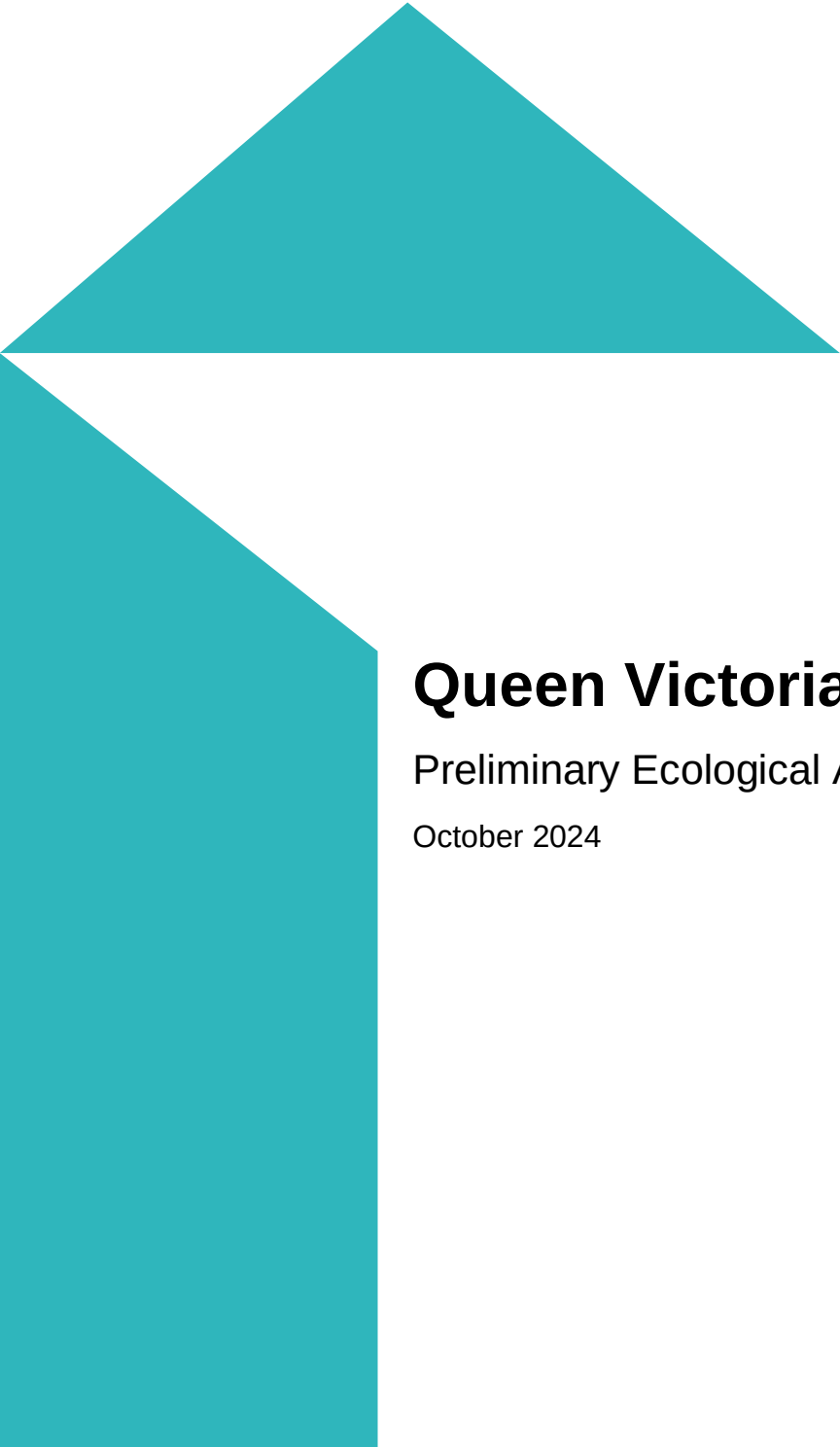




Queen Victoria Hospital

Preliminary Ecological Appraisal Report

October 2024

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NHS Foundation Trust

Queen Victoria Hospital

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Executive summary

To inform a planning application, Mott MacDonald Limited has been commissioned by the Queen Victoria Hospital NHS Foundation Trust to undertake a Preliminary Ecological Appraisal Report (PEAR). The site is located within the grounds of the Queen Victoria Hospital located in East Grinstead, West Sussex. The purpose of this appraisal is to report on the current habitats present (and their potential to support notable and protected species).

