interior of the roof space. The exterior of the building contained several small features that have the potential to support individual or small numbers or roosting bats, such as; loose or missing roof tiles, gaps under tiles or gaps on soffits or weather boards. The main pub building was considered as having a **moderate** potential to support a bat roost.



Photo 5: Interior of main pub building.

The shelters in the beer garden did not contain any roof voids. The easternmost shelter contained brick walls with a pitched tiled roof. The roof was backed by fabric which was loose in places. No evidence of bats was seen during the inspection. The shelters contained a few features that have potential to support bat roosts. The shelters are considered as having a **low** potential to support a bat roost.

3.3.3 Tree roost assessment

The table below summarises the guidelines for assessing the potential suitability of trees. The trees on site were assessed against this criterion. This table is taken from the Bat Conservation Trust good practice guidelines 2023¹⁰.

¹⁰ Collins J. (ed) (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition)*. The Bat Conservation Trust, London).

Suitability	Description
PRF-I	PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats.
PRF-M	PRF is suitable for multiple bats and may therefore be used by a maternity colony.

Table 4: Summary of guidelines for assessing bat potential.

The single tree on site did not contain any PRFs, the ivy was considered too sparse to support a bat roost. The trees on site are considered as having a **negligible** potential; to support a bat roost.

3.3.4 Badger Assessment

The site was investigated for evidence of Badger (*Meles meles*); setts or signs such as tracks, hair or latrines. No evidence of badgers was seen on the site. The local records data contains records of badger though these are all over ten years old. The site does not contain any suitable badger habitat and despite being in proximity of possible suitable habitat it is unlikely that badgers will be found on site. The potential for badgers to be on site is considered to be **negligible**.

3.3.5 Dormouse Assessment

Across its range dormice (*Muscardinus avellanarius*) prefer the successional stage of woody vegetation; this is the new growth that arises after woodland management such as coppicing, ride widening, thinning or glade creation, they may also occur in scrubby habitat¹¹. The site itself does not contain any suitable habitats for this species. The boarding woodlands have potential to support this species though there is a lacking of connectivity to the site. The likelihood of dormouse being present is considered **negligible**.

3.3.6 Small Mammal Assessment

Hedgehogs (*Erinaceus europaeus*) prefer habitats such as woodland edges and hedges as well as suburban areas¹². The local records data includes a record of hedgehog. The habitats on site do not provide much in the way of suitable habitats for small mammals such as this as there is a lack of foraging and refuge areas. The likelihood of small mammals being seen on site is considered to be **negligible**.

3.3.7 Aquatic Mammals

No suitable waterbodies were present on site.

¹¹ <https://ptes.org/get-informed/facts-figures/hazel-common-dormouse-muscardinus-avellanarius/>

¹² http://www.mammal.org.uk/sites/default/files/factsheets/hedgehog_complete_0.pdf

3.3.8 Reptile Assessments

Reptiles prefer sites with a diversity of habitats containing a number of micro habitats that provide suitable foraging and refuge sites¹³. The local records data contains records of slow-worm (*Anguis fragilis*), grass snake (*Natrix Helvetica*) and common lizards (*Zootoca vivipara*). The majority of these are over twenty years old, the most recent from 2004 is if a common lizard located approximately 500m to the southeast of the site.

The site lacks any suitable habitats likely to support reptiles and is separated from potential habitats by roads. The likelihood of reptiles being present is considered **negligible**.

3.3.9 Amphibian Assessment

The European protected species Great Crested Newt (*Triturus cristatus*) require both suitable aquatic habitats for breeding and terrestrial habitats to forage and shelter during the active season and hibernate over winter¹⁴. The site lacks any suitable aquatic habitats. Looking at the OS map there appear to be ponds within 100m to the north of the site. The terrestrial habitats on site do not provide suitability for GCN.

The local records data contains records of palmate newts (*Lissotriton helveticus*) and smooth newts (*Lissotriton vulgaris*) from 2019 approximately 900m to the north of the site. The site does not provide any suitable terrestrial habitat for amphibians. There are ponds within proximity of the site though these are separated by roads which may act as a barrier to dispersal. The likelihood of amphibians being present is **negligible**.

3.3.10 Bird Assessment

The site has some limited potential to support nesting birds, the buildings provide suitability for nesting birds. The potential for the site to support nesting birds is considered to be **low**.

3.3.11 Invertebrate Assessments

Butterfly species, including small heath (*Coenonympha pamphilus*) were noted in the local biological records data, including recent records. The habitats do not provide many suitable opportunities for invertebrates as the habitats on site generally lack floral and structural diversity. The likelihood of notable invertebrates being present is **negligible**.

¹³ Edgar, P., Foster, J. and Baker, J. (2010). Reptile Habitat Management Handbook. Amphibian and reptile Conservation, Bournemouth

¹⁴ Great crested newt mitigation guidelines. August 2001. English Nature.

3.3.12 Summary

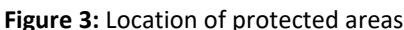
Table 3 below summarises the sites potential for protected and notable species. Designations for potential are as follows;

- High- Definite signs of species identified on site and habitat considered suitable.
- Medium/ moderate- habitat considered suitable but obvious signs not necessarily detected.
- Low- no obvious signs and habitat considered sub-optimal. Though species may be present
- Negligible- highly unlikely that species is present.

Species	Sites potential to support	Justification
Bat roost Trees	Negligible	The tree on site does not contain any suitable roost features.
Bat roost Buildings	Main pub- Moderate Shelters- low	Buildings on site are considered as having potential to support a bat roost.
Bat foraging/ commuting areas	Low	The site does not contain suitable foraging and commuting habitat. Suitable habitat is located close to the site.
Badgers	Negligible	The site does not contain suitable habitat. No evidence of badgers seen on site.
Dormice	Negligible	Habitats on site lack suitability and no evidence seen on site.
Small mammals	Negligible	Site lacks suitable habitats.
Reptiles	Negligible	No suitable habitats on site and lacking connectivity.
Amphibians	Negligible	No suitable aquatic or terrestrial habitats on site.
Breeding birds	Low	Site provides some limited nesting bird habitats.
Invertebrates	Negligible	Habitats on site lack potential to support notable invertebrates.

Table 5: Summary of sites potential to support certain protected and notable species.

The Halling to Trottiscliffe Site of Special Scientific Interest (SSSI) is located to the east of the site (figure 3), this does not directly border the site. This is designated for its chalk grassland and beech woodland habitats. The site is also located within the Kent Downs AONB.



There are local wildlife sites (LWS) within proximity of the site (figure 3). The closest is Henley Wood and Pasture which is located to the west of the site. Another LWS is located to the south of the site. Neither of these directly border the site.

Habitats listed on the Priority Habitat Inventory (PHI) are located across the local landscape, taken from the MAGIC map. A section of priority woodland is located close to the site approximately 40m to the southwest. Another block of priority woodland is located within 200m to the north of the site. Other patches of priority woodland are dotted across the landscape including within the LWS and SSSI

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4. Discussion

The following sections consider the effects on protected areas, priority habitats, protected species, notable species and habitats on site. Recommendations for additional surveys and or enhancements are made as necessary.

4.1 Effects of Designated Sites

As is shown in figure 3 the site is not located within direct proximity of a designated site. The proposed development is unlikely to impact these areas directly. The general protection measures below will help ensure there are no indirect impacts.

4.2 Effects on Priority Habitats

There are areas of priority habitat within proximity of the site. This is unlikely to be directly impacted by the proposed development. The general protection measures out line below will help ensure there are no residual impacts to priority woodland habitats.

