



Ecological Appraisal and Baseline Biodiversity Net Gain Assessment

Havant Footbridge

For
Hampshire County Council
Engineering Consultancy

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Summary

An Ecological Appraisal was undertaken on 04 October 2024 at Havant Footbridge. Proposals for the site comprise the removal of the existing footbridge, and ramps, followed by the installation of a new footbridge with ramps and steps, which will be located to the west of the current footbridge location.

The Ecological Appraisal initially comprises a desk-based assessment and field survey work based on UKHab survey methodology to assess the potential for the site to support protected habitats and species. Following this work, where it is considered that the site may support protected or notable species, further species-specific survey work is recommended as necessary.

Habitats to be directly impacted by the proposed works are grass verge, Bramble scrub, shrubs and trees. Overall, the site is considered to be of low ecological value.

Habitats are present within the site that are likely to support breeding birds and reptiles, and if present, these may be impacted by the development. It is considered unlikely that the site would support other protected or notable species.

The development will result in the loss of eight trees, all of which are either of moderate or good condition.

A **baseline** Biodiversity Net Gain (BNG) Assessment has been carried out for the site, via which the baseline biodiversity value of the site is calculated to be 2.14 biodiversity units. This has been calculated for habitats within the red line boundary and comprises 1.68 units for trees and 0.46 units for grassland and other habitats.

An *initial* summary mitigation strategy is provided, detailing some potential measures that could be implemented on-site that would make a *small contribution* towards minimising impacts but *there is limited scope within the site itself to be able provide the full statutory minimum BNG of 10%. As such, to fully offset the identified impacts of the development, mitigation via off-site via off-site habitat creation and enhancement will be required. As a location for off-site mitigation has yet to be identified, it is not possible to provide a full BNG assessment at the current time. It must be noted that the delivery of the 10% minimum statutory BNG for this scheme will need to be included as a condition of planning approval.*

1. Introduction

Objectives

- 1.1. The purpose of this study was to gather ecological information about the site at Havant Footbridge, and to assess the impacts of the development proposals for the site on these features, to support a planning application with Hampshire County Council (HCC).
- 1.2. The Ecological Appraisal comprises a number of elements; initially a desk-based assessment was carried out, followed by field habitat survey work based on UKHab survey methodology, and a site-based assessment of the potential for the site to support protected and notable species.
- 1.3. The preliminary appraisal identified that the development had the potential to affect breeding / nesting birds and roosting bats. Further survey work was carried out to more fully assess the bat roost potential of trees to be removed during the proposed development work.
- 1.4. Further assessment works was carried out to draw together a formal Biodiversity Net Gain (BNG) assessment using the DEFRA Statutory Metric (February 2024).
- 1.5. This Ecological Appraisal therefore sets out the methods and findings of all these elements of survey work and uses the findings to fully assess the impacts of the proposed development on the identified ecological receptors. The Ecological Appraisal includes measures to deliver net gains to biodiversity in line with central and local planning policy.
- 1.6. Overall, the Ecological Appraisal supports the proposed development through demonstrating how the proposal accords with all relevant biodiversity legislation and policy.

Site Description

- 1.7. Havant Railway is located in an urban setting within the centre of the town of Havant, in southeast Hampshire. A covered footbridge with associated ramps lies to the west of the site (approximate grid ref SU 71723 06604; Eastings

471723, Northings 106604), providing pedestrian access between Elmleigh Road (northwest of the station) and North Street and the entrance (to the south). A covered ramp from the bridge also provides pedestrian access to the rear of Leigh Road (to the northeast) where a multi-level car park is located (this access route is currently closed to the public).

- 1.8. The main structure of the bridge is formed from metal girders with steel trestle support posts and concrete slabs forming the ramps. The bridge parapets are metal mesh panels, above which the bridge is open sided beneath corrugated plastic roof covering. The existing bridge structure and north-south ramps are 158m long by 2m wide.
- 1.9. Land use to the immediate north of the rail site is a mix of residential properties, office sites and small industrial / business units. To the immediate southeast, land use is primarily commercial and residential, while to the immediate southwest Havant Park is an area of public greenspace covering approximately 3.0 hectares.
- 1.10. A location plan and an aerial view of the site showing the site boundary and its setting within the wider landscape are shown in Appendix 1. The photo sheet in Appendix 2 shows various elements of the bridge structure as well as the general conditions at the site.

Proposed works

- 1.11. HCC proposes the following development works:
 - Demolition of the existing footbridge and associated infrastructure including ramps. The structure will be cut and craned out, with the roof, parapets and concrete slabs being removed first, followed by the steel trestles (support posts), temporary propping posts and foundations.
 - Construction of foundations for the new footbridge, followed by installation of steel trestles. Main span, ramps and steps.
 - Works compounds will set up within the Havant Borough Council (HBC) car park in Elmleigh Road to the north of the and within the forecourt to the south. Cranes to be used during demolition and construction will also be

set up at these locations Piling rigs will only work from protected ground or existing hard standing.

- The demolition / construction site will be fenced off to prevent unauthorised access, and a temporary diversion route will be in place for pedestrians and vehicles.

1.12. The new structure will be installed to the west of the current bridge location and will have a revised footprint. To the north of the station, the revised footprint will include a new ramp with a 90° turn to the west, away from the bridge, and then a 180° turn to the east, leading back to it. To the south of the station, the revised footprint will include a new ramp, to be mostly located within the northeast corner of Havant Park; this will include a 90° turn from the park towards the main station entrance in North Street.

1.13. The existing site plan and the proposed works plan showing the site boundaries, current at the time of this report are at Appendix 1.

2. Planning policy and legislation

National Policy

- 2.1. Paragraph 186 of the National Planning Policy Framework (NPPF) (MHCLG, 2023) 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.

Local Policy

- 2.2. Policy CS11 ‘Protecting and Enhancing the Special Environment and Heritage of Havant Borough’ of the Havant Borough Core Strategy states that Planning permission will be granted for development that, amongst other elements:

“Protects and where possible enhances the borough’s statutory and non-statutory designated landscape, habitats and features of biological, hydrological or geological interest. Protection and enhancement will be achieved by appropriate adaptation and mitigation measures”.

Legally Protected Species

- 2.3. Many species of animal are legally protected under both domestic or international law (the Wildlife and Countryside Act 1981 (as amended)¹ and the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) 2019² respectively). Badgers and their setts are protected under the Badgers Act 1992³.
- 2.4. 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

¹ <http://www.legislation.gov.uk/ukpga/1981/69>

² <https://www.legislation.gov.uk/primary+secondary/2019ConservationHabitatsSpeciesRegulations>

³ <http://www.legislation.gov.uk/ukpga/1992/51/contents>

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.

The Environment Act 2021 and Biodiversity Net Gain

- 2.5. Under the Environment Act 2021, all planning permissions granted in England (with a few exemptions) have to deliver at least 10% biodiversity net gain from 12 February 2024. The assessment of these gains is measured using Defra's Statutory Biodiversity Metric and all off-site and significant on-site habitats will need to be secured for at least 30 years. This sits alongside a strengthened legal duty for public bodies to conserve and enhance biodiversity, new biodiversity reporting requirements for local authorities, and mandatory spatial strategies for nature: Local Nature Recovery Strategies or 'LNRS'.

3. Methods

Desk-based assessment

- 3.1. A desk-based assessment was carried out by HCCET on 03 October 2024. This comprised the following elements:

Zone of influence (Zol)

- 3.2. 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 Zol was based on the ecologist's professional judgement. Where necessary, the Zol for relevant receptors are discussed in the following sections.
- 3.3. Following the initial appraisal of the site, the Zol may be reconsidered and drawn wider or narrower depending on the receptor being considered and how an understanding of the potential effects of the development evolves during the process.

Survey scoping

- 3.4. 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 Zol). 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

- 3.5. Geographical Information Systems (GIS) mapping was used in order to identify all records of protected species and habitats within a 1km radius of the site. Given the localised nature of the proposals this search radius was considered sufficient for assessing risk to all ecological features. In addition, records were

obtained of all statutory and non-statutory designated nature conservation sites within the search radius.

- 3.6. The Ecology Team has full access to the extensive datasets maintained by the Hampshire Biodiversity Information Centre (HBIC). These datasets cover designated sites, priority habitats and over 6 million species records. Paragraph 4 of the HBIC Data Users Declaration states that

“whilst every reasonable effort is made to validate information supplied to and by the Hampshire Biodiversity Information Centre, owing to the dynamic and judgmental nature of information relating to wildlife, HBIC disclaims any responsibility for the accuracy or comprehensiveness of the information supplied, and accepts no liability for any indirect, consequential, or incidental damages or losses arising from use of the information”.

- 3.7. The desk-based assessment also included a review of any previous ecological studies at the site or nearby areas where relevant and available.
- 3.8. 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

Baseline Habitat Survey and Preliminary Species Assessment

- 3.9. Field survey work was carried out on 04 October 2024. The site survey entailed a single surveyor, Julie Trellick, Ecologist, undertaking a methodical investigation of all areas of the site. Habitats were identified and mapped according to UKHab methodology and lists of representative plant species noted. An assessment was made of the condition of each habitat parcel in line with the habitat condition assessments required to support the Biodiversity Net Gain metric.
- 3.10. All areas of the site and relevant contextual areas were assessed to identify the presence of, or habitat considered suitable for supporting, legally protected species. A brief description of the survey methods used is provided below.

- 3.11. 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.
- 3.12. 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.
- 3.13. 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.
- 3.14. 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.
- 3.15. 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).
- 3.16. 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.

- 3.17. 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.
- 3.18. 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.
- 3.19. 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.
- 3.20. Bat roost suitability and foraging habitat quality was assessed according to the criteria set out in Collins (2016).

Limitations

Baseline Habitat Survey

- 3.21. The weather during the survey visit was 14°C, dry and slightly overcast with a Force 3 wind.
- 3.22. Most of the site was fully accessible and visible although it was not possible to closely examine the under-structure of the bridge where it passes over the railway. This is not considered to be a significant limitation as the nature of the bridge design and construction materials are such that the presence of features which might support nesting birds, or roosting bats, would be highly unlikely.

- 3.23. Some of the scrub vegetation between the station's north boundary and north platform had been recently cleared to allow for a topographic survey to be conducted. This is not considered to be a significant limitation as scrub vegetation to the west and east of the cleared area gave a clear indication of the habitat that would have previously been present here.
- 3.24. To the south of the station, within the development footprint, are two small areas that appear to have originally been either grass verges or planted beds. These are currently enclosed within Heras fencing, prohibiting detailed examination of the flora composition here. This is not considered to be a significant limitation as these areas were clearly dominated by common and widespread ruderal / ephemeral plants and, given the nature and location of the site, are unlikely to support rare or notable flora species.
- 3.25. It should be noted that a single survey visit only, especially if conducted in autumn or winter, when many flora and fauna species would be dormant or inactive, may not always adequately assess the full ecological interest and value of the site. Seasonal limitations in this regard are not considered significant as the site location and use / management would discourage the presence of less common and widespread species that may be more difficult to identify out of season.
- 3.26. There were no significant limitations to the survey work.

Terminology and symbology

- 3.27. With respect to the BNG assessment, it should be noted that there is not full consistency between the full list of UKHab habitat types (all primary levels and secondary codes), available UKHab mapping symbology, and available options on the dropdown lists on the DEFRA BNG Metric. It is therefore important to review the Metric and this report together, referring where necessary to explanatory text within this report. For example – under JNCC (1999) Phase 1 methodology, there is a habitat type listed as 'tall ruderal C3.1'. This is a common habitat type often characteristic of disturbed ground, with vegetation typically dominated by coarse, tall, fast-growing species such as Common Nettle, thistles, Broad-Leaved Dock, willowherbs, and similar species. The UKHab methodology does not have a similar classification; instead, it uses

various ‘secondary codes’ to add a modifier to other habitats that have a significant element of ruderal species. For example, an ‘other neutral grassland’ habitat (*g3c*) could be modified by adding the secondary code *81 ruderal or ephemeral* to it, to make *g3c 81*, or alternatively adding the secondary code *16* ‘tall forbs’ (only allowable on grassland habitats) to make *g3c 16*. Whether to use *16* or *81* would depend on the specifics of the plant species present and their relative abundance within the assessed habitat patch.