A desk study of existing information and reports was undertaken, and a UK habitat classification survey, conducted on 30 July 2024, which also looked for habitat suitability and evidence of protected and notable species. Baseline condition assessments of the habitats present was undertaken to inform subsequent Biodiversity Net Gain (BNG) calculations. A second visit was made to the Site on 18 September 2024, to undertake a bat endoscope survey of features identified from the initial field survey.

No impact to statutory or non-statutory designated sites is anticipated, owing to the small nature of the proposed works, their distance from the Site and lack of pathways. A parcel of deciduous and ancient woodland exists within the Queen Victoria Hospital grounds but lies approximately 0.2km from the proposed development and again, no impacts to the woodland are anticipated owing to the distance and lack of functionally linked habitat.

With regards to protected species:

- the Site has habitats such as individual trees and shrub-planted beds suitable for supporting common breeding bird species;
- a single tree and building adjacent to the north of the Site have potential roosting features (PRFs) for bats;
- Great crested newts *Triturus cristatus* were found within a disused swimming pool in 2009, during a survey of the hospital site with regard to proposed development of a new surgical wing. The large pond situated 0.2km to the north-west of the Site, within the grounds of Queen Victoria Hospital was used as the receptor location for the aforementioned GCN population and GCN are assumed to still be present. The Site, however, holds no habitats that are suitable for GCN seeking refuge and as such, their presence within the Site is considered unlikely;
- Rhododendron *Rhododendron ponticum*, an invasive non-native species listed under Schedule 9 of the Wildlife and Countryside Act 1981 is present within the shrub-planted beds of the Site.

Other potential ecological constraints to the development have been identified throughout the PEAR and the recommended mitigation associated with these are:

- **Bats:** All construction works should be restricted to daylight hours, where possible, and artificial lighting of the construction phase and operational phase of the Site should comply with best practice guidance. Noise-reducing fencing should also be used along the northern site perimeter, as a precautionary mitigation to reduce disturbance to the potential roost feature identified within the walls of the Jubilee building;
- **Breeding birds:** Vegetation removal (for trees and shrubs) should be undertaken outside of the breeding bird season (typically March to August inclusive). Where it is not possible to avoid the breeding season, pre-work vegetation checks for nesting birds by an ecologist will be required;
- **Great crested newt:** Following the removal of shrubs and trees, the vegetation should not be stored on-site as log piles / brash piles. This is to ensure there are no features which

attract GCN or other amphibians to the site. Should GCN or any amphibian be found at any time, works must stop, and an ecologist should be notified;

- **Invasive non-native species:** All non-native shrubs removed from site should be disposed of at suitable waste facilities, to avoid any chance of the organic matter being spread into surrounding habitats – particularly the ancient woodland 0.2km to the north, that lies within the hospital grounds.

This report is based on of the most recent designs for the proposed CDC (design drawing 100120806-MMD-02-XX-DR-A-1801, received on 27/09/2024). Following changes to the design, this report should be reviewed, and mitigation updated accordingly if measures no longer sufficiently cover the ecological receptors identified.

Additionally, opportunities for ecological enhancement suggestions are included within this report, which could be implemented alongside any proposed habitat creation / enhancement to occur as part of the BNG objectives.

This PEA is considered to be sufficient for planning submission and as such, provision of an EcIA will not be necessary.

This PEA is valid for 18 months after the date of survey. After this date the report should be reviewed by a competent ecologist and an update site walkover (and subsequently a new PEAR) may be required.

The CDC will be designed around the services and clinical pathways that are required to improve access to diagnostic testing, reduce waiting times, tackle the backlog of diagnostic activity and reduce health inequalities within the local community. The proposed development at the Queen Victoria Hospital will involve a single-storey building with the required medical facilities, associated parking and public access routes.

1.3 Aims and objectives of this report

This Preliminary Ecological Appraisal Report (PEAR) has been prepared in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) 'Guidelines for Preliminary Ecological Appraisal' 2nd edition (2017). The purpose of this report is to provide an assessment of the protected and/or notable habitats and species which occur or have the potential to occur within or near to the proposed development, which could be impacted by the proposed works. The aims of this assessment are to:

- Undertake a desktop review to identify any existing information regarding protected and/or notable species and sites with a nature conservation designation, within the defined zone of influence (Zoi) for the proposed development;
- Carry out a UK Habitat Classification survey to provide a description of the existing broad habitat types both within and immediately adjacent to the proposed development;
- To record the presence or potential presence of any protected and/or notable species of flora or fauna;
- Identify the presence of any invasive plant species on or adjacent to the Site;
- Provide a UK Habitat classification (UKHab) map with target notes of ecological features as identified above;
- Outline any ecological constraints to the proposed development in terms of designated sites, habitats and/or protected or notable species;
- Provide recommendations for further ecological survey work or assessment, if considered necessary to provide an ecological baseline for the proposed development;
- Identify any high-level mitigation or compensation measures that may be required to offset potential development impacts; and
- Identify opportunities for enhancement in line with national and local planning policy.