4.3 Effects on Habitats on Site

The exact proposals are to be confirmed. However, the proposals are likely to predominantly impact areas of existing developed land and possibly areas of the modified grassland. The overall low value of the habitats on site means that there is unlikely to be a significant ecological impact.

As will be discussed below there is an opportunity to provide overall habitat improvement as part of the Biodiversity Net Gain Assessment.

Below is an assessment of the potential impacts to protected and notable species.

4.4 Effects on Protected and Notable Species

4.4.1 Bats

The buildings were assessed as having a low/moderate potential to support a bat roost. Following the BCT guidelines two dusk/ dawn surveys are required for a building of moderate and one survey for a building of low potential. These are required to be conducted in suitable weather conditions between early May and the end of September. JW Biodiversity Management understands that these surveys were conducted in August and September 2024. Any recommendations from the bat survey report should be followed.

The site has some limited potential to support foraging and commuting bats. These habitats will not be directly impacted.

The proposed habitat enhancements are likely to provide a potential benefit for bats.

A sensitive lighting scheme should be incorporated into the final design to protect existing habitat and any newly created habitats on the site. To protect potential roost or bat foraging/ commuting habitat in the area it will be important to:

- Using Low-pressure sodium lamps instead of high- pressure sodium or mercury lamps;
- Maintaining the brightness as low as possible;
- Directing the lighting to where it is needed to avoid light spillage; and,
- Minimising upward lighting to avoid light pollution.
- Avoid illuminating the wider habitats on site, particularly any mature trees or hedgerows and the pond, at dusk or nighttime- Guidelines provided by the Bat Conservation trust and ILP should be followed¹⁵

4.4.2 Badgers

Badgers are not considered a constraint for this site.

4.4.3 Small Mammals

Small mammals are not considered a constraint for this site.

4.4.4 Dormouse

Hazel Dormice, their breeding sites and resting places are protected by law¹⁶. Dormouse are not considered a constraint for this site.

¹⁵ <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>

¹⁶ <https://www.gov.uk/guidance/hazel-or-common-dormice-surveys-and-mitigation-for-development-projects>

4.4.5 Reptiles & amphibians

The site is not considered as having potential to support reptiles or amphibians.

If a reptile or amphibian is seen, then works should stop until an appropriate mitigation strategy can be agreed and implemented.

4.5.6 Nesting Birds

To ensure breeding birds are not impacted any buildings that may require removal should be removed outside of the breeding bird season, this typically runs from March to September. If vegetation/ buildings require removal during the nesting bird season the area should be subjected to a survey by an experienced ecologist. Additional planting and inclusion of nest boxes would help replace any potential loss in nesting habitat.

4.5 General Ecological protection Measures

The following measures are suggested to help minimise the impact to the wider environment:

- Screen development with appropriate fencing or hoarding.
- Suppression and monitoring of dust where relevant.
- Control sources of aquatic pollution, particularly from entering local water courses or ground water.
- All proposed work must strictly be in accordance with all relevant Pollution Prevention Guidelines (PPG) published by the Environment Agency which may include but is not limited to PPG1 (general), PPG5 (works in, near, or liable to affect watercourses) and PPG6 (work at construction & demolition sites). Contingency plans should be drawn up to address chemical spillage, collision, etc.

4.6 Ecological Enhancements

A number of enhancements can be made to the final development to help reduce potential ecological impacts, as well as to try and achieve biological net gain. It is important to utilise native species of local provenance in landscaping schemes to enhance the ecological value of the development. A Biodiversity Net Gain assessment has been conducted (section 5).

4.6.1 Additional Features

To enhance the local bat population and provide roosting opportunities within the site artificial roost sites could be incorporated into the development. The inclusion of bird boxes into the proposed development would provide a benefit for local bird population. A range of different boxes is recommended.

5 Biodiversity Net Gain Assessment

5.1 Net Gain Target

Mandatory Biodiversity Net Gain, as part of the Environment Act (2021), came into effect in early 2024. Mandatory net gain requires a minimum of a 10% net gain.

The target will therefore be to show at least a 10% net gain. The Statutory metric will be used to measure the net gain.

5.2 Net Gain Assessment

A Biodiversity Net Gain Assessment has been conducted using the DEFRA Statutory Biodiversity Metric. This was conducted by a competent and qualified ecologist. The methodology set out in the Statutory Biodiversity Metric User guide was followed¹⁷. The statutory metric uses habitats, the places in which species live, as a proxy to describe biodiversity. These habitats are converted into 'biodiversity units'. These biodiversity units are the 'currency' of the metric.

A site visit to confirm habitats present, their relative condition (using the DEFRA metric condition assessment sheets) was conducted on the 29th of August 2024. This was conducted by an experienced and qualified ecologist who is proficient in the use of the Biodiversity Metric.

5.2.1 Mitigation Hierarchy

The Statutory Biodiversity Metric supports and reinforces the application of the mitigation hierarchy which is an important principle of ecological good practice. Applying the mitigation hierarchy means aiming to retain habitats in situ and avoiding or minimising habitat damage so far as possible, before looking to enhance or recreate habitats. This sequential approach is encouraged by biodiversity metric because it allows overall biodiversity gains to be achieved more easily through the avoidance of on-site habitat losses, rather than relying solely on the creation of new habitat or the enhancement of existing habitat. It works this way because the metric applies multipliers that are based on the risks inherent in creating or restoring habitat, and which are not applicable when existing habitat is safeguarded.

5.2.2 Statutory Obligations

The use of the biodiversity metric does not negate the projects statutory obligations in relation to protected species and habitats.

¹⁷ The Statutory Biodiversity Metric: User Guide. February 2024. DEFRA.

5.2.3 Calculating Units

Biodiversity units are calculated using the size of a parcel of habitat and its quality. The metric uses habitat area (measured in hectares) as its core measurement, except for linear habitats (hedgerows and lines of trees and rivers and streams) where habitat length (measured in kilometres) is used.

To assess the quality of a habitat biodiversity metric scores:

- Habitats of different types, such as woodland or grassland, according to their relative biodiversity value or distinctiveness. Habitats that are scarce or declining typically score highly relative to habitats that are more common and widespread.
- The condition of a habitat. Scoring the biodiversity value of the habitat relative to others of the same type.
- Being 'better' and 'more joined-up' are important facets of habitats that can contribute to halting and reversing biodiversity declines, so the metric also accounts for whether or not the habitat is sited in an area identified, typically in a relevant local strategy or plan, as being of strategic significance for nature.

5.2.3 Principles and rules of Biodiversity Metric

Principles

The Biodiversity metric works under the following principles;

- Principle 1: The metric assessment should be completed by a competent person.
- Principle 2: The use of this biodiversity metric does not override existing biodiversity protections, statutory obligations, policy requirements, ecological mitigation hierarchy or any other requirements. This includes consenting or licensing processes, for example woodlands.
- Principle 3: This biodiversity metric should be used in accordance with established good practice guidance and professional codes.
- Principle 4: This biodiversity metric is not a complex or comprehensive ecological model and is not a substitute for expert ecological advice.
- Principle 5: Biodiversity units are a proxy for biodiversity and should be treated as relative values.
- Principle 6: This biodiversity metric is designed to inform decisions in conjunction with locally relevant evidence, expert input, or guidance.
- Principle 7: Habitat interventions need to be realistic and deliverable within a relevant project timeframe.