- 3.28. The UKHab mapping symbology does not include secondary codes and therefore an area of ruderal or tall forb grassland or other habitat will be mapped simply to the primary code Level 3 (e.g., *g3 neutral grassland*), Level 4 (e.g., *g3c other neutral grassland*), or, where available, given the non-comprehensive UKHab mapping symbology, Level 5 (e.g., *g3c5 Arrhenatherum neutral grassland*) without any secondary codes to add additional detail.
- 3.29. Despite the lack of a ruderal Primary code (apart from the specialist and rare Annex 1 habitat type), there is a dropdown option in the BNG Metric for ‘Ruderal / Ephemeral’ and ‘Tall Forbs’ under the ‘Urban’ broad habitat type (despite Tall Forbs secondary code 16 only being allowable for grassland broad habitats). This would correspond to mapped ruderal habitat in more urban situations.
- 3.30. The UKHab code *u1f sparsely vegetated urban land* would appear most appropriate for many ‘brownfield’ type areas that are not Priority Habitat open mosaic habitats and are a widespread and commonly encountered habitat. However, there is no *u1f* symbology on the published UKHab mapping symbology. In these cases, a decision is made to either use the most closely aligning urban map symbol (most commonly, *u1b6 other developed land*, or if not, the more general *u urban* code) or, where the mapped ruderal habitats are not typically urban, a grassland code.
- 3.31. Any maps to support the UKHab assessment and BNG calculations should therefore be interpreted by also reviewing accompanying text in this report.

4. Results

Desk-based Assessment Results

Designated sites and notable habitats

- 4.1. Appendix 3 shows the location of the site and its surrounding relevant designated statutory and non-statutory sites.
- 4.2. There is only one designated site within the 1km search radius of the footbridge, this being St. Faith's Churchyard Site of Interest for Nature Conservation (SINC). This SINC lies approximately 600m south of the footbridge location and is designated for its semi-improved grassland habitats that retain a significant element of unimproved grassland. Additionally, St. Faith's Churchyard is a SINC occurring in an area otherwise deficient in such interest and is known to be of particularly high value to the local community.
- 4.3. Although there are no international or national designated sites within the search radius, the Havant site does lie with the Solent Special Protection Area (SPA) 5.6km Buffer (however, this is only relevant to residential developments). The site also lies within Site of Special Scientific Interest (SSSI) Impact Risk Zones for Langstone Harbour SSSI, Chichester Harbour SSSI and Warblington Meadow SSSI.
- 4.4. Brockhampton Springs, located 420m southwest of the site, is recorded as a Low Use Site (site ref. H11) in the Solent Wader and Brent Goose Strategy.
- 4.5. There are no areas of Priority Habitat within the site. Within the wider search radius there are two areas of Priority Habitat. These are a small linear area of Lowland Mixed Deciduous Woodland which lies approximately 325m southeast of the site, and an area of Coastal/Floodplain Grazing Marsh which lies over 625m to the northwest.
- 4.6. Outside of the designated sites and other more ecologically valuable habitats, the surrounding landscape is primarily characterised by an urban mosaic of housing, community properties, retail and business parks, and industrial estates, within which smaller areas of greenspace are occasionally present.

Protected and notable species

4.7. A review of the biological database held by HBIC did not identify any protected and / or notable species records within the site, however, a reasonable number of records were returned within the wider search radius. The relevant data has been condensed and is shown in Table A3.2 in Appendix 3; the key findings are summarised below:

- Within the wider search area numerous records were returned for bats, birds, and Stag Beetle *Lucanus cervus*.
- Smaller numbers of records were returned for Slow Worm *Anguis fragilis*, Common Toad *Bufo bufo* and Hedgehog *Erinaceus europaeus*.
- No records were returned for Badger, Great Crested Newt or Hazel Dormouse within the wider search radius.
- The closest protected species record was for Firecrest *Regulus ignicapilla*, recorded 75m east of the site in 2021.
- The most numerous protected species records returned were for bats, with the closest of these being for a Pipistrelle *Pipistrellus* sp. maternity roost located approximately 125m northeast of the site.

Previous survey work

4.8. A previous HCCET survey of the site in 2016 found that the bridge and adjacent trees had negligible potential to support roosting bats. The 2016 survey also found that tree and scrub habitats within the site had potential to support breeding birds and additionally that habitats adjacent to the bridge had some potential to support reptiles.

Survey scoping

4.9. Great Crested Newt and other amphibians, Otter, Water Vole, and notable invertebrates were considered likely absent from the site for the reasons noted below and were therefore scoped out of further investigation:

- Suitable habitats with the potential to support these species / species groups were absent within or adjacent to the site.
- Ecological connectivity between the site and areas of habitat suitable to support these species / species groups within the wider vicinity is of poor

quality and/or is interrupted by barriers to dispersal such as the mainline railway and local road network.

- No records were returned within the site or wider search radius for these species / species groups, or, where records were returned, they were distant enough that, without species specific habitat connectivity, presence within the site would be unlikely.

Zone of Influence

4.10. The proposed location of the new footbridge structure is within an already developed urban site. In places, parts of the new ramps will occupy the corresponding footprint of the existing structure. Other parts of the proposed design, including the bridge span over the railway, will be located approximately 12m to the west of the existing structure's location. Where the new structure will encroach westwards to the north of the rail station, this will be on land that is currently within Elmleigh Road car park. To the south of the station, where the new structure will encroach westwards, this will be within the northeastern part of Havant Park.

4.11. A review of the likely ecological interests at the site prior to the survey visit indicated that it is unlikely to support habitats or species, including those that may be wide-ranging or migratory, associated with any nearby designated sites. An inspection of aerial imagery indicated the absence of terrestrial ecological connectivity or impact pathways between the site and nearby designated sites. Therefore, such sites are concluded to be outside of the proposed development's Zol.

4.12. Taking into account the above, the project's Zol at the initial stage is considered to be limited to the site itself along with any immediately adjacent habitats.

Extended Baseline Habitat and Preliminary Species Assessment Results

Habitats / vegetation

4.13. The main habitats present at and around the site are described below and are also shown in the Habitat Survey map in Appendix 4. Additional information regarding trees within the site is shown in Table A4.1 in Appendix 4.

u1b Developed land – sealed surface and u1e Built linear features

- 4.14. Much of the development site comprises areas of hardstanding including Elmleigh Road car park, the approach road and drop-off / pick-up point to the south of the station, and the platforms, buildings and ramps.

g4 Modified grassland

- 4.15. There are three distinct areas of grassland within the site boundary; these are north of the site within Elmleigh Road car park, between the platform to the north of the railway and the site's north boundary, and, to the south of the station, within the northeast corner of Havant Park. Details for these are as follows:

- **North of the station, to the east side of Elmleigh Road car park** is an area of grassland covering approximately 240m²; this extends along the eastern side of the car park including beneath the existing bridge structure. This area appears to be managed as amenity grassland and comprises common and widespread flora species including Ribwort plantain *Plantago lanceolata*, Greater plantain *Plantago major*, Ryegrass *Lolium pratense*, Clover *Trifolium sp.*, Cranesbill *Geranium sp.*, Common mallow *Malva sylvestris*, Common Nettle *Urtica dioica*. Additionally, directly beneath the bridge high levels of shading have resulted in a small patch of almost bare ground (photo 5).
- **Between the station's north platform and linear scrub** running along the site boundary is a grass verge of approximately 1m wide which extends east and west to either side of the proposed location of the new bridge structure. This appears to be regularly mown to a short, even sward and has poor species diversity (photo 11).
- **To the northeast corner of Havant Park**, an area of grass is located between public tennis courts and footways connecting the park to the (photo 25). The combination of heavy shading from mature trees to the north and east, and regular mowing to maintain a short and even sward here, species diversity here is poor, with the area primarily comprising Ryegrass. Additionally, in some places grass here is very worn, appearing to have suffered damage from high levels of pedestrian footfall.

h3d Bramble scrub (mapped as h3 Dense scrub)

- 4.16. To the south of the boundary with Elmleigh Road car park, an area of Bramble scrub extends east and west in the area between the boundary fence and the north platform (photos 9 and 12). Metal fencing along the back edge of the platform separates the two areas; therefore, the scrub habitats here are not subject to disturbance from rail passengers / staff. It should be noted that this land is owned by Network Rail and that buried High Voltage apparatus and BT ducts are located alongside the fence line; this area is maintained so as to allow immediate access to such apparatus whenever required.
- 4.17. This area of vegetation extends for approximately 90m within the development footprint. In addition to Bramble, other species noted here include Common Ivy, Common Nettle and Field Bindweed *Convolvulus arvensis*. At the time of the survey visit some of this vegetation to the west of the / within the footprint of the proposed bridge structure had been cleared to allow topographic investigations of the site to be undertaken.

Urban trees

- 4.18. Trees within the site are considered to be 'individual trees' as they are in an urban setting and do not meet any criteria which would lead them to be classified as woodland.
- 4.19. Table 4.1 and Figure A4.2 in Appendix 4 respectively show additional details of existing trees within the site and a labelled plan showing these in relation to the location of the proposed bridge structure.
- 4.20. The boundary between the site and Elmleigh Road car park, west of the existing bridge structure, includes three trees, T3 Oak (photo 13), T4 Sycamore and T5 Silver Birch (photo 9). Holly and Laurel shrubs are also present within the scrub along this section of the boundary.
- 4.21. Additionally, T1 Holly and T2 Beech are located in the garden of 23 Elmleigh Road, adjacent to the boundary fence between the property and Elmleigh Road car park. The canopy and root footprints of these trees on their west sides, would extend into the northeast area of the site boundary.

- 4.22. A number of Sycamores, T6 (twin-stemmed) and T7 (a group of several specimens), are located to the north of the existing structure, in the narrow gap between the ramp (currently closed to the public) leading to Leigh Road and boundary fencing between the site and adjacent residential properties (photo 15). Foliage from these and from other trees on the far side of the boundary fence has heavily encroached the ramp (photo 16).
- 4.23. To the south of the station, seven trees are located within the development footprint to the northeast corner of Havant Park. These are T8 Sycamore and T9 Holly (multi-stemmed) located along the north boundary wall, T14 Holly (photo 25) and T15 Dawn Redwood (photo 26) located within the grassed area to the east of the tennis courts, and T18 Lawsons Cypress, T19 Small-leaved Lime and T20 Holly (photos 23 and 24) located along the east boundary wall.
- 4.24. Additionally, two London Planes and two Common Limes are located along the Park's north boundary, these are close to but outside of the development footprint. A further two London Planes are located along the east boundary of the park, these are also close to but outside of the development footprint.

u1f Sparsely vegetated urban land (mapped as s Sparsely vegetated land)

- 4.25. To the south of the station, located to the north and south of the footway between the frontage and Havant Park, and beneath the existing bridge ramp, are two small areas that appear to have originally been either grass verges or planted beds. These have fallen out of management and are now dominated by Common Nettle, Field Bindweed, and Cleavers, with occasional Sowthistle *Sonchus sp.*

Ornamental planting (mapped as u1c artificial unvegetated unsealed surface)

- 4.26. Amongst the trees along the northeast boundaries of Havant Park, a number of ornamental bushes and small shrubs have been planted. These appear to be regularly managed to maintain continuity of shape and size (photo 22).

Protected Species

Badger

- 4.27. There are no habitats within the site on either side of the railway, such as mixed woodland and open grassland, which would be suitable to support Badger.

Although the presence of Badger is frequently associated with railway embankments, these are not present to either side of the railway within the vicinity of the station.

4.28. No badger setts were observed within the site, nor was any evidence found to indicate that badger setts might be present. Additionally, no evidence of badger activity within the site, such as tracks, well-used trails, foraging or latrine sites, was observed.

4.29. Badgers are considered to be absent from the site.

Bats – built structures

4.30. The bridge structure is formed from metal girders with concrete slabs forming the ramp. The bridge parapets are metal mesh panels, above which the bridge is open sided beneath its corrugated plastic roof covering. Scaffolding has been installed beneath much of the bridge structure to provide additional support.

4.31. The bridge has an open structure and does include any voids. No significant gaps, crevices or cavities were observed during the inspection of the structure. In addition to the absence of PRFs, street and lighting and high levels of disturbance from Elmleigh Road car park, would also indicate the presence of roosting bats within the bridge structure to be unlikely.

4.32. The bridge structure has no obvious features that would be likely to be used by roosting bats. The bridge is considered to have negligible suitability to support roosting bats, and they are considered to be absent from this location.