1.4 Quality assurance and environmental management

All ecologists involved in the production of this report are members of the CIEEM and are bound by its code of conduct (CIEEM, 2022). Additionally, this report has been subject to Mott MacDonald Limited's internal quality assurance checks in line with ISO9001:2015.

All surveys and assessments were undertaken by suitably qualified and experienced ecologists as per CIEEM's competency framework (CIEEM, 2024) and have been undertaken with reference to the recommendations given in *BS 42020:2013 Biodiversity: Code of practice for planning and development* (British Standards Institute, 2013).

As per the advice note from CIEEM (2019a) *On the Lifespan of Ecological Reports & Surveys*; the findings presented in this report are valid for up to 18 months from the date of survey. Following this, the survey data should be reviewed and, if appropriate, updated to ensure any assessment and mitigation approach remains valid.

2 Legislation and policy

2.1 Overview

Developers must ensure the construction and operational activities for the proposed development comply with national nature conservation legislation and with national and local biodiversity planning policies.

The following legislative and planning policy context has been used to inform the assessment of the relative ecological value of the site, potential constraints to the development and recommendation for enhancements.

2.2 Legislative framework

The main pieces of legislation regarding the protection of species and habitats in England is the Conservation of Habitats and Species Regulations 2017 (as amended) (henceforth referred to as the '2017 Regulations') and the Wildlife and Countryside Act 1981 (as amended) ('the 1981 Act') and establishes the legal framework for species requiring strict protection - 'European protected species'.

These pieces of legislation provide a range of protection for many species, and also create protected sites (including Sites of Special Scientific Interest (SSSIs), Special Protection Areas (SPAs) and Special Areas of Conservation (SACs)). These sites are referred to as 'Habitats Sites' and make up the 'National Site Network'. Ramsar sites are wetlands of international importance and are, for the purposes of assessment, treated in the same way as SPAs and SACs.

Activities which have the potential to harm protected species must be appropriately considered and mitigated, as must those with the potential to impact protected sites. In some instances, activities occurring some distance from a designated site have the potential to cause adverse effects and must be considered within an impact assessment.

Other species-specific legislation for certain groups (*i.e.*, badger (*Meles meles*)) is also in place and is referenced within this report where relevant. A summary of protection by species/species group can be found in Appendix A.

Invasive non-native species (INNS) are regulated via a combination of the Invasive Alien Species (Permitting and Enforcement) Order 2019 (henceforth referred to as 'the 2019 Order') and Section 14/Schedule 9 of the 1981 Act.

In England, The Hedgerows Regulations 1997 makes provision for the protection of important hedgerows. Criteria for defining importance are many but include the number and presence of certain woody species, species listed on Schedule 1 (birds which are protected by special penalties), Schedule 5 (animals which are protected) or Schedule 8 (plants which are protected) of the 1981 Act as well as species categorised as "endangered", "extinct", "rare" or "vulnerable" in Britain.

Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006, requires a list of habitats and species that are of principal importance for the conservation of biodiversity in England to be published. These habitats and species are known as S41, habitats of principal importance (HPI) and species of principal importance (SPI). The NERC Act also places a duty on public bodies to conserve and enhance biodiversity whilst undertaking their functions (the 'biodiversity duty').

The Environment Act (2021) requires that developments in England seeking planning permission under the Town & Country Planning Act (1990) deliver a minimum of 10% biodiversity net gain (in each habitat unit present) as measured by the Statutory Biodiversity Metric (DEFRA, 2024b).

The Act requires the Local Planning Authority to enforce the following:

- A minimum of 10% increase in habitat value for wildlife compared with the pre-development baseline;
- Net gain outcomes, through habitat creation or enhancement as part of delivering mandatory biodiversity net gain, to be maintained for a minimum of 30 years; and
- The use of a biodiversity metric.

This means that all English Planning Authorities have a duty to ensure that any plans or projects provide biodiversity net gains, as opposed to 'no net loss'.

The Environment Act also contains a number of other provisions, such as support for Nature Recovery Networks, strengthened protection for trees, and the requirement for conservation covenants.