- Principle 8: Created and enhanced habitats should be, where practical and reasonable, local to any impact and deliver strategically important outcomes for nature conservation
- Principle 9: The metric does not enforce a minimum habitat size ratio for compensation of losses. However, proposals should aim to:
 - maintain habitat extent (supporting more, bigger, better and more joined up ecological networks) and ensure that proposed or retained habitat parcels are of sufficient size for ecological function.
- Principle 8: Created and enhanced habitats should be, where practical and reasonable, local to any impact and deliver strategically important outcomes for nature conservation.
- Principle 9: The metric does not enforce a minimum habitat size ratio for compensation of losses. However, proposals should aim to:
 - maintain habitat extent (supporting more, bigger, better and more joined up ecological networks) and
 - ensure that proposed or retained habitat parcels are of sufficient size for ecological function.

Rules

The following rules apply to the biodiversity metric;

- Rule 1: The trading rules of this biodiversity metric must be followed.
- Rule 2: Biodiversity unit outputs, for each type of unit, must not be summed, traded, or converted between types. The requirement to deliver at least a 10% net gain applies to each type of unit.
- Rule 3: To accurately apply the biodiversity metric formula, you must use the statutory biodiversity metric calculation tool or small sites biodiversity metric tool (SSM) for small sites. The tools remove the need for a user to manually calculate the change in biodiversity value. The tool will summarise the results of the calculation and inform a user whether the biodiversity net gain objective has been met.
- Rule 4: In exceptional ecological circumstances, deviation from this biodiversity metric methodology may be permitted by the relevant planning authority.

5.3 Baseline Assessment Scores

5.3.1 Habitat Condition

Habitat condition is a measure of the state of a habitat and is used to measure variation between parcels of the same habitat type. Condition is often linked to past management, present management, and land use.

The biodiversity metric provides a list of assessment criteria for each habitat type. The condition of the habitat is then assessed against these criteria; the more criteria present within the habitat the higher the assessed condition. Condition assessment sheets are provided in the appendix. Location of current habitats are shown in figure 2.

5.3.2 Habitat Distinctiveness

Distinctiveness is a measure based on the type of habitat and its distinguishing features. Professional survey is required to determine habitat type.

The biodiversity metric tool automatically assigns distinctiveness category to your selected habitats.

5.3.3 Strategic Significance

Strategic significance is the local significance of the habitat based on its location and habitat type. Where a Local Nature Recovery Strategy (LNRS) has been published, you should use the relevant published LNRS. If an LNRS has not yet been published, a relevant planning authority should specify alternative documents for assigning strategic significance whilst an LNRS is put in place.

A LNRS is still being drafted for the area the site is in¹⁸. For the purpose of this assessment strategic significance will refer the UK Biodiversity Action Plan Priority Habitat Descriptions¹⁹.

The table below summarises the baseline habitat assessment. Full details can be seen in the appendix.

5.3.4 Habitat Details

Species on Site were categorised using the DAFOR (Dominant, Abundant, Frequent, Occasional, Rare) scale to estimate the relative abundance of species within a habitat. Table 6 below details the approximate percentage cover for each category.

The naming convention of plant species follows the New Flora of the British Isles (Stace, 2021).

¹⁸ [Local Nature Recovery Strategy \(LNRS\) | Kent Nature](#)

¹⁹ [UK Biodiversity Action Plan: Priority Habitat Descriptions \(Updated December 2011\) \(jncc.gov.uk\)](#)

Score	Cover (%)
Dominant (D)	76-100
Abundant (A)	51-75
Frequent (F)	26-50
Occasional (O)	1-25
Rare (R)	<1

Table 6: DAFOR scale

The table below describes the habitats on site and their condition.

Habitat	Distinctiveness	Habitat Description	Strategic Significance	Condition	Size (Ha)
Area Habitats					
Modified Grassland	Low	Located across the pub garden and adjacent to car parking area. This was short mown areas of grassland with damage from recreational use; a playground was located in the pub garden. Several picnic benches were located across the grassland, these contained a paved base which have not been mapped. <u>Species</u> Species noted included; Perennial Rye-grass (<i>Lolium perenne</i>) (D), white clover (<i>Trifolium repens</i>) (F), common daisy (<i>Bellis perennis</i>) (O), Cock's-foot (<i>Dactylis glomerata</i>) (R), greater plantain (<i>Plantago major</i>) (O), yarrow (<i>Achillea millefolium</i>) (O), dandelion (<i>Taraxacum officinale</i>) (R) and red fescue (<i>Festuca rubra</i>) (O).	Low	Moderate	0.1027
Tall Forbs	Low	A small patch of unmanaged land dominated by tall forbs located in corner of pub garden. <u>Species</u> Common mallow (<i>Malva sylvestris</i>) (O), cleavers (<i>Galium aparine</i>) (O), spear thistle (<i>Cirsium vulgare</i>) (R), sow thistle (<i>Sonchus oleraceus</i>) (R), prickly lettuce (<i>Lactuca serriola</i>) (O) and bristly oxtongue (<i>Helminthotheca echioides</i>) (O).	Low	N/A	0.0007
Bare Ground	Low	An area of recently disturbed land located to the east of site near the modified grassland. This lacked species or structural diversity.	Low	Poor	0.025
Developed land; sealed surface	V. low	The site contained a relatively large pub building which was two storeys with a pitched tiled roof. The building was mostly constructed of rendered brick work. Several single storey extensions had been added including a glass/uPVC conservatory. Outbuildings are located in the pub garden which were shed like with open fronts. One of these (easternmost) had a pitched tiled roof. A large tarmac car park is located to the northeast of the site and there are areas of hardstanding around the pub buildings.	Low	N/A	0.1137
Urban Tree	Medium	A Small ²⁰ ivy (<i>Hedera helix</i>) covered tree was located towards the northwest of the site. The species was unknown as crown had been removed. The tree at the time of the site visit had no branches and was little more than an ivy-covered stump.	Medium	Moderate	0.4193

Table 7: Summary of habitats present on site and their baseline condition

²⁰ The sizes of the trees within the metric are defined as; of 'small' (DBH ≤30cm) and 'medium' (DBH >30 to ≤60cm) and 'large' (DBH 60- ≤90cm), Very Large (DBH >90cm).