Bats – trees

4.33. Three mature trees – Oak, Sycamore and Silver Birch - are located along the Elmleigh Road car park / site boundary; the Oak is very close to the existing bridge structure, while the Sycamore and Silver Birch are further to the west. The Oak has a dense covering of Common Ivy but where gaps in this allowed for closer inspection of the tree, no PRFs were identified. The Sycamore and Silver Birch were also examined for PRFs with none being found.

4.34. As previously noted above (paragraph 4.17), there are a number of trees within the development area to the northeast corner of Havant Park. Those of these

which are to be impacted by the proposed works were inspected for PRFs. One PRF, a small pruning wound, was noted on a branch of a London Plane but upon closer investigation using binoculars this was found to be fully occluded. No other PRFs were identified in the with none being identified.

- 4.35. Trees within the site are considered to either have no obvious features that would be likely to be used by roosting bats or are unlikely to have such features. Roosting bats are considered to be absent from the site.

Bats – foraging and commuting

- 4.36. Trees and scrub vegetation within the site, and habitats within residential gardens to the north of the station, and within Havant Park to the south, may provide some foraging opportunities for bats within the wider vicinity of Havant Station. However, being centred within a large urban area, the site is likely to be subject to high levels of light pollution which may deter bat foraging and commuting activities.
- 4.37. Ecological connectivity between the site and areas of habitat likely to support bats within the wider rural landscape to the northeast and south of Havant is frequently interrupted by residential and industrial development and by local transport networks. The absence of treelines along the railway to the east and west of the further diminishes the potential for foraging and commuting bats to be present within the site.
- 4.38. The site is considered to be of low suitability to support foraging / commuting bats.

Breeding birds

- 4.39. Habitats highly suitable to support common and widespread bird species, such as scrub vegetation and trees, are present within and adjacent to the site on the north side of the station. To the south of the station, within the development footprint extending into Havant Park, mature trees and horticultural shrubs are also suitable to support such bird species. Several defunct bird nests were identified in trees at this location. Bird species heard or observed during the field survey included Black-headed Gull *Chroicocephalus ridibundus*, Robin *Erithacus rubecula*, and Magpie *Pica pica*.

- 4.40. Birds are considered to be generally present within the site, with increased numbers and activity likely during bird nesting season (March to August).

Hazel dormouse

- 4.41. The area of scrub and boundary vegetation to the north of the station's north platform may potentially be suitable to support Hazel Dormouse. Although Dormice are frequently associated with scrub and woodland habitats along railway embankments, such habitats are absent from both sides of the railway to the west and east of the station.
- 4.42. Where vegetation is present adjacent to the railway to the east and west of the station, this appears to be sparse and patchy. Such vegetation would be unlikely to provide habitat connectivity for Hazel Dormice populations that might be present within the wider rural landscape further east of Havant, whilst the urban landscape to the west of Havant would be highly unlikely to support Hazel Dormice.
- 4.43. Hazel Dormice are therefore considered to be absent from the site.

Reptiles

- 4.44. Railside habitats often have potential to support common reptiles, particularly Slow Worm *Anguis fragilis*. The areas of less managed scrub and ruderal vegetation to the north of site would be highly suitable to support these and other reptile species such as Common Lizard *Zootoca vivipara*. It is also likely that refugia such as leaf litter, log piles, and spoil/rubble heaps, which could be utilised by reptiles as hibernacula may be present amongst scrub vegetation; such features would further encourage the presence of reptiles.
- 4.45. Vegetation adjacent to the railway to the east and west of the appears to comprise scattered scrub and ruderal vegetation and may also include tussocky grasses and small patches of bare ground which could potentially provide ideal basking habitat for reptiles. Vegetation along the north side of the railway may also be part of a local habitat network for reptiles, enabling dispersal between the site and other areas of suitable habitat to the east and west of the station, as well as to gardens bordering the railway to the north.
- 4.46. Reptiles are considered to be potentially present within the site.

Terrestrial invertebrates

- 4.47. As described above, the habitats and plant communities present are common and widespread. While such habitats are likely to attract common and widespread invertebrates, they are unlikely to attract notable invertebrate species that are reliant upon specific foodplants and/or have specific requirements for breeding, egg-laying and/or nest sites.
- 4.48. Notable invertebrates are considered absent from the site.

5. Impact Assessment

Potential impacts on sites, habitats and species

- 5.1. At this stage in the impact assessment process, the impacts identified below are considered to be those that may occur in the absence of any avoidance, mitigation, or compensation measures. Strategies agreed to address any identified impacts will be discussed in Section 6 of this report.

Designated sites

- 5.2. St. Faith's Churchyard SINC, 600m south of the site, is the only designated site within the search radius. The site would be unlikely to support any species associated St. Faith's Churchyard SINC and there are no impact pathways, nor direct ecological connectivity between the two locations.
- 5.3. It is considered that the development will have negligible impacts on designated sites.

Habitats

Trees

- 5.4. The development will require the felling of eight trees which lie within or in very close proximity of the footprint of the proposed bridge structure. Included in this total is the Dawn Redwood within Havant Park, which has been identified by HCC Arboriculture as a Category A specimen, i.e., of high quality and value capable of making a significant contribution to the area for 40 or more years.
- 5.5. Impacts to other trees within or adjacent to the development footprint are likely to include damage to roots where works are required within Root Protection Areas, heavy pruning and/or crown-lifting.
- 5.6. Unfortunately, impacts to trees are unavoidable as the proposed development is limited to the area available, has third-party restrictions, and must meet current standards for bridge design and Inclusive Mobility which include a bridge main span of 4.4m width, ramp widths of 3.9m, and longer length ramps to ensure compliance with gradient requirements. Other options for the location of the new bridge were explored but these were unable to accommodate these constraints.

- 5.7. Any loss of trees within the site will result in the associated loss of habitats / micro-habitats and resources likely to support birds and common and widespread invertebrates (as opposed to notable invertebrates which are considered absent from the site). Such resources may include egg-laying / nesting and shelter sites, food sources / foraging opportunities, local habitat networks and ecological connectivity.
- 5.8. It is considered that the development will have a significant impact on trees, as well as upon biodiversity, within the site.

Other habitats / vegetation

- 5.9. Other habitats and vegetation within the site which will be impacted by the proposed development are some small areas of modified grassland and some small extents of scrub vegetation. The flora species noted within these areas (and across the wider site) are common and widespread and are considered to be of low ecological value.
- 5.10. The footprint of the grass verge to the east of Elmleigh Road car park will be altered (extended on its west side but reduced on its east) to allow for the installation of steps to the new bridge and the extension of the existing footway. This will result in the temporary loss of modified grassland while the newly planted / turfed area to the west of the verge becomes established. Overall, there will be a negligible permanent loss of modified grassland here.
- 5.11. There will be a small loss of a scrub vegetation to the north of the site boundary to allow for the installation of the foundations and support columns for the bridge ramp here. This loss will be temporary as such species will quickly regrow. Overall, there will be a negligible permanent loss of scrub vegetation.
- 5.12. The areas of grass and scrub habitat that will be permanently lost as a result of the development proposals are small enough that impacts are considered to be negligible.

Badger

- 5.13. Badgers are considered likely absent from the site. It is therefore concluded that the development will have a negligible impact on badgers.

Bats - roosting

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

Bats – foraging / commuting

5.15. Foraging and commuting bats are considered to be occasionally present within the site. It is considered that the development will have a negligible impact on foraging and commuting bats.

Breeding birds

5.16. Breeding birds are considered to be present within trees and scrub vegetation within and adjacent to the site and may potentially be impacted by the proposed development if works were to take place during the bird nesting season (March to August). Impacts would include:

- Disturbance and/or harm (including injury or death) to any breeding / nesting birds and/or eggs / chicks / fledgelings.
- Disturbance to, or damage / destruction of, active bird nests.
- Outside of the nesting season, there would also be the risk of disturbance to birds generally present in the vicinity of the site while works are in progress.
- Reduction in habitats suitable to support birds.

Hazel dormouse

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

Reptiles

5.18. Reptiles are considered to be potentially present within scrub vegetation to the north of the station. Potential impacts to reptiles as a result of the proposed works may include:

- Disturbance and/or harm (including injury or death) to either active or hibernating individuals.
- Reduction in habitats suitable to support active or hibernating reptiles and an associated loss or interruption of habitat connectivity for reptiles.

Impact assessment summary

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

- **Reduction of biodiversity and habitat loss** – any loss of trees, scrub vegetation and grassland flora, will result in an overall reduction of biodiversity within the site. Impacts associated with habitat loss, such as the reduced availability of egg-laying / nesting and shelter sites, diminished food sources and foraging opportunities, and the interruption of local habitat networks / ecological connectivity, will likely lead to a decline in species population sizes within the site as well as a smaller species assemblage overall.
- **Birds** (including eggs, chicks and fledgelings) present within or adjacent to the site may be at risk of disturbance and/or harm (including injury or death) from tree felling and other vegetation clearance if such works are carried out during the bird nesting season. Similarly, depending upon the timing of works, active bird nests may be at risk of disturbance, damage or destruction. If works take place outside of the nesting season, birds generally present in the vicinity of the site, may be subject to increased noise and visual disturbance events, than would normally be the case at this location. Birds will additionally be impacted by the reduction in shelter / nesting and foraging habitat within the site.
- **Reptiles** (active or hibernating) may be at risk of disturbance and/or harm (including injury or death) from clearance of scrub and ground cover vegetation along the northern boundary of the site. Reptiles will additionally be impacted by the reduction in foraging and shelter habitats within the site, and by potential interruption of local habitat networks.

5.20. The following section sets out a strategy to avoid, mitigate or compensate for these impacts.

6. Mitigation and Enhancement Strategy

- 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 mitigation, compensation or enhancement measures that will avoid, lessen or offset the identified impacts to ecological features arising from the proposed works.

Mitigation

Loss of trees

- 6.2. The proposed development will result in the loss of eight trees which are currently within the footprint of the proposed new bridge structure. Recommendations re mitigation for these losses are discussed at paragraph 7.21 as part of the BNG assessment.
- 6.3. It should be noted that there will be differences between the tree loss mitigation measures recommended in the Arboriculture Impact Assessment (AIA) and those recommended for the purposes of BNG purposes. This is because BNG mitigation for loss of trees is not calculated on the same basis as mitigation required for arboricultural impacts. The AIA aims to replace lost canopy within 10 years, while BNG aims to deliver a minimum 10% gain in biodiversity across all habitats within a site over a period of 30 years. Within the BNG metric, trees are “converted” to an area measurement based on size and condition, this measurement is then used to calculate their biodiversity unit values. Please refer to the Arboriculture Impact Assessment (AIA) for details of tree planting required to address arboricultural impacts.

Loss of modified grassland

- 6.4. HCC has no responsibility for areas of grassland within Havant Park or within the Network Rail boundary; these areas are managed by Havant Borough Council and Network Rail respectively. For these areas, the mitigation measures recommended below, as well as the future management, will need to be discussed and agreed in advance with Havant Borough Council and Network Railway as appropriate.

- 6.5. Changes to the hardstanding footprint within Elmleigh Road car park will result in the permanent loss of approximately 4m² of modified grassland verge. Additionally, a small area of a modified grassland within the northeast corner of Havant Park will be permanently lost to allow for the installation of the foundations and support columns for the bridge ramp here.
- 6.6. To mitigate for the permanent loss of such small extents of modified grassland in these locations, it is recommended that the condition of areas of retained grassland within Elmleigh Road car park verge and the northeast corner of Havant Park, be improved via the introduction of a more diverse species assemblage and a sensitive mowing regime. The existing structure already creates shady conditions within these areas, and the northeast corner of the park is additionally shaded by mature trees along its north and east boundaries; the new bridge structure will likely continue to create shady growing conditions.
- 6.7. It is recommended that species diversity in these retained grassland areas be increased via the introduction of shade tolerant species such as those associated with woodland edge and hedge base grasslands, e.g., Common Agrimony *Agrimonia eupatoria*, Common Knapweed *Centaurea nigra*, Teasel *Dipsacus fullonum* and Common Bent *Agrostis capillaris*. A suitable seed mix for this purpose would be Emorsgate Seeds' EH1 Hedgerow Mixture or Boston Seed's Woodland & Heavy Shade Wildflower Seed BS8P 100% Mix.
- 6.8. Mowing of these areas should be timed to allow flowering plants to set-seed, with a first cut in late June / early August, and a later cut in early autumn. Mowing should aim to create a varied sward height which will allow the development of structural diversity and micro-habitats that will encourage pollinator and other invertebrates and thereby further increase site biodiversity.
- 6.9. With regard to the recommendations to increase species diversity of the areas of modified grassland within the site, it is recognised that there will likely be various challenges in their implementation and future management. Both areas are likely to be subject to high levels of footfall and other disturbance and the introduction of specific management plans for such small areas is unlikely to be possible in practice.