2.3 National Planning Policy

The National Planning Policy Framework (NPPF, 2023) sets out the Government's planning policies for England and how these are expected to be applied by Local Authorities within their Local Development Frameworks (LDF).

Section 15 covers Habitats and Biodiversity and provides a list of principles that Local Planning Authorities should apply when determining planning applications. These include:

- If significant harm to biodiversity cannot be avoided, adequately mitigated or as a last resort compensated for then planning permission should be refused;
- Developments likely to have an adverse effect on a Site of Special Scientific Interest (SSSI) should not normally be permitted;
- Development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland, and ancient or veteran trees) should normally be refused;
- Developments whose primary objective is to conserve or enhance biodiversity should be supported. Opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure net gains for biodiversity.

2.4 Local Planning Policy

The Local Planning Authority for the Queen Victoria Hospital is Mid Sussex District Council. At a local level, planning policies are set out within the Submission Draft Mid Sussex District Plan 2021 – 2039 (Mid Sussex District Council, 2024a). The policies relevant to ecology are described below.

Policy 'DPN1: Biodiversity, Geodiversity and Nature Recovery' states that:

'Biodiversity will be protected and enhanced by ensuring development:

- *Protects existing biodiversity by retaining features of interest, including connecting routes as part of wider ecological networks, and ensuring the appropriate long-term management of those features;*
- *Takes appropriate measures to avoid and reduce disturbance to sensitive habitats and species in accordance with the mitigation hierarchy set out in national policy. Unavoidable*

damage to biodiversity must be offset through ecological enhancements and mitigation measures (or compensation measures in exceptional circumstances and as a last resort);

- *Contributes and takes opportunities to improve, enhance, manage and restore biodiversity and green infrastructure, so that there is a net gain in biodiversity, including through creating new designated sites and locally relevant habitats, and incorporating biodiversity features within developments;*
- *Minimises habitat and species fragmentation and maximises opportunities to enhance and restore ecological corridors to connect natural habitats and increase coherence and resilience;*
- *Promotes the restoration, management and expansion of priority habitats in the District; and*
- *Avoids damage to, protects and enhances the special characteristics of internationally designated Special Protection Areas, Special Areas of Conservation; nationally designated Sites of Special Scientific Interest, Areas of Outstanding Natural Beauty; and locally designated Local Wildlife Sites, Local Nature Reserves and irreplaceable habitats such as Ancient Woodland or to other areas identified as being of nature conservation or geological interest, including priority habitats, wildlife corridors, ancient, aged or veteran trees, Biodiversity Opportunity Areas, areas identified for nature recovery, and Nature Improvement Areas...*

Policy 'DPN3: Green Infrastructure' states that:

'Green infrastructure (including blue infrastructure) delivers a range of environmental, social and economic benefits including resilience to the effects of climate change, positive health and wellbeing effects, nature-based solutions and supporting nature recovery. Green infrastructure assets, links and the overall multifunctional network will be protected and enhanced by ensuring development:

- *Responds to and incorporates existing on-site and offsite green infrastructure into the development design;*
- *Provides new green infrastructure integrated into the development design; and*
- *Contributes to the wider green infrastructure network by taking opportunities to improve, enhance, manage and restore green infrastructure, and providing links to existing green infrastructure including outside the development's boundaries.*

Applicants should consider from the outset the landscape assets of the site and how they may be used to create part of a coherent landscape structure that links to existing and proposed landscapes to form open space networks whenever possible, revealing existing landscape features.

Green infrastructure design will be expected to demonstrate that opportunities have been taken to:

- *Strengthen connectivity and resilience of ecological networks;*
- *Improve resilience to the effects of climate change; and*
- *Support health and wellbeing by providing access to green space, nature and rights of way.*

Green infrastructure design should be informed by and respond to existing evidence and guidance on the multi-functional green infrastructure network including Biodiversity Opportunity Area statements, priority habitats, green infrastructure mapping, ecological surveys and landscape character assessments.

Appropriate arrangements and funding for the future long-term management and maintenance of green infrastructure should be identified and implemented. Where appropriate, the Council will seek to secure this via planning conditions and/or planning obligations...

3 Methodology

3.1 Study area and zone of influence

The current guidance on ecological impact assessments (EcIA) (CIEEM, 2019b) recommends that all ecological features that occur within a ‘zone of influence’ (Zol)¹ for a proposed development are investigated. The Zol includes:

- Areas directly within the land take for the proposed development and access;
- Areas which will be temporarily affected during construction;
- Areas likely to be impacted by hydrological disruption; and
- Areas where there is a risk of pollution and noise disturbance during construction and/or operation.