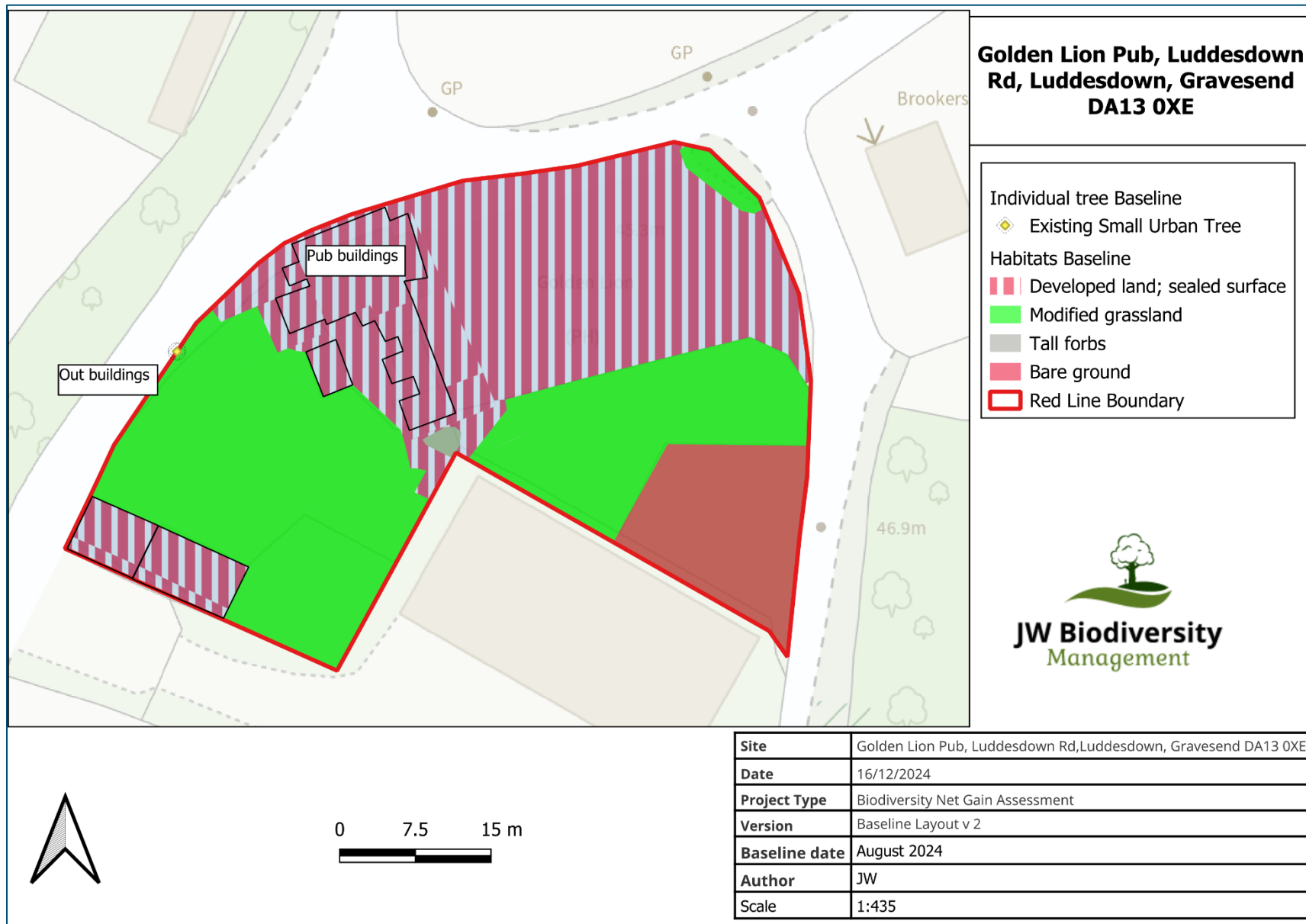


Figure 4: Baseline habitat layout

5.4 Post Development Assessment

Plans showing the layout of the proposed habitats across the site are shown in figure 3. The proposed development layout is shown in the appendix.

As can be seen from the proposed plans the development will largely impact the area around the existing buildings. This will mostly impact areas of developed land as well as some areas of existing grassland. The area of tall forbs will also be lost. Some of the grassland to the east of the suite will be impacted by the proposed car park extension as will the area of bare ground.

The net gain will be achieved by enhancing areas of retained grassland. The grassland in the east of the site, within the pub garden, will be retained and enhanced into a higher quality modified grassland. Areas of additional grassland will; be created in the area where the outbuildings were located. To the west of the site an area of higher value grassland, other neutral grassland, will be created in an area of retained grassland. Other neutral grassland will have a high distinctiveness as it is one of the priority habitats within the BOA.

The single small tree will be retained. To help achieve the net gain 2x medium and 1 x small tree will in the pub garden to the southwest along Luddesdown Road. Though these will be close to the garden wall this will be a new one, the foundations provided can be sufficient so as to safely accommodate the growth of a new tree in reasonably close proximity. Species are to be confirmed though they will need to reach the required size when mature ('small' (DBH <30cm) and 'medium' (DBH >30 to <60cm)).

These enhancements will provide increase in wildlife friendly habitats as well as protecting existing habitats on site.

Figure 5 shows the proposed habitat layout. Figure 6 shows which habitats will be retained and enhanced.

The tables below summarise the enhanced and created habitats based on the habitat classification used in the BNG calculations.

Habitat	Area (Ha)	Distinctiveness	Desired condition	Strategic Significance	Required Enhancements/ Management
Developed land; sealed surface	0.1726	V. Low	N/A	Low strategic significance	•
Other neutral grassland (enhanced from modified grassland)	0.0097	Medium	Good	High strategic significance	• Sow with suitable wildflower Mix • Varied sward height- >20% <7cm and >20% <7cm. • Maintain Bracken <20% and scrub <5%. • Maintain an absence of non-native species and <5% undesirable species/ damage. • Allow sward to develop through spring and summer. Cut down and remove arisings in late summer/ autumn.
Modified grassland (retained and enhanced)	0.0576	Low	Good	Low strategic significance	
Individual Trees (retained/ planted)	2x medium and 1x small (planted) 1x small (retained)	Medium	Moderate	Medium strategic significance	• Plant native trees • Protect trees during development (see arb plan in appendix) • Manage to horticultural standard • Allow dead wood to be retained where possible • Allow canopy to develop and micro habitats to develop. • Replace any lost trees.

Table 8: Summary of habitats post development with grassland enhancement and woodland creation.