Birds

- 6.10. As the extent of habitat suitable to support breeding / nesting which would be lost as a result of the proposed development is relatively small, it would be disproportionate to recommend further bird survey work.
- 6.11. Ideally, removal / clearance of any vegetation, including trees, within the site will be timed to take place outside of the bird nesting season (March to August).
- 6.12. If it is not possible to avoid such works during this period, a suitably experienced ecologist should conduct a nesting bird check of areas to be cleared not more than 24-hours ahead of this working beginning. If active nests are found, all works will stop immediately, and a buffer zone will be put in place around such nests until such time that they have become naturally empty. Works will only be able to recommence once a suitably experienced person has confirmed that this is the case.

Reptiles

- 6.13. As the extent of habitat suitable to support reptiles which would be lost as a result of the proposed development is relatively small, it would be disproportionate to recommend further, more detailed, Phase II reptile survey work.
- 6.14. Ideally, the removal/clearance of scrub vegetation within the site will be timed to avoid the reptile peak activity period (April to October). Scrub clearance work during the hibernation period (November to February) will be carried out under ecological supervision following a suitable Risk Avoidance Method Statement which will be provided by HCC Ecology team.

Enhancements

- 6.15. The NPPF and local planning policy seeks to deliver net gains to biodiversity within the planning system wherever possible. The planning authority, in determining this planning application are likely to seek such biodiversity gains. The following paragraphs therefore set out recommended opportunities to deliver these gains. These recommendations are based on the understanding of the ecological characteristic of the site gained during the site survey work

and an understanding of the local and wider ecological context of the site gained through the desk-based assessment.

- 6.16. The ruderal / sparsely vegetated areas to the north and south of the footway linking the frontage to Havant Park will be ‘opened up’ via the removal of the existing ramp to the south of the station, making them potentially suitable locations for the creation of small wildflower verges. These would include flowering herbs such as Bird’s-foot Trefoil *Lotus corniculatus*, Lady’s Bedstraw *Galium verum* and Wild Carrot *Daucus carota*, and grasses such as Red Fescue *Festuca rubra*, Crested Dog’s-tail *Cynosurus cristatus* and Annual Meadow-grass *Poa annua* which will not out-compete flowering plants.
- 6.17. Suitable seed mixes for the creation of such wildflower verges would include Emorsgate Seeds’ EM2 Standard General-Purpose Meadow Mixture, Boston Seeds’ BS12P Low Growing 100% Wildflower Seed Mix or Germinal Amenity’s WFG20 Eco Species Rich Lawn Mix.
- 6.18. The species assemblage and structural diversity of the grass verge within Elmleigh Road car park could also be further increased via the inclusion of such seed mixes in addition to the previously mentioned mix for shade tolerant plants.
- 6.19. Further opportunities for biodiversity enhancement should also be sought within the off-site location that will need to be found for mitigation tree planting.

7. Baseline Biodiversity Net Gain Assessment

Method

- 7.1. 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 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. These results give a value for the existing 'biodiversity units' that the site currently provides.
- 7.2. 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 1. 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.
- 7.3. This assessment has identified that the development would result in a net loss of biodiversity. As there is very limited scope within the site for tree planting or for habitat enhancement or creation, further discussion with the applicant is needed in order to identify opportunities for off-site biodiversity enhancements.
- 7.4. Further modifiers are applied based on factors such as the time taken to achieve the proposed habitat condition, and whether there would be any delay or early delivery of these.
- 7.5. The BNG assessment is based on UKHab habitat types (Butcher et al, 2020). The existing and proposed habitats have been mapped according to UKHab symbology to allow more consistent data analysis for the BNG Metric.

Relevant Date

- 7.6. The Baseline BNG value needs to be calculated at a particular and agreed point in time. This 'relevant date' is either the date of the planning application or an earlier date. This relates to the need to accommodate for any habitat

degradation in the establishment of the BNG baseline. There are two key dates to consider in this:

- a. Accounting for *unauthorised* habitat degradation. Where degradation of a site, such as vegetation clearance or tree felling, has occurred that does not have any form of approval (e.g. planning permission), the highest 'pre-degradation' biodiversity value must be used as the baseline. This relates to any such activity after 30 January 2020.
- b. Where *extant planning permission* is in place and activities associated with such permission, and which lower the biodiversity value of onsite habitats, are carried out after the relevant date, the pre-development biodiversity value of the onsite habitat is taken to be the biodiversity value immediately before the carrying out of the activities.

7.7. The relevant date for the purposes of the BNG assessment for this development is taken to be 29 September 2024, a day ahead of clearance of a small area of scrub to the north of the railway site which was necessary to allow topographic surveys to be undertaken. This precautionary approach has been taken to avoid under-representing the remaining baseline scrub habitat within the site.

Habitat classification and condition scoring

7.8. Please refer to the habitat descriptions in Section 4 (paragraphs 4.14 to 4.24) for information and justification of the classification and condition scoring for the habitat parcels across the site. The formal Statutory Biodiversity Metric is provided separately.

Development site habitat changes

Area-based habitats

7.9. The primary habitat changes within the site as a result of the development will be the loss of eight trees. Due to the specific nature of the site, it will not be possible to replace these losses via the planting of new trees within the site boundary, for this an off-site location will need to be identified.

- 7.10. For BNG purposes, three of the eight trees to be lost are considered to be in good condition and five are considered to be in moderate condition. Additionally, two are classed as large in size, two as medium, and four as small.
- 7.11. The new bridge structure will largely be aerial, with only supporting columns and their foundations, permanently impacting small and localised areas of ground level habitats, e.g., modified grassland and Bramble scrub. Where scrub vegetation and grassland will need to be removed during the construction phase of the development, such losses will only be temporary as flora in these areas will easily re-generate within a season.
- 7.12. Modifications to the footprint of the existing footway in Elmleigh Road car park will see the extent of the grass verge here reduced on its eastern side. However, the verge will be extended on its western side (replacing part of the car park hardstanding), meaning that the overall extent of the verge will only reduce by 4m².
- 7.13. Due to the specific nature of the and railway infrastructure, there is minimal scope for landscape planting within the site boundaries. Currently there is no landscape plan in place for the development, and it is unlikely that any on-site plan will be able to fully mitigate the loss of trees and other habitats and meet BNG requirements. Therefore, provisions will need to be made to identify and agree a location suitable to be adopted tree planting and habitat creation and/or enhancement that will satisfy the requirements for BNG in relation to the proposed development.

Management Plan and Monitoring

- 7.14. Any areas of on-site mitigation, as well as the off-site mitigation location, will be subject to long-term habitat management. Detailed management plans will need to be developed if these proposals are granted planning permission, and it is recommended that the production, approval, and implementation of these be secured through a planning condition. HCCET will be able advise further on this as the project progresses.
- 7.15. The broad objectives and operations of the management plan for any on-site mitigation will be as follows:

- Create and maintain a diversity of botanical species in areas of species-rich modified grassland. The primary method for achieving this will be through the management of the grass verge within Elmleigh Road car park and potentially of the grassed area to the northeast of Havant Park, via a mid-autumn and early spring mowing regime, which will encourage summer flowering plants.
 - Pursue a management regime in these areas of grassland that would result 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.
 - Regular monitoring and remediation of the medium distinctiveness habitats – i.e. new tree planting areas off-site.
- 7.16. Until the off-site mitigation location has been identified and a baseline habitat assessment of this has been completed, it is not possible to make management plan suggestions as this would need to take into account the presence and condition of habitats already existing here. Any management plan for the off-site location will need to include provision for the planting and management of native trees as mentioned at paragraph 6.3.
- 7.17. The development site and the off-site location will need to be monitored to ensure that 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 to the planning authority.

Baseline Biodiversity Net Gain Summary

- 7.18. Table 4 below details the existing area-based habitat units at the development site and shows that the site currently provides an initial baseline total of 2.14 biodiversity units. However, 1.48 units of this total are from the existing on-site trees, with only 0.66 units from other habitats.

- 7.19. Of the initial 2.14 baseline units, 1.16 units would be lost, 0.85 would be retained and 0.14 units would be enhanced; following enhancement of the habitat areas representing these 0.14 units, their biodiversity value would increase by 0.10 units, i.e., post-enhancement, these habitat areas would deliver 0.24 biodiversity units.
- 7.20. In the absence of any additional measures, the on-site post-development value of -1.06 biodiversity units represents a **49.48% reduction in the site's biodiversity** value.
- 7.21. A detailed breakdown of the BNG calculations can be seen in the accompanying Excel spreadsheet.

Biodiversity Net Gain recommendations

- 7.22. The baseline BNG assessment identifies the loss of 1.16 biodiversity units. Once the small areas of new and enhanced habitats are accounted for, this relates entirely to the eight trees that will be lost as a result of the development. To meet the BNG requirement for a minimum 10% net gain, the development will need to deliver a final total of 2.36 biodiversity units.
- 7.23. To meet the BNG trading rules, a minimum of 93 new trees will need to be planted to offset the loss of the existing trees; this will deliver 1.16 biodiversity units (i.e., replacing the lost 1.16 units noted at paragraph 7.22). On top of this, a further 0.11 units will be needed in order to fulfil the required minimum 10% net gain, i.e., 0.85 retained units + 0.24 post-enhancement units + 1.16 units re new trees + 0.11 additional units, equalling the required final total of 2.36 units.
- 7.24. The additional 0.11 units required for a 10% net gain to be achieved does not necessarily need to be delivered through tree planting, although it should be noted adding 11 more trees to the new tree planting would meet this target; planting a total of 104 new trees may therefore be the simplest solution. Alternatively, the additional 0.11 units may be achieved through enhancing the area of habitat within which the new trees are planted, for example via measures to increase the species diversity of the underlying grassland.
- 7.25. Care will also need to be taken to ensure that any new trees are planted as individuals or small blocks or lines in an urban setting, rather than being planted

as part of a woodland, as woodland is considered a different habitat type to individual trees, and this would not satisfy the BNG trading rules.

- 7.26. It that it will not be possible to deliver the necessary compensation and net gains on site within the existing redline boundary; given the number of trees that need to be provided, any minor re-working of the redline boundary to accommodate sufficient space would appear to be unviable. It is therefore likely that the solution to securing and delivering BNG commitments will be to purchase off-site units from an external supplier.