The Zol is variable depending on the ecological receptors affected. The size of study areas are determined by considering the potential Zol for each receptor. Table 3.1 below summarises the study area used for ecological receptors.

Natural England’s Site of Special Scientific Interest (SSSI) impact risk zones (IRZ) have been used to inform the study. These were developed to assess potential adverse impacts of development on SSSI designated features, and the National Site Network. The IRZ buffers reflect different types of development proposal and their associated potential adverse impacts.

Table 3.1: Study area

Ecological receptor	Study area
Statutory and non-statutory designated sites	Within 2km of the proposed scheme or where the relevant Site of Special Scientific Interest (SSSI) impact risk zone (IRZ) intersects with the Site.
Habitats of Principal Importance and ancient woodland	Site and within 50m of the Site
Protected/notable species and habitats	Protected/notable species and habitats: within the footprint of the proposed development and a buffer surrounding of 20m. Records requested for 2km from Site. Waterbodies within 250m of the proposed scheme. With regards to the potential for great crested newt (GCN) (<i>Triturus cristatus</i>).

Source: Mott MacDonald, 2024

3.2 Species and habitats assessment criteria

Species in this assessment are included due to being notable for the following reasons:

- Species and habitats protected by legislation;
- Habitats of Principal Importance (HPI) and Species of Principal Importance (SPI) (see Appendix A for further details);
- Species and habitats listed as a local priority for conservation (Local Biodiversity Action Plan (LBAP) species);
- IUCN2 threatened birds in Great Britain (critically endangered, endangered or vulnerable)
- Birds of Conservation Concern (BoCC) red or amber;
- Nationally rare, nationally scarce or near threatened species; and

¹ Note that the Zol depicts a distance within which effects are identified as most likely. This does not equate to a certainty of effects within this distance, nor does it preclude the possibility of effects outside the Zol.

- Invasive non-native species.

Species for which the proposed development may pose a welfare issue are also included for consideration where appropriate.

3.3 Desk study

A desk study was undertaken in August 2024, in accordance with current guidelines for Preliminary Ecological Appraisal (CIEEM, 2017) to determine the presence of any designated nature conservation sites and protected or notable species within the ZOI of the Site.

Data was obtained from the Sussex Biodiversity Record Centre (SxBRC), Surrey Biodiversity Information Centre (SBIC)² and relevant publicly available data, publications, reports and online databases. These include:

- Multi Agency Geographic information for the Countryside (MAGIC, 2023):
- Natural England:
 - Priority Habitat Inventory (Central) (England)
- Sussex Biodiversity Record Centre (SxBRC), Surrey Biodiversity Information Centre (SBIC)
- The Submission Draft Mid Sussex District Plan 2021 – 2039 (Mid Sussex District Council, 2024a)
- The Sussex Biodiversity Opportunity Areas (BOA)
- Our Wild Sussex 2024-2030 (equivalent to a Local Biodiversity Action Plan)
- Urban Habitat Action Plan for Sussex

3.4 Field survey

The field survey consisted of an UK Habitat Classification (UKHab) survey, which involved mapping of habitats by a suitably qualified and experienced ecologist from Mott MacDonald and an assessment of the Site's potential to support protected species. This survey was completed on 30 July 2024. A second visit was made to the Site on 18 September 2024, to undertake a bat endoscope survey of features identified from the initial field survey.

The habitat types were identified and mapped in compliance with the UKHab guidance documents. Habitats on-site were classified using Level 4 and Level 5 of the UKHab hierarchy where possible. Secondary codes have been used on the UKHab Map (Appendix B) to further describe the primary habitat present. Dominant plant species were noted, as were any protected, uncommon, invasive species or species indicative of particular habitat types, but there was no attempt to compile exhaustive species lists for this element of the site assessment. Plant species recorded are included in the relevant results sub-sections in Section 3. Botanical nomenclature in this report follows Stace (2019) for both scientific and English names.

The walkover of the Site also included an assessment of the likelihood of protected and notable animal species being present using species specific industry standard best practice guidance. The specific survey methods used for badgers and bats can be found in Appendix C.

To inform the associated Biodiversity Net Gain calculations, the condition of each habitat was assessed during the on-site survey using the published condition assessment criteria in The Statutory Biodiversity Metric condition assessment (DEFRA, 2024a).

Table 2.2 details the weather conditions at the time of the survey.