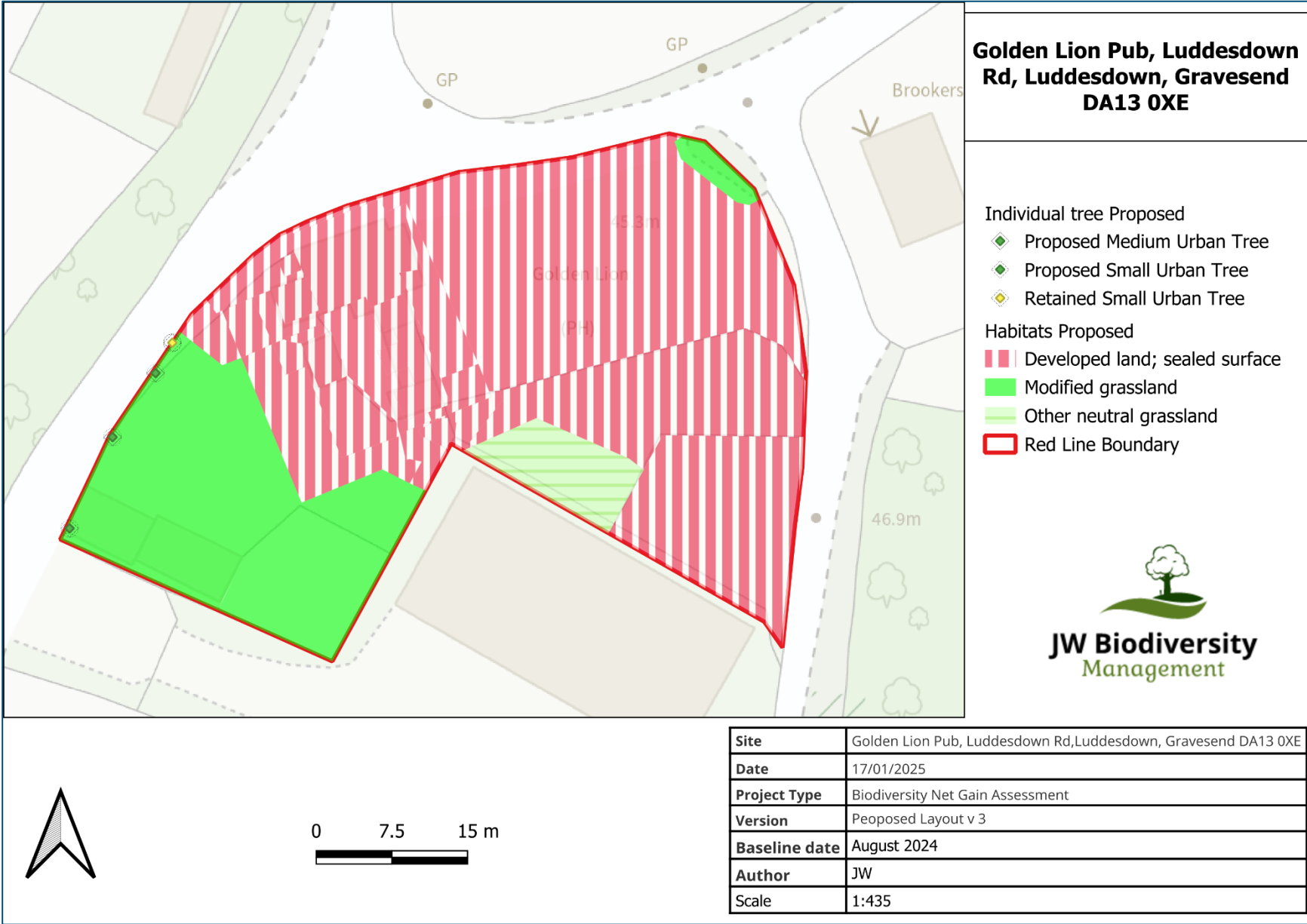


Figure 5: Proposed Habitat Layout

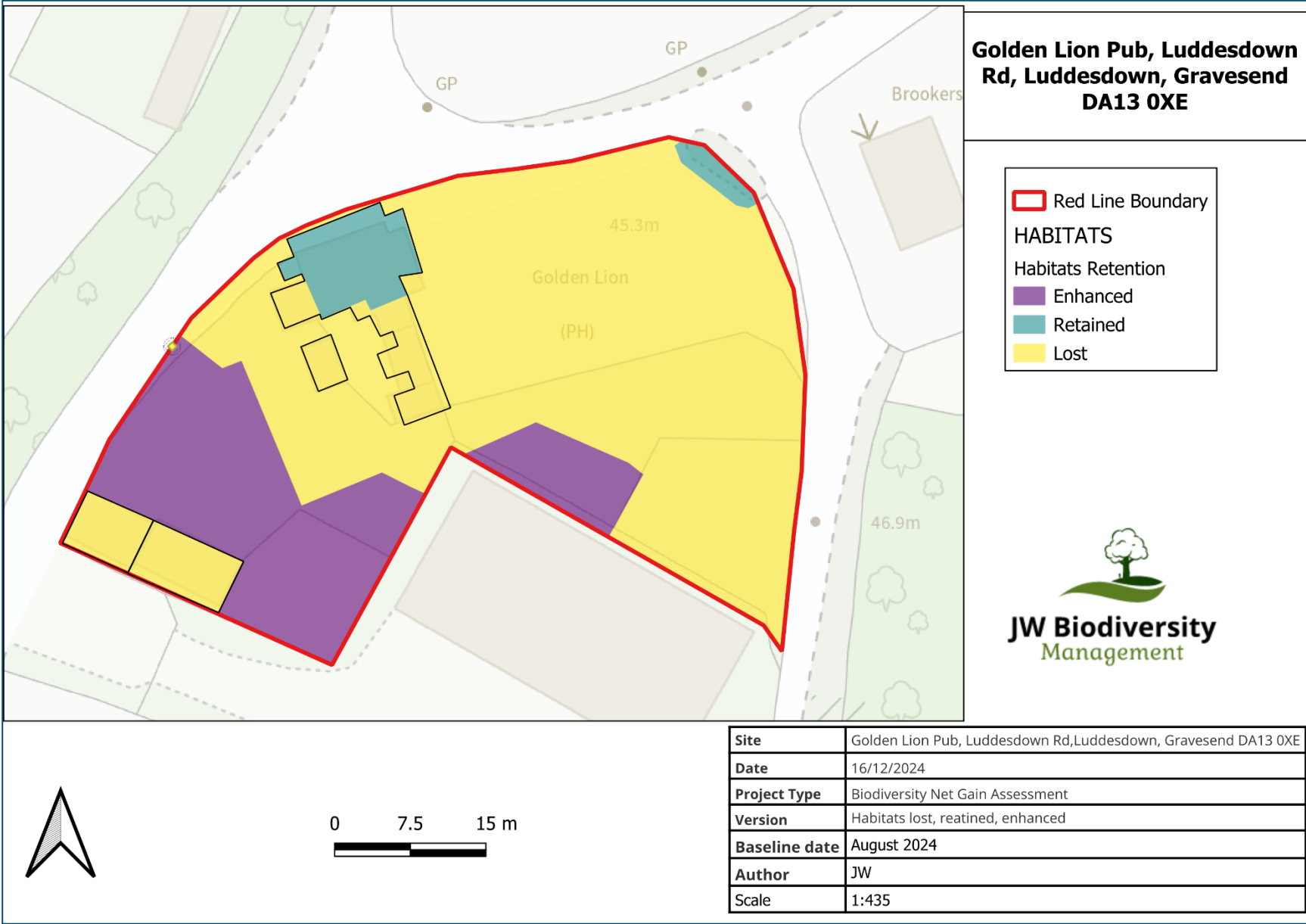


Figure 6: Habitats retained, enhanced and lost.

5.5 Biodiversity Net Gain Results

The table below provides a summary of the results of the Biodiversity Net Gain Assessment. The proposed change in habitats will provide a 13.80% gain in habitat units. The target for net gain has been met.

FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	0.07
	<i>Hedgerow units</i>	0.00
	<i>Watercourse units</i>	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	13.80%
	<i>Hedgerow units</i>	0.00%
	<i>Watercourse units</i>	0.00%
Trading rules satisfied?	Yes ✓	

Table 8: Summary of BNG Results.

5.5.1 Trading Rules

The trading rules set minimum habitat creation and enhancement requirements to compensate for specific habitat losses, up to the point of no net loss. They are based on the habitat type and distinctiveness of the lost habitat.

The trading rules have been met.

5.5.2 Long term management

Once the proposed layout has been agreed with the local planning authority a Habitat Management and Monitoring Plan (HMMP) will need to be produced to ensure the habitats on site reach and maintain their desired condition. This could be granted as a condition of planning permission should the local authority be so inclined.

A formal agreement between the landowner and the local authority will also need to be entered into to ensure the long term (at least 30 years) management of the habitats on site