Table 2 *Existing (baseline) biodiversity value*

Broad habitat	Habitat type	Area (ha)	Distinctiveness	Condition	Total habitat	Area retained	Area enhanced	Baseline units	Baseline units	Area lost	Habitat units
Grassland	Modified grassland	0.0391	Low	Poor	0.08	0	0.0391	0	0.08	0	0
		0.0137	Low	Poor	0.03	0.0137	0	0.03	0	0	0
		0.0241	Low	Poor	0.05	0	0.0237	0	0.05	0	0
Sparsely vegetated land	Ruderal / Ephemeral	0.0015	Low	Poor	0	0	0.0015	0	0	0	0
		0.0057	Low	Poor	0.01	0	0.0057	0	0.01	0	0
Heathland and Scrub	Bramble scrub	0.1232	Medium	Assessment n/a	0.49	0.1232	0	0.49	0	0	0
Urban	Artificial unvegetated, unsealed surface	0.0235	V low	N/A – other	0	0.0235	0	0	0	0	0
		0.0177	V low	N/A – other	0	0.0177	0	0	0	0	0
	Built linear feature	0.1073	V low	N/A – other	0	0.1073	0	0	0	0	0
	Developed land; sealed surface	0.1665	V low	N/A – other	0	0.1519	0	0	0	0.01	0
Individual trees	Urban tree	0.1181	Medium	Moderate	0.94	0.0407	0	0.33	0	0.08	0.62
		0.0448	Medium	Good	0.54	0	0	0	0	0.04	0.54
Totals		0.69ha	<i>Note: area total (ha) <u>excludes</u> area figures for urban trees.</i>		2.14 habitat units	0.48ha retained	0.07ha enhanced	0.85 units retained	0.14 Units enhanced	0.14ha lost	1.16 units lost

8. Conclusions

- 8.1. The Ecological Appraisal at Havant Railway identified that the site supports habitats of low ecological value at site level.
- 8.2. There is potential for habitats within the site to support birds and reptiles and that these would be impacted by development proposals. Recommendations are made to avoid this.
- 8.3. There are no recommendations for further survey work.
- 8.4. The development proposals will result in the loss of eight trees.
- 8.5. The baseline Biodiversity Net Gain assessment has identified that, in the absence of any off-site mitigation, the development would result in an on-site net loss in biodiversity of 49.48%.
- 8.6. As there is little scope on-site for habitat creation and/or enhancement, *off-site mitigation* will be required in order to reach the statutory requirement for a minimum 10% net gain in biodiversity value. Net gain will primarily be achieved via the off-site planting of native trees, although the enhancement of on-site modified grassland and sparsely vegetated areas to develop structurally diverse and species-rich pockets of meadow type grassland within the site, will make a small contribution to the eventual total net gain.
- 8.7. The recommended on-site habitat enhancements will also encourage the presence of pollinator and other invertebrates within the site. This will in turn benefit birds and small mammals for which invertebrates are a valuable food source.
- 8.8. Until a suitable location for off-site mitigation has been identified and all necessary agreements secured, it is not possible to provide a full BNG assessment and detailed mitigation plan for the scheme. ***All aspects of the development relating to off-site mitigation and Biodiversity Net Gain will be secured via conditions attached to the planning application post-approval.***

- 8.9. Provided these measures are followed, it is concluded that the development will have no adverse impacts on biodiversity and will deliver biodiversity gains in accordance with policy.
- 8.10. 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.

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MHCLG, (2023). *National Planning Policy Framework*. Ministry of Housing, Communities and Local Government; London.

Stace, C. (2010) *New Flora of the British Isles*. 3rd edition, Cambridge University Press, Cambridge.

Appendix 1 – Site Location Map, Aerial View and Proposed Plans

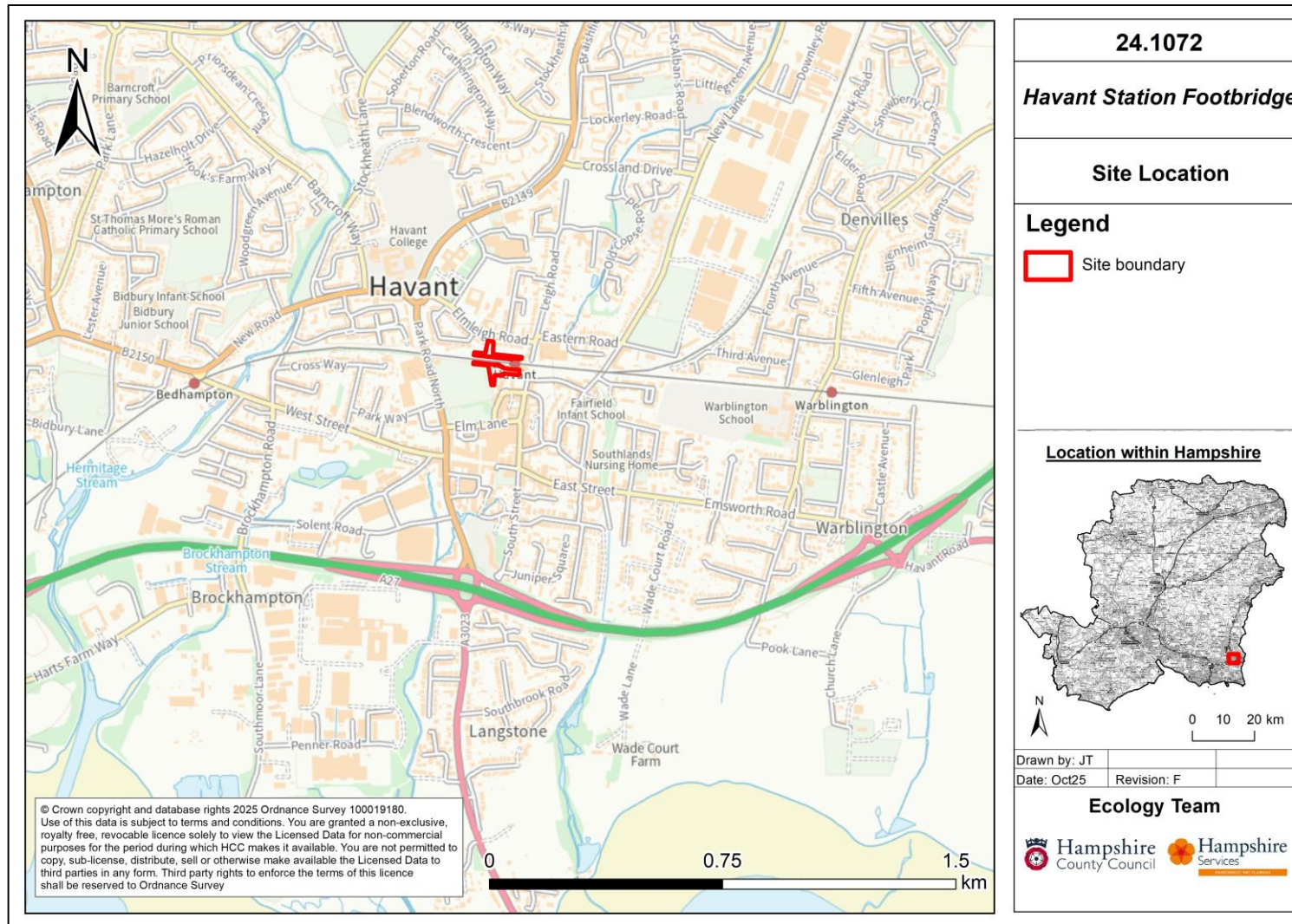


Figure A1.1 Site Location

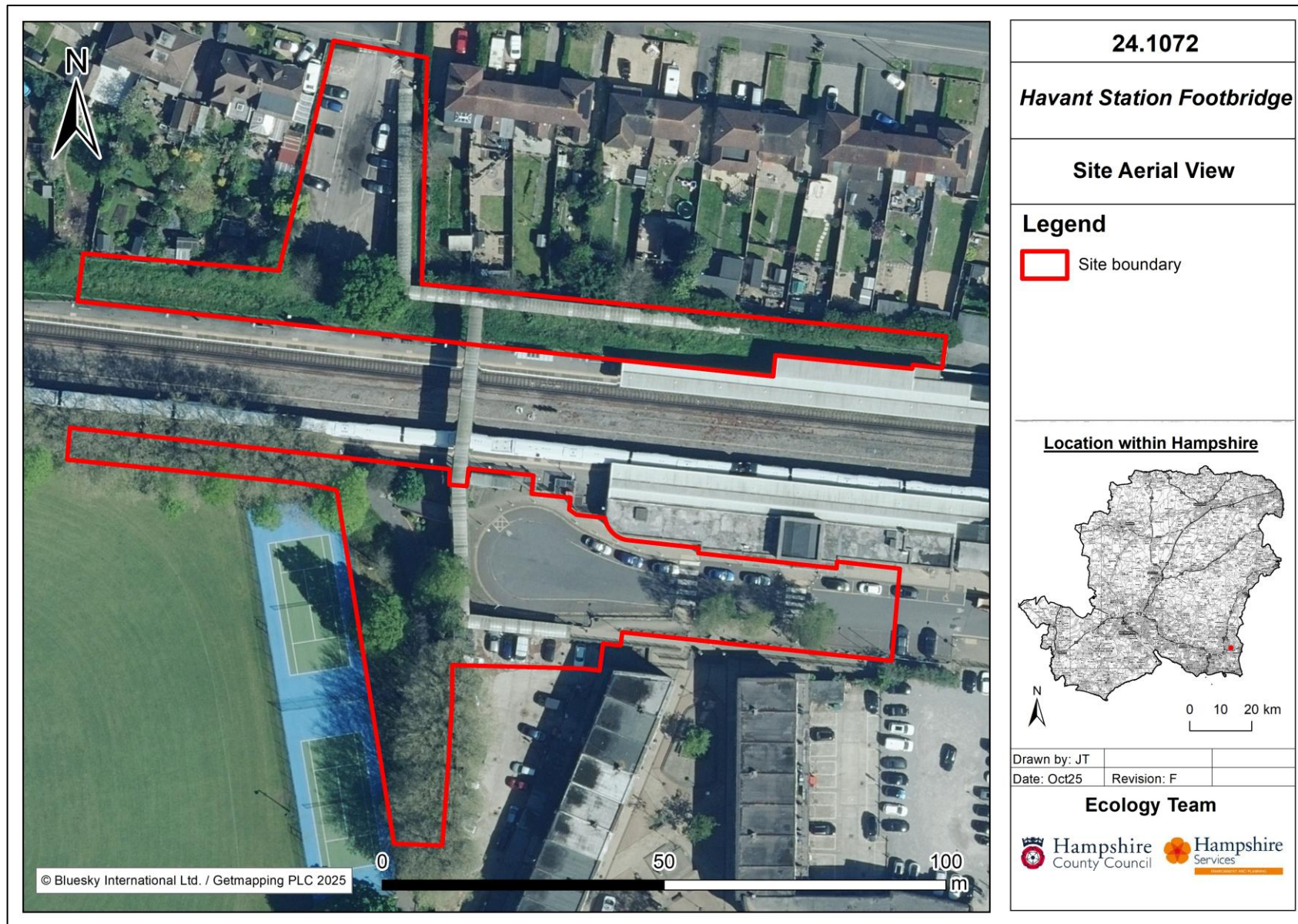
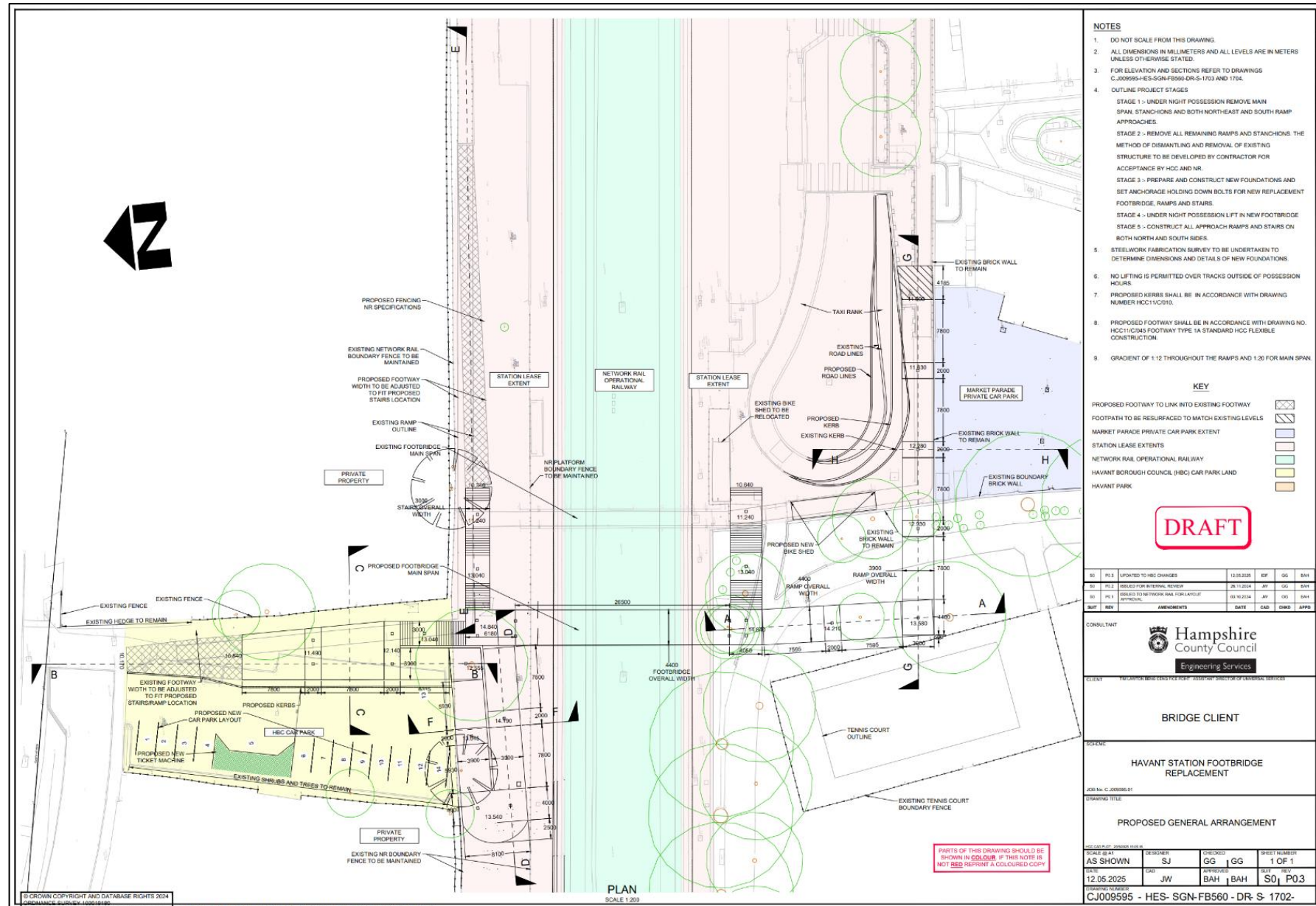


Figure A1.2 Site Aerial Photo.