² Data from both record centres (SxBRC and SBIC) was used for the desk study as the 2km buffer of the Site falls across the two record centre boundaries.

Table 3.2: Survey weather conditions

Date	Temperature (OC)	Cloud cover (%)	Wind (Beaufort scale)	Precipitation
30/07/2024	29	7	0-1	0
18/09/2024	21	45	0-1	0

3.5 Limitations

The following limitations are relevant to this assessment:

- Biological records obtained from records centres do not necessarily represent a full and complete list for a given area and the absence of a species or habitat record does not prove it is not present. Records are not often collected as a result of systematic surveys and therefore geographic, temporal (annual and seasonal) and species coverage is not often representative. However, this data is considered sufficient alongside the other sources reviewed and ecological survey of the site to inform this assessment of constraints.
- Records older than 10 years were considered on a case-by-case basis, with those less than 10 years old used as standard. This is to ensure that changes in local conditions and habitats do not skew results, for example inferring species may be present from an older record prior to development of an area, when no suitable habitats exist anymore. This has been taken into account in the assessment and recommendations.
- Ordnance survey maps do not provide a complete record of waterbodies present within a landscape but were reviewed alongside aerial imagery to provide as robust an assessment as possible.
- Ecological surveys are limited to factors which affect the presence of plants and animals, such as time of year, migration patterns and behaviour. With a single site visit it is possible that certain species may have been overlooked or under-recorded during the assessment as optimal survey periods vary from species to species. This PEA report therefore cannot be considered to provide a wholly comprehensive account of the ecological interest of the Site, and it should be noted that this report does not constitute an Ecological Impact Assessment. The survey does, however, provide a “snapshot” of the ecological interest present on the day of the survey visit.
- The parcel of modified grassland on-site was mown short and as such, identification of grass species was difficult due to a lack of flowering heads. Herbaceous species were identifiable as were some grasses and it is considered that the habitat could be classified accurately. However, given that some species (of grasses) may have remained unidentified, the ‘Precautionary Principal’ was adopted when undertaking the condition assessments (specifically for the criterion referring to the average number of species per m²) in order to prevent underrepresentation of the grassland diversity.
- The endoscope survey conducted on the potential roost feature on the Jubilee building (TN2) identified that the feature lead into a cavity, however, the absence of bats was not possible to confirm, due to the large size of the cavity and difficulty in inspecting the space in its entirety. Recommendations provided in section 5 of this report pertain to disturbance mitigation under a precautionary assumption that bats may be present.

Based on the methodology taken and the precautionary approach, the limitations outlined above are not deemed significant in regard to the assessment covered by this report.

4 Results and interpretation

This section presents the results of the desk study and field survey along with an interpretation. To inform an assessment of potential ecological constraints, possible impact pathways from any proposed works have been identified and considered.

4.1 Desk study

For ease of reference, desk study records for protected and notable species are included together with field sightings/evidence in section 4.3.

4.1.1 Statutory designated sites

No statutory designated sites were identified within 2km of the Site. As such, statutory designated sites have been scoped out of this report.

The Site falls outside the High Weald Area of Outstanding of Natural Beauty (AONB).

4.1.2 Non-statutory designated sites

Four non-statutory designated sites were identified within the ZOI and these are detailed in Table 4.1 below.

Table 4.1: Summary of non-statutory designated sites

Site name	Distance from Site	Reason for designation
Surrey		
Swite's Wood Site of Nature Conservation Importance (SNCI)	0.5km, north	Large area of ancient semi-natural and ancient replanted woodland.
Chartham Park SNCI	2km north-west	Unimproved acid/neutral grassland and scrub overlying a seam of Grinstead Clay.
Sussex		
Ashplats Wood Local Wildlife Site (LWS)	0.27km, south	A moderate sized woodland on the edge of East Grinstead, much of it is recognised as ancient and semi-natural woodland. It comprises blocks of sweet chestnut <i>Castanea sativa</i> coppice together with stands of silver birch <i>Betula pendula</i> and alder <i>Alnus glutinosa</i> on lighter sandy soils, and more diverse woodland of hazel <i>Corylus avellana</i> coppice with standards of pedunculate oak <i>Quercus robur</i> , ash and sycamore on heavier clay soils. A number of the oaks in the west of the site are large veteran specimens. A small gill stream flows through the wood, which, together with a number of ponds and glades, provides additional habitat diversity to the site.
Worth Way LWS	1km, south-west	A former railway line, with embankments of deciduous woodland that connects to a number of other woodlands, which provides an important corridor across the local landscape. The deciduous woodland comprises mature ash <i>Fraxinus excelsior</i> and pedunculate oak, with occasional beech <i>Fagus sylvatica</i> and sycamore <i>Acer pseudoplatanus</i> . The field layer vegetation is fairly species-rich, particularly in the areas of ancient woodland, and includes a number of ancient woodland indicators. Other habitats, including acid grassland, ponds and a swamp, add further diversity to the LWS.