6. Conclusion

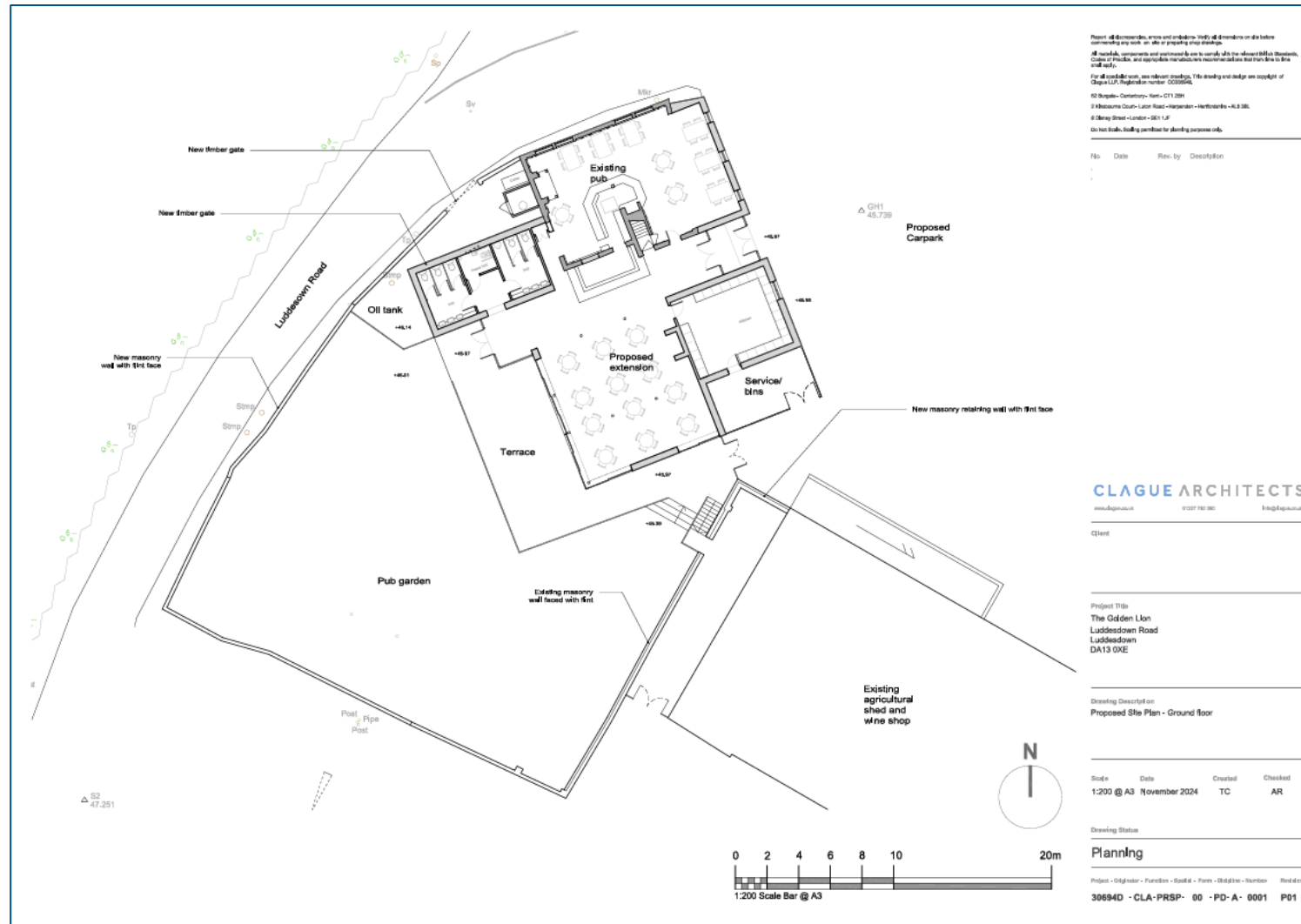
A Biodiversity Net Gain assessment has been conducted by a competent ecologist and recommendations have been made to ensure the project achieves a net gain. This is in line with local and national planning policies. Recommendations have also been made in relation to protected and notable species.

Recommendation	Action	Justification
Protection of breeding birds*	Carry out building demolition outside of breeding bird season or under supervision of ecologist following a breeding bird survey	The buildings are likely providing several opportunities for breeding birds.
Appropriate lighting for bats*	Avoid illuminating bat foraging and commuting habitat- woodland/ scattered trees. During and post development.	This will help limit disturbance to bat species in the longer term.
Adequate pollution control	Habitats on site should be adequately protected to ensure no polluted runoff in on site or adjacent land. All oils, fuels and chemicals should be adequately stored on site in bunded contains with appropriate spill kits and emergency procedures in place.	This will protect habitats on site and those in the nearby landscape.
Inclusion of bird and bat boxes in the development/ landscaping	Place boxes in suitable locations within the landscaping.	This would benefit local bird and bat populations on the site and within the local area.
Finalise BNG assessment	Complete BNG Assessment once plans are agreed.	This will ensure compliance with BNG legislation.
Compile long term management plan	Once layout agreed compile Habitat Management and Monitoring Plan.	This will ensure long term management of habitats on site.

Table 9: Summary of recommendations

7. Appendix

7.1 Appendix 1: Proposed Development Layout



[illegible]

7.3 Appendix 3: Condition Assessments

Modified grassland

Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
A	There are 6-8 vascular plant species per m ² present, including at least 2 forbs (these may include those listed in Footnote 1). Note - this criterion is essential for achieving Moderate or Good condition.	Y	
	Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m ² (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.		
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) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	N	
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble <i>Rubus fruticosus</i> agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Y	
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	N	
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens) ² .	N	
F	Cover of bracken <i>Pteridium aquilinum</i> is less than 20%.	Y	
G	There is an absence of invasive non-native plant species ³ (as listed on Schedule 9 of WCA ⁴).	Y	
Essential criterion achieved (Yes or No)			Y
Number of criteria passed			
Condition Assessment Result (out of 7 criteria)	Condition Assessment Score	Score Achieved x/√	
Passes 6 or 7 criteria including passing essential criterion A	Good (3)		
Passes 4 or 5 criteria including passing essential criterion A	Moderate (2)	X	
Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)	Poor (1)		

Bare Ground

Core Criteria - must be assessed for all urban habitat types:			
A	Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.	N	
B	The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.	N	
C	Invasive non-native plant species (listed on Schedule 9 of WCA ¹) and others which are to the detriment of native wildlife (using professional judgement) ² cover less than 5% of the total vegetated area ³ . Note - to achieve Good condition, this criterion must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).	Y	
Additional Criterion - must be assessed for Open mosaic habitat on previously developed land only:			
D	The parcel shows spatial variation and forms a mosaic of bare substrate PLUS: - At least four early successional communities (a) to (i); Communities: (a) annuals; (b) mosses/liverworts; (c) lichens; (d) ruderals; (e) inundation species; (f) open grassland; (g) flower-rich grassland; (h) heathland, (i) pools.		
Additional Criteria - must be assessed for Bioswale and SuDS habitat types only:			
E1	Plant species are mostly native. If non-native species are present, they should not be detrimental to the habitat or native wildlife ⁴ .		
E2	The vegetation is comprised of plant species suited to wetland or riparian situations.		
Additional Criterion - must be assessed for Intensive green roofs only:			
F	The roof has a minimum of 50% native and non-native wildflowers. 70% of the roof area is soil and vegetation (including water features).		
Additional Criterion - must be assessed for Biodiverse green roofs only:			
G	The roof has a varied depth of 80 – 150 mm; at least 50% is at 150 mm and is planted and seeded with wildflowers and sedums or is pre-prepared with sedums and wildflowers. Note – to achieve Good condition some additional habitat, such as sand piles, stones, logs etc. are present.		
Essential criteria relevant for habitat type achieved (Yes or No)			
Number of criteria passed			
Condition Assessment Result	Condition Assessment Score	Score Achieved x/√	
Results for habitats requiring assessment of 3 core criteria only (all listed urban habitats except Open mosaic habitat on previously developed land, Bioswale, SuDS and Green roofs):			
• Passes all 3 core criteria; AND • Meets the requirements for Good condition within criterion C.	Good (3)		
• Passes 2 of 3 core criteria; OR • Passes 3 of 3 core criteria but does not meet the requirements for Good condition within criterion C.	Moderate (2)		
• Passes 0 or 1 of 3 core criteria.	Poor (1)	X	
Results for Green roofs and Open mosaic habitat on previously developed land (requiring assessment of 4 criteria only - core criteria plus additional criterion specified for habitat type):			
• Passes all 3 core criteria; AND • Meets the requirements for Good condition within criterion C; AND • Passes additional criterion relevant to specific habitat type (D, F or G).	Good (3)		
• Passes 2 or 3 of 4 criteria; OR • Passes 4 of 4 criteria but does not meet the requirements for Good condition within criterion C.	Moderate (2)		
• Passes 0 or 1 of 4 criteria.	Poor (1)		
Results for Bioswale or SuDS (requiring assessment of 5 criteria - core criteria plus additional criteria specified for habitat type):			
• Passes all 3 core criteria; AND • Meets the requirements for Good condition within criterion C; AND • Passes all additional criteria relevant to specific habitat type (Group E)	Good (3)		
• Passes 3 or 4 of 5 criteria; OR • Passes 5 of 5 criteria but does not meet the requirements for Good condition within criterion C.	Moderate (2)		
• Passes 2 or fewer of 5 criteria.	Poor (1)		