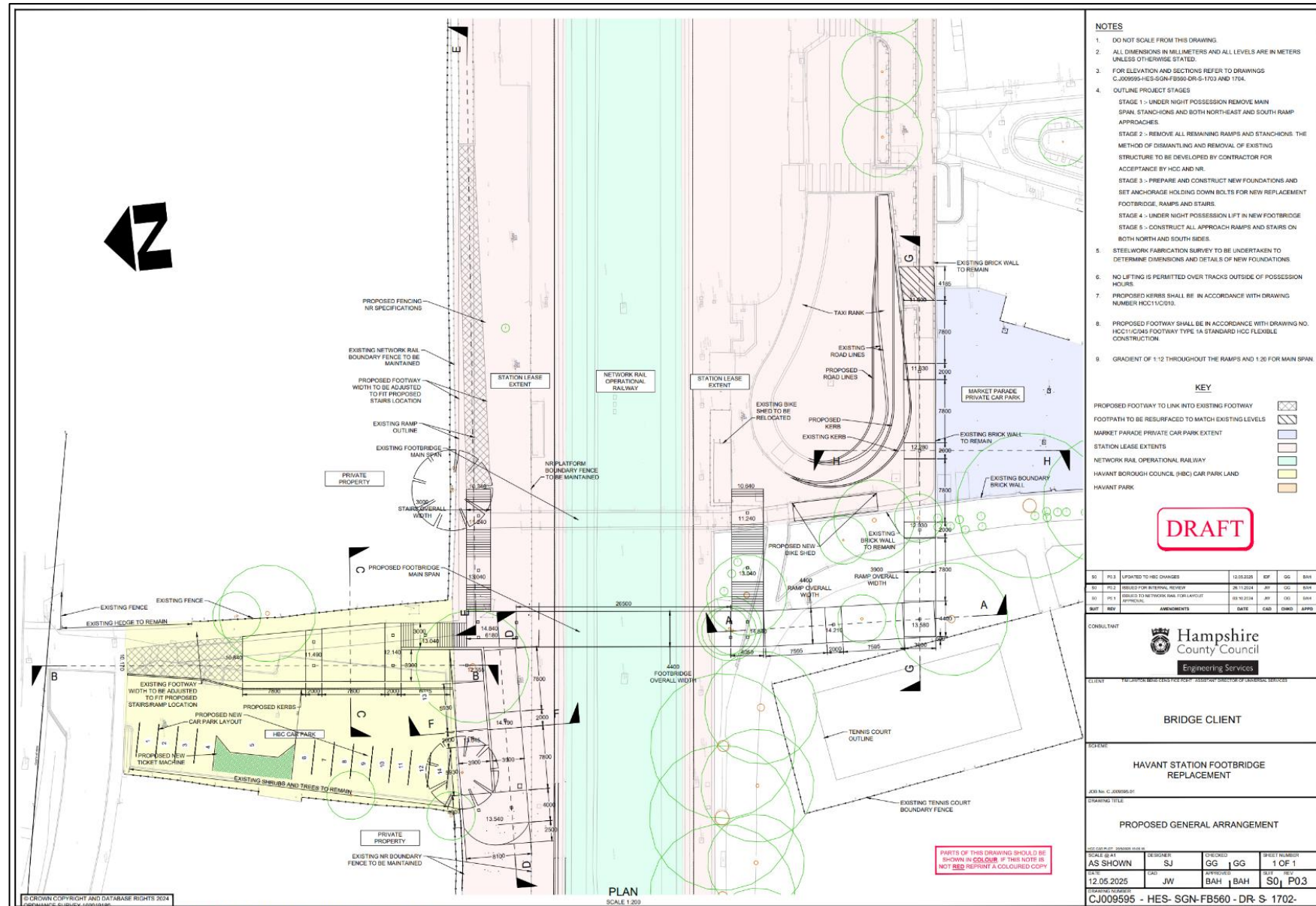
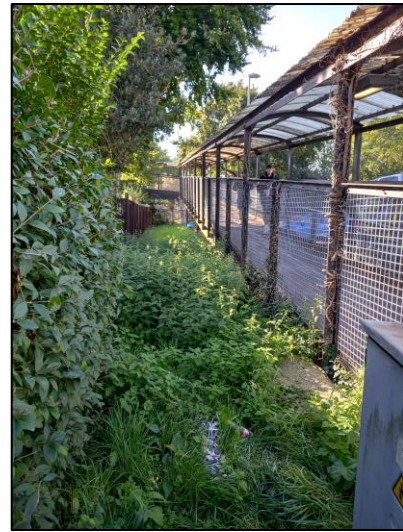


Figure A1.3 Proposed General Arrangement (12 May 2025)

Appendix 2 – Photos



Photos 1 and 2 Bridge ramp north of and view of ruderal vegetation to east of ramp.



Photos 3 and 4 Grass verge between ramp and Elmleigh Road car park.

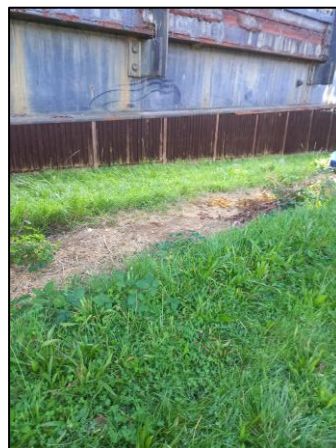


Photo 5 Area of bare ground beneath ramp on north side of station.



Photos 6 and 7 Views of underside of ramp on north side of station.



Photo 8 South boundary of car park.



Photo 9 North boundary of site.



Photo 10 Approximate location of proposed crossing point for new bridge.



Photo 11 View along railway boundary to west of proposed bridge location.



Photo 12 View along railway boundary to west of proposed bridge location.



Photos 13 Oak along north boundary.



Photo 14 Existing ramps north of station.



Photo 15 Trees and other vegetation in narrow gap between ramp and north boundary fence



Photos 16 and 17 Foliage encroaching into currently closed ramp.



Photo 18 Vegetation beneath ramp south of station.



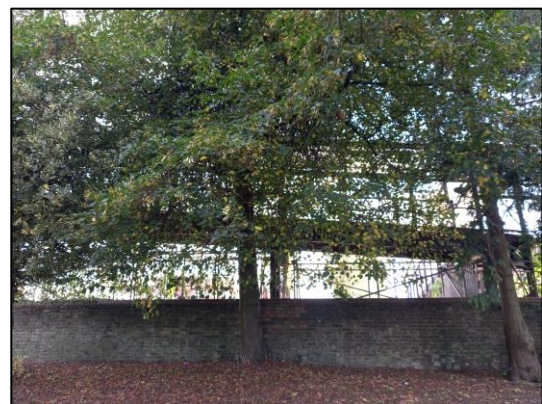
Photo 20 Ramp connecting to taxi rank and drop-off/pick-up area south of station.



Photo 21 Northeast corner of Havant Park.



Photo 22 Sycamore and ornamental planting at north boundary of Havant Park.



Photos 23 and 24 Holly, Small-leaved Lime and Lawsons Cypress, east boundary of Havant Park.



Photo 25 Holly east of tennis court.

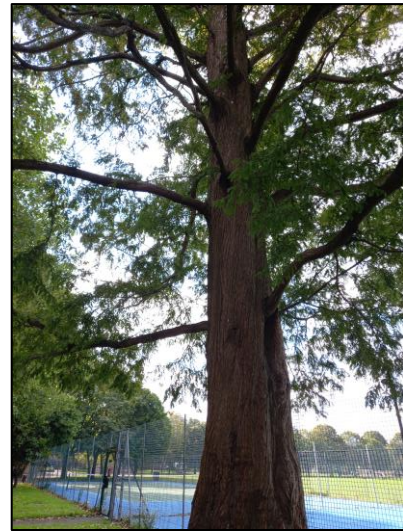


Photo 26 Dawn Redwood east of tennis court.



Photo 27 Lime by northeast corner of tennis court.



Photo 28 London Plane along north boudary of park.

Appendix 3 – Desk-Based Assessment Findings

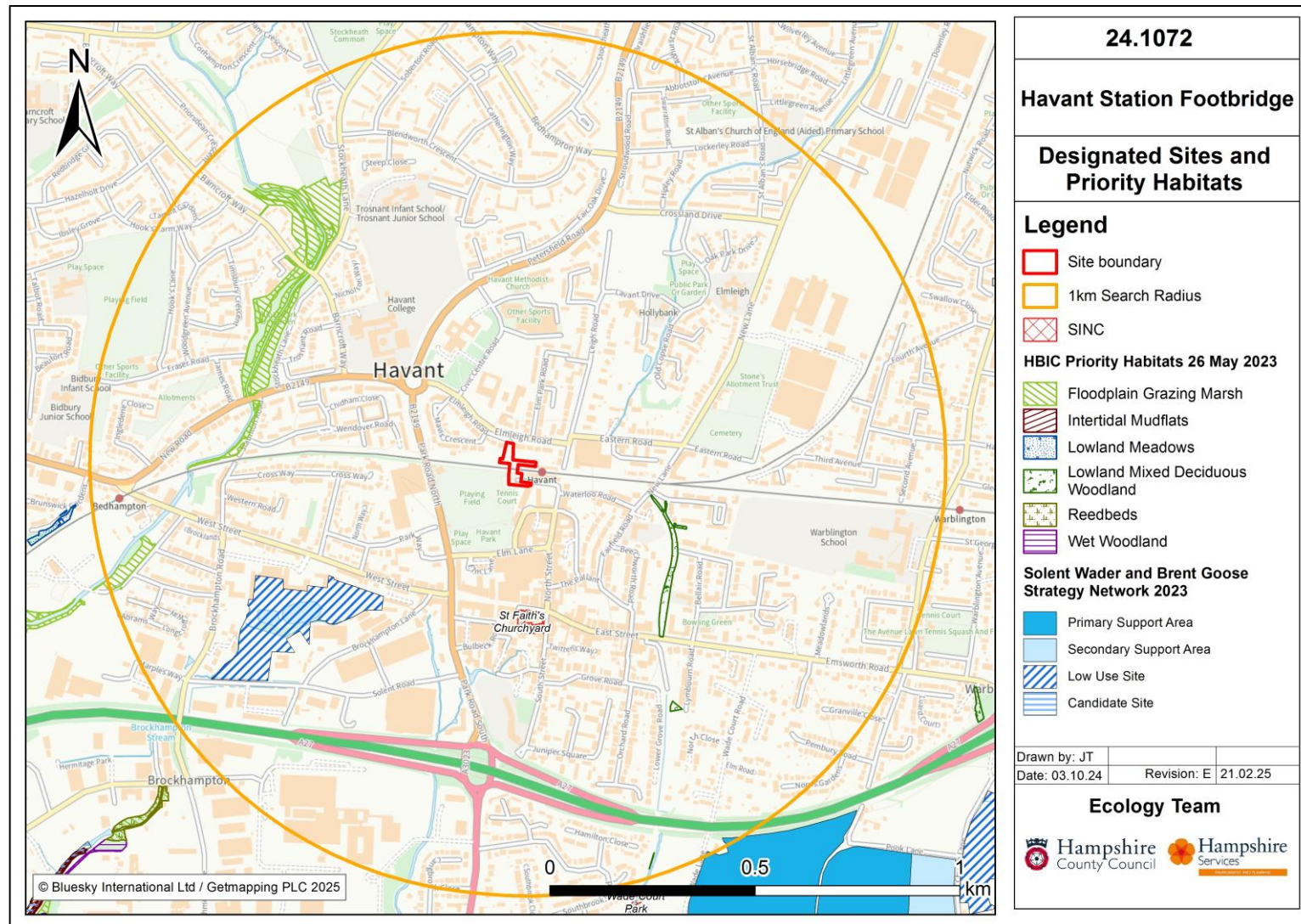


Figure A3.1 Map of nearby designated sites and Priority Habitats within 1km search radius.