Source: SxBRC and SBIC, 2024; MAGIC 2024.

Due to their distance from the Site and lack of available pathways for disturbance, non-statutory designated sites are not likely to be impacted by the proposed development and have been scoped out of this assessment.

4.1.3 Habitats of Principal Importance and Ancient woodland

No priority habitats are located within 50m of the Site, however parcels of ancient woodland and deciduous woodland are located within the grounds of the Queen Victoria Hospital site, 0.16km to the north and 0.16km to the north-west of the Site, respectively.

Owing to the proportionally small scale of the works and lack of pathways, the likely impact to the ancient woodland to the north of the Site is considered very low.

Nevertheless, general best-practice construction mitigation safeguards are recommended, detailed in Section 5.

4.2 Field survey – habitats

Six UKHab types were identified in the survey area. The locations of all habitats are shown in the UKHab map in Appendix B.

Target Notes with the details of the features of ecological interest (e.g. the bat potential roost features (PRFs) identified) are included in Appendix D. The locations of these are shown on the UKHab map in Appendix B and referred to as TN1, TN2, etc. Photographs of the aforementioned ecological features and habitats on-site are also included in Appendix D.

4.2.1 Habitat type

4.2.1.1 Modified grassland - g4

This parcel comprised an area of amenity grassland mown short, with a sward height of 3-5cm across the entire parcel and an average of 5-6 species per m² (Photograph 1). Such species included abundant Yorkshire fog *Holcus lanatus* and perennial rye *Lolium perenne*, frequent white clover *Trifolium repens* and creeping buttercup *Ranunculus repens*, occasional bird's-foot trefoil *Lotus corniculatus*, self heal *Prunella vulgaris*, and rare ribwort plantain *Plantago lanceolata*.

4.2.1.2 Suburban mosaic of developed and natural surface – u1d

Introduced shrub – u1d, 847

A parcel which was situated adjacent to Holtye Road contained a bed of ornamental shrubs such as Mexican orange *Choisya ternata*, Japanese barberry *Berberis thunbergii*, rhododendron *Rhododendron ponticum*, red robin *Photinia Fraseri*, cherry Laurel *Prunus laurocerasus*, snowberry *Symphoricarpos albus* (Photograph 2).

A second parcel to the north-east of the Site contained a dense stand of red robin and New Zealand flax *Phormium tenax* (Photograph 3).

Flower bed – u1d, 846

Flower beds were situated in front of the building to the west of the Site and along the southern border of the modified grassland parcel (Photograph 4). Planting comprised typical flowerbed species such as ladies mantle *Alchemilla mollis*, *hydrangeas* species, lavender, dwarf cypress trees *Cupressus* sp, orpine *Hylotelephium telephium* and ornamental roses *Rosa* sp.

4.2.1.3 Individual trees - 32

Individual trees were scattered across the parcel of modified grassland and ornamental planting beds. All trees within the area of grassland were recorded and assessed, however, only those that lie within the footprint of the proposed works will be included in the BNG calculations. Table 4.2 below summarises the descriptions for the trees present within the Site.