Tall forbs

Core Criteria - must be assessed for all urban habitat types:			
A	Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.	N	
B	The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.	Y	
C	Invasive non-native plant species (listed on Schedule 9 of WCA ¹) and others which are to the detriment of native wildlife (using professional judgement) ² cover less than 5% of the total vegetated area ³ . Note - to achieve Good condition, this criterion must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).	Y	
Additional Criterion - must be assessed for Open mosaic habitat on previously developed land only:			
D	The parcel shows spatial variation and forms a mosaic of bare substrate PLUS: - At least four early successional communities (a) to (i); Communities: (a) annuals; (b) mosses/liverworts; (c) lichens; (d) ruderals; (e) inundation species; (f) open grassland; (g) flower-rich grassland; (h) heathland, (i) pools.		
Additional Criteria - must be assessed for Bioswale and SuDS habitat types only:			
E1	Plant species are mostly native. If non-native species are present, they should not be detrimental to the habitat or native wildlife ⁴ .		
E2	The vegetation is comprised of plant species suited to wetland or riparian situations.		
Additional Criterion - must be assessed for intensive green roofs only:			
F	The roof has a minimum of 50% native and non-native wildflowers. 70% of the roof area is soil and vegetation (including water features).		
Additional Criterion - must be assessed for Biodiverse green roofs only:			
G	The roof has a varied depth of 80 – 150 mm; at least 50% is at 150 mm and is planted and seeded with wildflowers and sedums or is pre-prepared with sedums and wildflowers. Note – to achieve Good condition some additional habitat, such as sand piles, stones, logs etc. are present.		
Essential criteria relevant for habitat type achieved (Yes or No)			
Number of criteria passed			
Condition Assessment Result	Condition Assessment Score	Score Achieved x1/4	
Results for habitats requiring assessment of 3 core criteria only (all listed urban habitats except Open mosaic habitat on previously developed land, Bioswale, SuDS and Green roofs):			
• Passes all 3 core criteria; AND • Meets the requirements for Good condition within criterion C.	Good (3)		
• Passes 2 of 3 core criteria; OR • Passes 3 of 3 core criteria but does not meet the requirements for Good condition within criterion C.	Moderate (2)	X	
• Passes 0 or 1 of 3 core criteria.	Poor (1)		
Results for Green roofs and Open mosaic habitat on previously developed land (requiring assessment of 4 criteria only - core criteria plus additional criterion specified for habitat type):			
• Passes all 3 core criteria; AND • Meets the requirements for Good condition within criterion C; AND • Passes additional criterion relevant to specific habitat type (D, F or G).	Good (3)		
• Passes 2 or 3 of 4 criteria; OR • Passes 4 of 4 criteria but does not meet the requirements for Good condition within criterion C.	Moderate (2)		
• Passes 0 or 1 of 4 criteria.	Poor (1)		
Results for Bioswale or SuDS (requiring assessment of 5 criteria - core criteria plus additional criteria specified for habitat type):			
• Passes all 3 core criteria; AND • Meets the requirements for Good condition within criterion C; AND • Passes all additional criteria relevant to specific habitat type (Group E)	Good (3)		
• Passes 3 or 4 of 5 criteria; OR • Passes 5 of 5 criteria but does not meet the requirements for Good condition within criterion C.	Moderate (2)		
• Passes 2 or fewer of 5 criteria.	Poor (1)		

Individule Trees

Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
A	The tree is a native species (or at least 70% within the block are native species).	Y	
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Y	
C	The tree is mature (or more than 50% within the block are mature) ¹ .	N	
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	N	
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	Y	
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	N	
Number of criteria passed		3	
Condition Assessment Result (out of 6 criteria)		Condition Assessment Score	Score Achieved ×/✓
Passes 5 or 6 criteria		Good (3)	
Passes 3 or 4 criteria		Moderate (2)	X
Passes 2 or fewer criteria		Poor (1)	
Note that 'Fairly Good and Fairly Poor' condition categories are not available for this broad habitat type.			

7.4 Appendix 3: Legislation

Protected species have protection under national legislation such as the Wildlife and Countryside Act 1981 and European legislation such as the Habitats Directive.

Please note the following:

- (1) If there is no record of a particular protected species, this does not signify that the species is absent from the site in question. It may mean that it has not been recorded, that the site has not been surveyed for this species, or that data relating to its presence has not been made available to us.
- (2) The presence of a protected species record does not mean that the species is still present. It means that the species was recorded at that time and place. The implications of the record should be further evaluated, and a survey to establish the current status may be required.
- (3) The following summary of legislation is designed purely as a basic guide, if any action is to be taken regarding any of the protected species listed, then it is imperative that the full relevant legislation be consulted.

WILDLIFE PROTECTION LEGISLATION IN ENGLAND

Legislation that protects wildlife in England exists at the European and national level.

European Law

The Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979) was aimed at ensuring conservation and protection of all wild plants and animals, increasing cooperation between states, and affording special protection to the most vulnerable or threatened species. It was implemented by the EC Birds Directive (Council Directive 79/409/EEC) and the EC Habitats Directive (Council Directive 92/43/EEC).

The Bonn Convention on Migratory Species of Wild Animals (1979 & 1994) requires the protection of migratory animals. It was implemented by the EC Birds Directive (Council Directive 79/409/EEC) and the EC Habitats Directive (Council Directive 92/43/EEC).

The EC Habitats Directive aims to establish a network of protected areas in order to maintain the distribution and the abundance of threatened species and habitats. A number of species are listed in the annexes.

Annex II lists animals and plants whose conservation requires the designation of Special Areas of Conservation (SACs).

Annex IV lists animals and plants in need of strict protection. For the animals, this prohibits deliberate capture, killing, disturbance (especially during breeding period), destruction or taking of eggs from wild, and destruction or deterioration of breeding sites or resting places. For the plants,

this prohibits deliberate picking, collecting, uprooting, cutting, destruction, and trade in entire plants or parts, at all stages of life.

Annex V lists animals and plants for which taking in the wild may be subject to management measures

National Law

Wildlife and Countryside Act The Wildlife and Countryside Act 1981 (as amended) is the main source of legal protection for wildlife in England and was strengthened by the Countryside and Rights of Way Act 2000. A statutory five-yearly review of Schedules 5 and 8 (protected wild animals and plants) is undertaken by the relevant authorities. Species protection is provided under Schedules 1, 5, 6 and 8:

Schedule 1 lists bird species that are rare, endangered, declining or vulnerable. The Schedule is divided into two parts. Part I lists birds which receive special protection; these birds receive additional protection from disturbance at the nest. Part II lists birds that receive the same level of special protection, but only during the breeding season.