Table A3.1 Protected and Notable species located within 1km of the site.

Common Name	Scientific Name	Details	Distance (approx.) and Direction
Bats			
Pipistrelle Bat species	<i>Pipistrellus sp.</i>	2018; Emergence survey; Maternity roost. >50 bats emerging; Leigh Road	125m NE
Common Pipistrelle	<i>Pipistrellus pipistrellus</i>	Between 2014 and 2023: 130+ records; static detector deployments; BCT NBMP transect and field surveys; emergence surveys; including confirmed roosts.	125m SE to 1km N / E / NW
Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>	Between 2014 and 2023: 45+ records; static detector deployments; BCT NBMP transect and field surveys; emergence surveys; including confirmed roosts.	300m N to 975m SE
Noctule	<i>Nyctalus noctula</i>	Between 2014 and 2022: 20+ records; static detector deployments; BCT NBMP surveys; emergence surveys	325m SE to 875m NW
Serotine	<i>Eptesicus serotinus</i>	Between 2014 and 2023: 30+ records; static detector deployments; BCT NBMP surveys; emergence surveys; including confirmed roosts.	325m NW to 875m NW
Myotis bat species	<i>Myotis sp.</i>	Between 2016 and 2022: 7 records; static detector deployments; BCT NBMP surveys; emergence surveys	475m SE to 850m SE
Nathusius	<i>Pipistrellus Nathusii</i>	2017: static deployment 2021: static deployment 2015: static deployment	475m SE 500m SW 800m NW
Leisler's	<i>Nyctalus leisleri</i>	2017; Bat detector – static deployment.	475m SE
Barbastelle	<i>Barbastella barbastellus</i>	2021; SM4 static detector deployment. 3 recordings.	500m SW
Brown Long-eared Bat	<i>Plecotus auritus</i>	2021: static deployment	500m SW
Natterer's	<i>Myotis nattereri</i>	2021; SM4 static detector deployment	575m SE
Plecotus species	<i>Plecotus sp.</i>	2021; static deployment	575m SE
Birds			
Firecrest	<i>Regulus ignicapilla</i>	2021; Leigh Road; calling just north of Havant Railway station	75m E

Common Name	Scientific Name	Details	Distance (approx.) and Direction
Mediterranean Gull	<i>Ichthyaetus melanocephalus</i>	2020: high over railway station, heading south. 2016: Mixed with Black-headed Gulls heading to Langstone Harbour 2017: multiple birds headed south 2018: multiple birds headed to harbour 2016: over A27	125m W 925m NW 925m NW 925m NW 925m S
Red Kite	<i>Milvus milvus</i>	2014; field record 2018: over Meridian Centre 2017: three records 2018: 1 bird, heading east	175m E 325m S 400m S to 975m NE 1km NW
Black-headed Gull	<i>Chroicocephalus ridibundus</i>	2017; field record 2019: field record; Havant Shipwrights Way 2016: At least 2000 in groups of 10-200 heading towards Langstone Harbour	175m SW 575m SE 925m NW
Crossbill	<i>Loxia curvirostra</i>	2018; Going Birding; 3 birds over Havant Cemetery, heading west	300m E
Lesser Redpoll	<i>Acanthis cabaret</i>	2018; Going Birding; Havant Cemetery. Single bird flew high east	300m E
Grey Wagtail	<i>Motacilla cinerea</i>	2022; pair in town centre 2021: observation; east side 2019: field record	400m S 500m SE 625m S
Kingfisher	<i>Alcedo atthis</i>	2018; Birdtrack	525m S
House Sparrow	<i>Passer domesticus</i>	2019: field record; Havant Shipwrights Way	575m SE
Hobby	<i>Falco subbuteo</i>	2014; field record	675m SE
Siskin	<i>Spinus spinus</i>	2016; field record	675m SE
Rock Pipit	<i>Anthus petrosus</i>	2019; field record; *Southmoors*	725m SW
Short-eared Owl	<i>Asio flammeus</i>	2019; field record; *Southmoors* Three birds.	725m SW
Water Pipit	<i>Anthus spinoletta</i>	2019; field record; *Southmoors*	725m SW

Common Name	Scientific Name	Details	Distance (approx.) and Direction
Also, multiple records between 2016 and 2022 for broad assemblage of species including: Avocet <i>Recurvirostra avosetta</i> , Bearded Tit <i>Panurus biarmicus</i> , Golden Plover <i>Pluvialis apricaria</i> , Greenshank <i>Tringa nebularia</i> , Marsh Harrier <i>Circus aeruginosus</i> , Peregrine <i>Falco peregrinus</i> , Spotted Redshank <i>Tringa erythropus</i> , Little Egret <i>Egretta garzetta</i> , Green Sandpiper <i>Tringa ochropus</i> , and Goosander <i>Mergus merganser</i> .			800m SW to 1km MW
Invertebrates			
Stag Beetle	<i>Lucanus cervus</i>	2015 – 2021: numerous records – National Stag Beetle Surveys	125m S to 1km E
Mammals – terrestrial (non-bats)			
European Hedgehog	<i>Erinaceus europaeus</i>	2020: nine records – Big Hedgehog Map and other field observations 2018: five field records 2017: two field records; both of hedgehog crossing roads 2021 and 2022: two records – field records 2019: roadkill; Big Hedgehog Map 2019: roadkill hedgehog by side of road.	450m SE to 800m N 675m SE to 975m E 775m SE and 850m 850m SE 975m E 1km E
Water Vole	<i>Arvicola amphibius</i>	2014: six records at local pond. 2015: 1 adult, pond at Park Rd South 2014: 4 water voles seen in Mill Pond 2014: frequent observations along stream between Langstone and Havant. 2016 – 2017: three field records.	525m S 525m S 625m S 650mS 675m SE
Amphibians and Reptiles			
Common Toad	<i>Bufo bufo</i>	2020: small number of records from old, concrete lined pond. 2021: small number of records from pond dug in 2020. 2021: small number of records from pond in private garden.	475m W 525m NE 850m N
Common Lizard	<i>Zootoca vivipara</i>	2014: 1 record.	675m E
Slow Worm	<i>Anguis fragilis</i>	2021: 1 x adult female and 3 juveniles. 2021: 1 adult. 2021: 1 adult in hedge base vegetation.	350m W 675m E 925m E

Common Name	Scientific Name	Details	Distance (approx.) and Direction
		2020: 1 adult under paving stone.	925m W
<i>Plants</i>			
Maidenhair Spleenwort	<i>Asplenium trichomanes</i>	2016: one record; between St Faiths Church and The Old House at Home. 2017: one record.	400m S 675mSE
Four-leaved Allseed	<i>Polycarpon tetraphyllum</i>	2021: two field records. 2023: Single small plant at wall base. Third consecutive year in same location.	375m SE and 400m SE 400m SE
Annual Beard-grass	<i>Polypogon monspeliensis</i>	2014: field record; few plants on top of unshaded brick wall.	600m SW
Musk Stork's-bill	<i>Erodium moschatum</i>	2022: two records.	900m S and 950m S

Appendix 4 – Field Survey Results

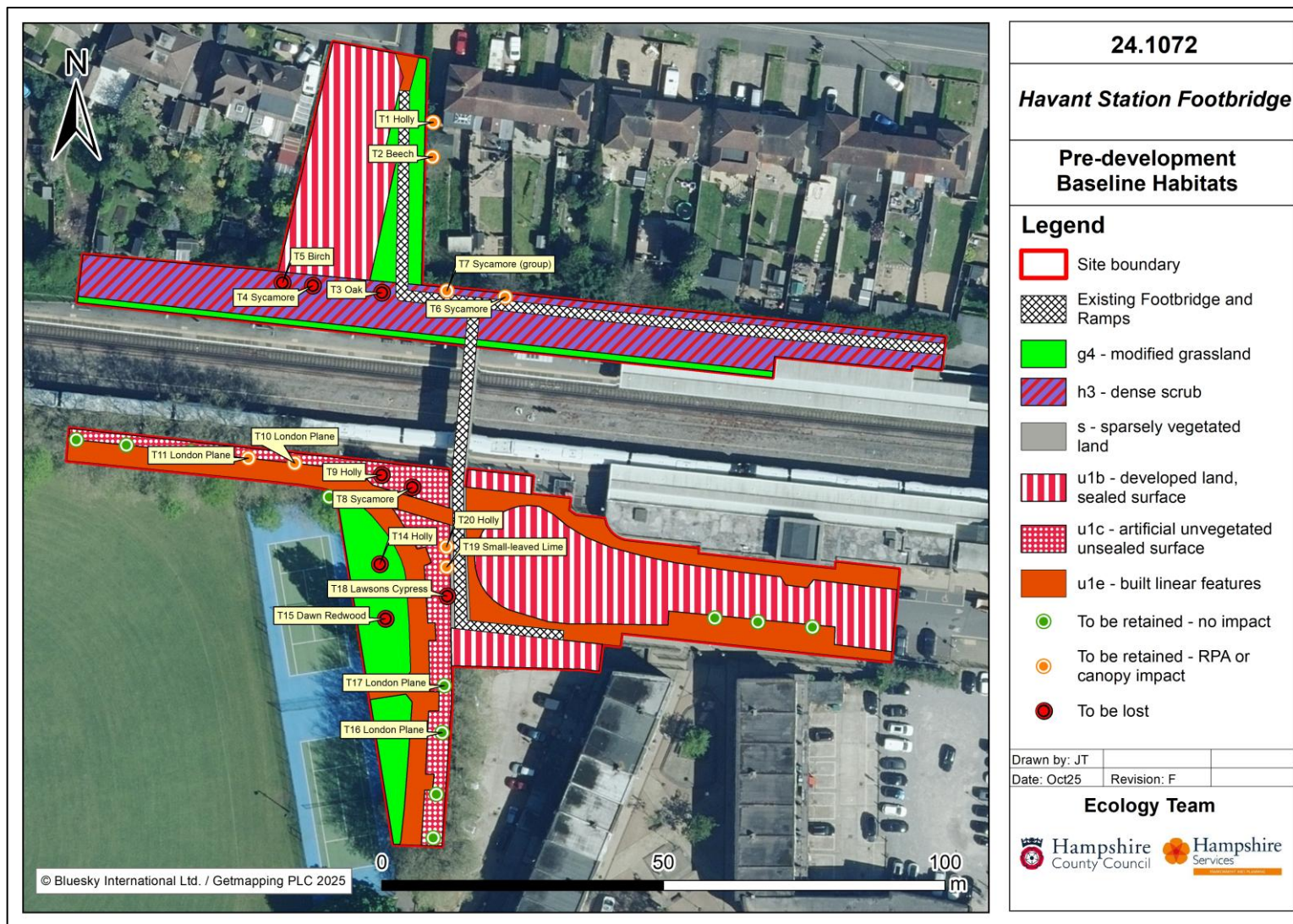


Figure A4.1 Extended Baseline Habitat Survey map.

Table 4.1 Trees within or adjacent to site.