Schedule 5 protects animal (other than bird) species from certain actions, according to the sections of the Act under which they are listed:

S9 (1) prohibits the intentional killing, injury or taking. S9 (2) protection is limited to possessing and controlling. S9 (4a) prohibits the damaging, destroying or obstructing access to any place used by the animal for shelter or protection. S9 (4b) prohibits disturbing the animal while it is occupying any structure or place which it uses for shelter or protection. S9(5) prohibits the selling, offering for sale, possessing or transporting for purpose of sale, or advertising for sale, any live or dead animal, or any part of, or anything derived from such an animal. Species on this Schedule do not appear on the PSI.

Schedule 6 lists animals that may not be killed by certain methods. Even humane trapping for research requires a licence.

Schedule 8 lists plant species for which it is prohibited to intentionally pick, uproot, destroy, trade in, or possess (for the purposes of trade).

Under the Wildlife and Countryside Act, all wild plants in Britain are protected from intentional uprooting by an unauthorised person. Landowners, land occupiers, persons authorised by either of these, or persons authorised in writing by the Local Authority for the area are exempt from this, except for Schedule 8 species.

Conservation Regulations the Conservation of Habitats and Species Regulations 2010 (as amended) transpose the EC Habitats Directive into national law. In addition to enabling the designation of SACs, the regulations also provide species protection:

Schedule 2 protects the listed animals from deliberate capture, killing, disturbance or trading in.

Schedule 4 protects the listed plants from picking, collecting, uprooting, destroying or trading in.

These actions can be made lawful through the granting of licences by the appropriate authorities. Licences may be granted for a number of purposes, but only after the appropriate authority is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on wild the population of the species concerned.

Protection of Badgers Act the Protection of the Badgers Act prohibits the killing, injuring or taking of badgers and damage or interference with a badger sett, unless licensed to do so by a statutory authority.

International and European Obligations

In the UK, species receiving protection under international legislation and agreements are protected through the Wildlife and Countryside Act, so are not shown separately in the BMERC notable species lists. For reference, the relevant categories are shown below.

Bern Convention on the Conservation of European Wildlife and Natural Habitats the Bern Convention aims to ensure the conservation of wild flora and fauna species and their habitats.

- Appendix 1 (strictly protected flora) - Plants for which contracting parties will prohibit deliberate picking, collecting, cutting or uprooting.
- Appendix 2 (strictly protected fauna) - Animals for which contracting parties will prohibit deliberate capture, possession, killing, damage to or destruction of breeding or resting sites, disturbance or destruction or taking of eggs. Appendix 3 (protected fauna) - Animals for which contracting parties will include closed seasons and regulate their sale, keeping for sale, and transport for sale or offering for sale of live and dead wild animals. (Not included in Notable Species List).

Bonn Convention on Migratory Species the Bonn Convention aims to conserve terrestrial, marine and avian migratory species throughout their range.

- Appendix 1 (migratory species threatened with extinction) - Species for which contracting parties will strictly protect and endeavour to conserve or restore the places where they live, mitigating obstacles to migration and controlling other factors that might endanger them.
- Appendix 2 (migratory species that need or would benefit from international co-operation) - Species for which contracting parties will be encouraged to conclude global or regional agreements for the conservation and management of individual species or, more often, of a group of species. (Not included in Notable Species List).

The EC Council Directive on the Conservation of Wild Birds the Birds Directive provides a framework for the conservation and management of all wild birds in Europe. As well as designating important sites for birds as Special Protection Areas, birds are generally protected from deliberate killing or capture and destruction of or damage to their nests or eggs, and deliberate disturbance. Allowances are made for game birds.

UK BAP & notable species

UK Biodiversity Action Plan and Section 41 Species

Biodiversity, or biological diversity, is the whole variety of life on Earth. The Convention on Biological Diversity (CBD) came about as a result of the 1992 Earth Summit. As one of 168 countries to sign up to the CBD, the UK was required to develop a national strategy for the conservation of biodiversity; the UK Biodiversity Action Plan (UKBAP) was born.

The UKBAP is the result of contributions involving a wide range of people and organisations, enabling the identification of species and habitats that are listed as priorities for conservation action. A 2007 review of the UKBAP has resulted in 1149 species and 65 habitats being listed as conservation priorities. For more information see www.ukbap.org.uk.

In addition to the national priorities and targets, action is also being taken at local level. The Essex Biodiversity Project is responsible for implementing the Essex Biodiversity Action Plan, which has 28 priority species and 15 priority habitats currently listed. For more information see www.essexbiodiversity.org.uk.

The UK BAP

(From Explanatory Note by Defra and Natural England on Section 41 of the Natural Environment and Rural Communities

(NERC) Act 2006 - Habitats and Species of Principal Importance in England)

The England Biodiversity List has been developed to meet the requirements of Section 41 of the Natural Environment and Rural Communities Act (2006). This legislation requires the Secretary of State to publish a list of species of flora and fauna and habitats considered to be of principal importance for the purpose of conserving biodiversity.

The S41 list will be used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the Natural Environment and Rural Communities Act 2006 'to have regard' to the conservation of biodiversity in England, when carrying out their normal functions. In particular:

- Regional Planning Bodies and Local Planning Authorities will use it to identify the species and habitats that should be afforded priority when applying the requirements of National Planning Policy framework (NPPF) and PPS9 Circular to maintain, restore and enhance species and habitats.
- Local Planning Authorities will use it to identify the species and habitats that require specific consideration in dealing with planning and development control, recognising that under NPPF and PPS9 Circular the aim of planning decisions should be to avoid harm to all biodiversity.
- All Public Bodies will use it to identify species or habitats that should be given priority when implementing the NERC Section 40 duty.

Habitats of Principal Importance Fifty-six habitats of principal importance are included on the S41 list. These are all the habitats in England that have been identified as requiring action in the UK Biodiversity Action Plan (UK BAP). They range from habitats such as upland hay meadows to lowland mixed deciduous woodland and from freshwater habitats such as ponds to marine habitats such as subtidal sands and gravels.

Species of Principal Importance There are 943 species of principal importance included on the S41 list. These are the species founding England which have been identified as requiring action under the UK BAP. In addition, the Hen Harrier has also been included on the List because without continued conservation action it is unlikely that the Hen Harrier population will increase from its current very low levels in England.

Relationship with the UK Biodiversity List of Species and Habitats the UK BAP list of priority species and habitats is an important reference source and will be the focus for conservation action across the UK over the next decade. It has been used to draw up the species and habitats of principal importance in England under S41 of the NERC Act.

The revised UK BAP list of priority species and habitats can be downloaded from the UK Biodiversity Website: <http://www.ukbap.org.uk/NewPriorityList.aspx>

Relationship with the biodiversity duty under Section 40 of the NERC Act There is a general biodiversity duty in the NERC Act (Section 40) which requires every public body in the exercising of its functions to 'have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity'.

There is no direct relationship between the Section 41 duty on the Secretary of State to publish the list and promote the taking of steps to conserve the habitats and species on it, and the Section 40 duty on public bodies to have regard to the purpose of conserving biodiversity. Importantly:

(a) Biodiversity, as covered by the Section 40 duty includes all biodiversity and not just the habitats and species of principal importance. However, there is an expectation that public bodies would refer to the S41 list when complying with the section 40 duty.

(b) The duty on the Secretary of State to promote the taking of steps by others is not restricted to public bodies.

Defra guidance for local authorities and public bodies on implementing the biodiversity duty in the NERC Act draws attention to the S41 list, emphasising that local authorities and public bodies have a role to play in ensuring the protection of these species and habitats. Copies of the guidance can be downloaded from: <http://archive.defra.gov.uk/environment/biodiversity/documents/pa-guid-english.pdf>