Location	Tree No	Species (common name)	Size (category and DBH)	BNG Condition Assessment	Impact	Notes
North of station						
Off-site – in private garden east of Elmleigh Rd car park.	T1	Holly	Small (230mm)	Not assessed for BNG purposes as outside of site boundary.	Both trees to be retained. Potential root damage as proposed footway will be within RPAs.	Special engineering solutions needed for work - over roots of both trees.
	T2	Beech	Medium (400mm)			
Boundary between Elmleigh Rd car park and site.	T3	Oak	Large (730mm)	Good	All to be felled as within path of proposed ramp.	Mitigation will be needed for all three; Ownership re T5 Birch is unclear.
	T4	Sycamore	Small (290mm)	Good		
	T5	Birch	Small (249mm)	Good		
Northeast of bridge structure – gap between ramp and boundary fence.	T6	Sycamore (twin-stem)	Small (230 / 260mm)	Moderate	Both trees to be retained. Pruning will be required to allow for demolition of existing ramp.	Pruning may result in large wounds.
	T7	Sycamore group (self-set)	Medium (various)	Moderate		Pruning may result in large wounds or coppicing.
South of / northeast area of Havant Park						
By north boundary wall.	T8	Sycamore	Medium (650mm)	Moderate	Both to be felled as within path of proposed ramp.	Mitigation needed for both trees.
	T9	Holly (multi-stem)	Small (120 – 230mm)	Moderate		
	T10	London Plane	Very large (1239mm)	Not assessed for BNG purposes as outside of site boundary.	Both trees to be retained. Potential impacts as works will be within RPA and at edge of canopy.	Special engineering solutions needed for both trees to ensure minimal damage.
	T11	London Plane	Very large (1530mm)			

South of footway / north of tennis courts.	T12	Common Lime	Medium (430mm)	Not assessed for BNG purposes as outside of site boundary.	Both trees to be retained and protected although both are outside of the development footprint.	No comments.
	T13	Common Lime	Large (660mm)			
Within grassed area to east of tennis courts.	T14	Holly	Small (270mm)	Moderate	To be felled as within path of proposed ramp.	Mitigation needed.
	T15	Dawn Redwood	Large (850mm)	Moderate	To be felled as crown too close to allow for safe installation of structure and foundation works will be within RPA.	Mitigation needed. HCC Arb advise this is Cat A tree and retention highly preferable.
South of proposed bridge structure / east of tennis courts.	T16	London Plane	Very large (1590mm)	Not assessed for BNG purposes as outside of site boundary.	Both trees to be retained. Potential root damage to both trees as works will be within RPAs.	Impacts to RPAs of both trees to be minimised by use of micropiles or similar.
	T17	London Plane	Very large (1660mm)			
By east boundary wall.	T18	Lawsons Cypress	Medium (320mm)	Moderate	To be felled as within path of proposed ramp.	Mitigation needed.
	T19	Small-leaved Lime	Medium (490mm)	Moderate	To be retained. Pruning of southern extent of canopy will be required to accommodate ramp and installation.	Pruning southern extent of canopy by c. 2.5m, max cut size 50mm diameter. Arb supervision required for installation of support piles.
	T20	Holly	Small (200mm)	Moderate	To be retained and protected.	No comments.

Red font indicates trees to be felled; table includes tree DBH data, impacts and notes provided by HCC Arboriculture.

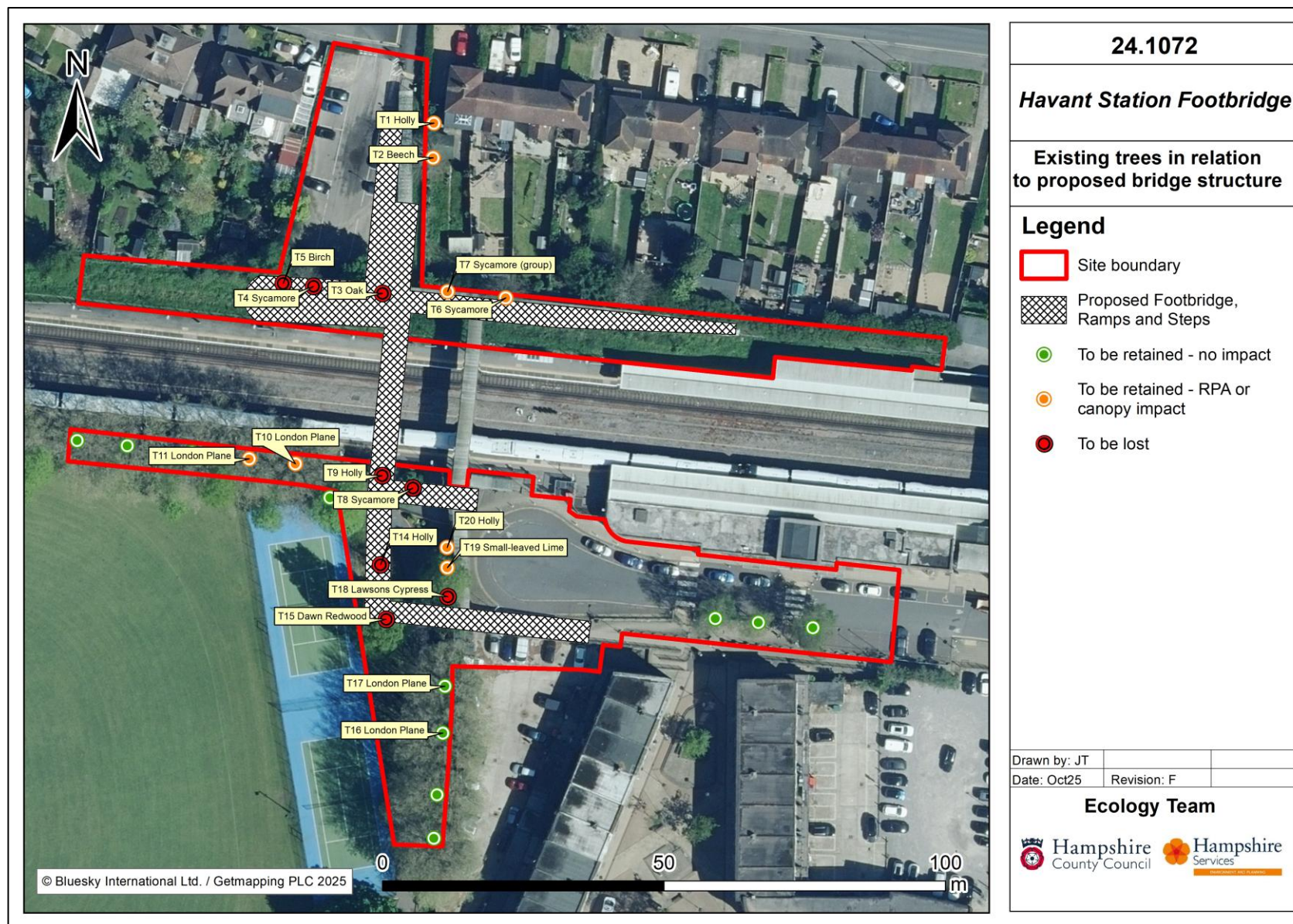


Figure A4.2 Existing tree plan in relation to proposed bridge structure.

Appendix 5 – Proposed Habitats

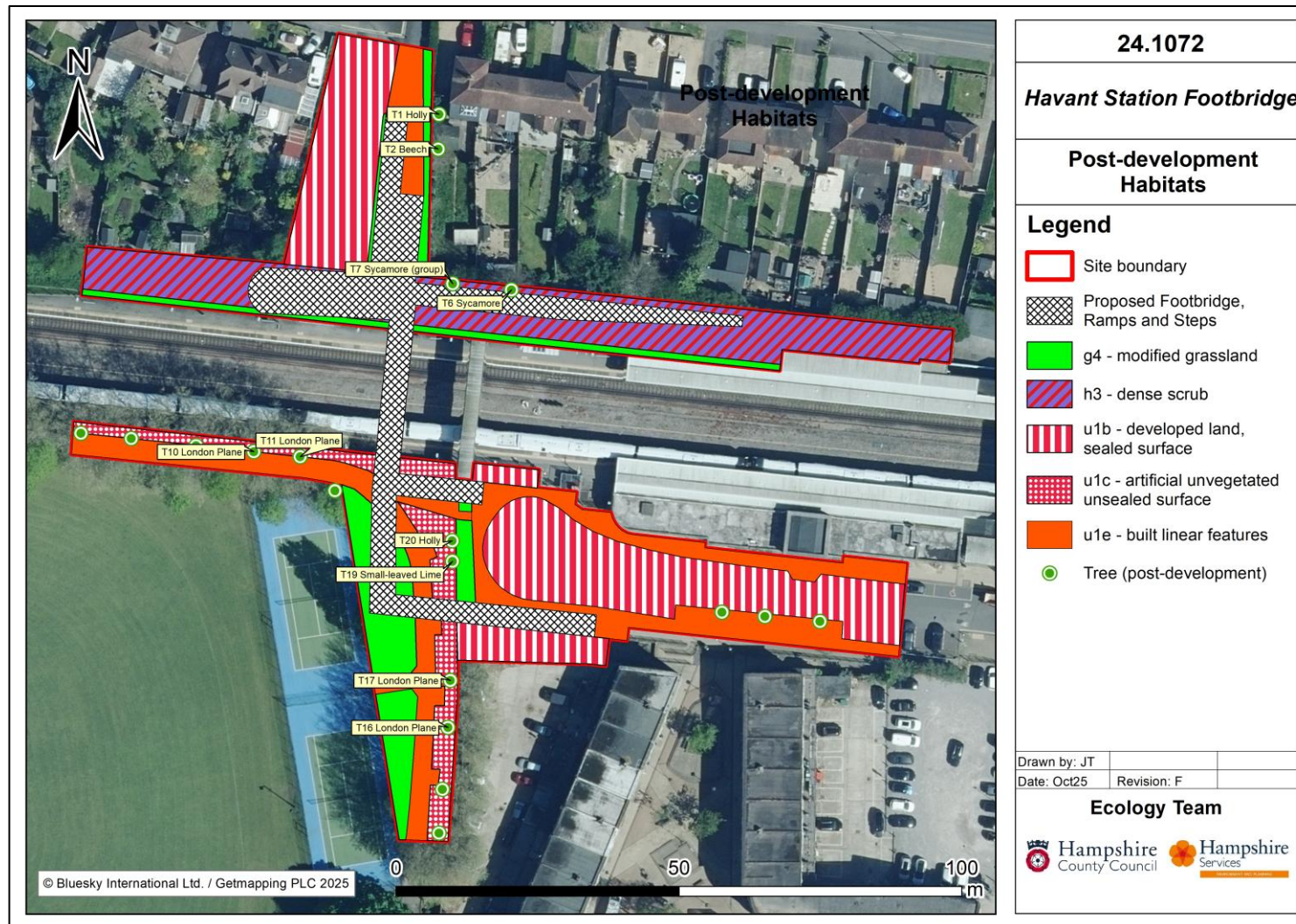


Figure A5.1 Proposed habitats mapped to UKHab Classification.

Appendix 6 – Assessment Criteria

Table A6.1 BCT guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape.

Potential Suitability	Roosting habitats in structures	Potential flight-paths and foraging habitats
<i>None</i>	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 foraging or commuting 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 for foraging bats).
<i>Negligible^a</i>	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, small element of uncertainty remains in order to account for non-standard bat behaviour.
<i>Low</i>	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of 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 classis 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.
<i>Moderate</i>	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 or hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat 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 roosts, e.g., maternity or classic cool/stable hibernation site.	<p>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.</p> <p>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.</p> <p>Site is close to and connected to known roosts.</p>
<p>^a Negligible is defines 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).</p> <p>^b For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.</p> <p>^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.</p>		

Table A6.2 BCT guidelines for assessing the suitability of trees on proposed development sites for bats.

Initial assessment of suitability of trees for bats	
NONE	Either no PRFs in the tree or highly unlikely to be any.
FAR	Further assessment required to establish if PRFs are present in the tree.
PRF	A tree with at least one PRF present.
Suitability of trees for bats further defined following Ground Level Tree Assessment	
PRF-1	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 A6.3 Protected Species Grading Criteria

Grading Criteria	Justification
<i>Confirmed Presence</i>	Species confirmed on site through direct sighting, presence of field signs (e.g., scat, hair, prints, nest, eggs, habitation etc.) or through desk-based assessment.
<i>High Potential</i>	Presence of optimal habitat features for species. Surveyed site within known range/close to known occurrence. Excellent connectivity to optimal habitat. No justification for discounting presence of species.
<i>Moderate Potential</i>	Presence of some suitable habitat features for species. Surveyed site within/close to known range or known occurrence but factors such as isolation/fragmentation may reduce potential. Presence of species is more likely than not.
<i>Low Potential</i>	Minimal suitable habitat present or, if present, highly degraded/fragmented. Minimal linkage to suitable habitat beyond site. Presence of species unlikely.
<i>Negligible Potential</i>	Site is entirely unsuitable for species. Presence of species highly unlikely.