Table 4.2: Summary of individual trees within the Site

Tree number	Tree size	Description
1	Medium	Medium-sized wild service tree <i>Torminalis glaberrima</i> with a trunk diameter of 40cm (Photograph 5), within the parcel of modified grassland.
2&3	SmallX2	A group of two small-sized rowan trees <i>Sorbus aucuparia</i> with trunk diameters of approximately 10cm (Photograph 6), within the parcel of modified grassland.
4-7	MediumX2 SmallX2	Group of four non-native trees; a medium-sized tulip tree <i>Liriodendron tulipifera</i> with a trunk diameter of 55cm (Photograph 7), a medium-sized birch <i>Betula sp.</i> , with a trunk diameter 55cm diameter (Photograph 8), a small-sized liquidambar <i>Liquidambar styraciflua</i> with a trunk diameter of 15cm (Photograph 9) and a small-sized Japanese maple with a trunk diameter of 12cm (Photograph 10). The trees were within the grassland and introduced shrub parcels.
8	Medium	A medium-sized Lawson cypress <i>Chamaecyparis lawsoniana</i> with a trunk diameter of 30cm (Photograph 11) within the parcel of modified grassland.
9&10	MediumX2	Two medium-sized Lawson cypress trees, both with a trunk diameter of 30cm (Photograph 12), within the parcel of modified grassland and introduced shrub.
11&12	MediumX2	Two medium-sized Lawson cypress trees, both with a trunk diameter of 30cm (Photograph 13), within the parcel of modified grassland and introduced shrub.
13	Large	One large-sized Atlantis cedar <i>Cedrus atlantica</i> with a trunk diameter of 68cm (Photograph 14), over grassland, no features healthy
14-16	Medium SmallX2	A group of three trees, two small and one medium-sized liquidambar (Photograph 15), within a border of introduced shrub.
17	Medium	A medium-sized red maple <i>Acer rubrum</i> with a trunk diameter of 30cm (Photograph 16), within a parcel of introduced shrub.
18	Small	A small-sized Oregon crab apple <i>Malus fusca</i> , with a trunk diameter of 13cm (Photograph 17), within the parcel of grassland.
19	Medium	A medium-sized Norway spruce with a trunk diameter of 50cm (Photograph 18), within the parcel of grassland.

Source: Mott MacDonald, 2024

4.2.1.4 Non-native and ornamental hedgerow

A section of non-native hedgerow bordering the eastern boundary of the Site along Holtye Road (Photograph 19 & 20). The hedgerow comprises some native species such as holly *Ilex aquifolium*, beech *Fagus sylvatica* and field maple *Acer campestre*, however these represented approximately 40% of the hedgerow shrub cover. Non-native species comprised rhododendron, cherry laurel, thorny olive *Elaeagnus pungens*, Laurentino viburnum *Viburnum tinus* and wintergreen barberry *Berberis julianae*.

4.2.1.5 Buildings - u1b5 and Other developed land - u1b6

The building to the north-west of the Site is a brick building with a front section of single floor at the front and two floors behind (Photograph 21). The roof comprises flat asphalt, with no tiles. The building was in reasonable condition, with smooth mortar between bricks and sealed fascia, however some gaps in the mortar were present (refer to section 4.3.3, TN2 for further details).

The infrastructure surrounding the modified grassland such as pathways, road and car parks comprised of sealed surface paving slabs or tarmac.

4.2.2 Habitat condition assessments and metric translations

The habitat condition assessment scores attributed to each habitat to inform, and future Biodiversity Net Gain calculations are summarised in the table below. For further detail pertaining to the criteria and justification, please refer to Appendix E for the full condition assessment sheets.

Table 4.3 also provides the habitat translation for how the habitat is displayed within the statutory biodiversity metric (DEFRA, 2024b).

Table 4.3: Habitat condition assessment

UKHab Habitat	Metric habitat	Condition assigned
Modified grassland, g4	Modified grassland	Moderate
Individual trees, 32	Urban tree	7 small, 9 medium, 2 large-sized trees: Moderate 1 medium-sized tree: Good
Introduced shrub - 847	Introduced shrub	N/A – condition automatically assigned in metric
Flower bed - 846	Introduced shrub	N/A – condition automatically assigned in metric
Non-native and ornamental hedgerows	Non-native and ornamental hedgerows	N/A – condition automatically assigned in metric
Developed land – u1b	Developed land; sealed surface	N/A – No condition assessment

Source: Mott MacDonald, 2024.

4.3 Protected/notable species

Species are included in this assessment if suitable habitat to support them was assessed as being present or potentially present within or adjacent to the Site boundary.

4.3.1 Amphibians

4.3.1.1 Great crested newt

Thirty eight records of great crested newt *Triturus cristatus* (GCN) were returned within 2km of the Site, with ten records within the grounds of Queen Victoria Hospital, 0.16km to the north-west. GCN were found within a disused swimming pool during a survey of the hospital site with regard to proposed development of new surgical wing in 2009.

A large pond is situated 0.2km to the north-west of the Site, within the grounds of Queen Victoria Hospital (Photograph 22). This pond was used as the receptor location for the aforementioned GCN population found within the hospital site.

Despite the proximity of the large pond, the habitats within the Site are not those typically suitable for GCN; the modified grassland is regularly mown short and there is little cover, other than the sections of introduced shrub, all of which are bordered by frequently used roads. Furthermore, no hibernacula or waterbodies were identified within the Site, which are typical habitats that may attract GCN.

Recommendations pertaining to GCN are given in Section 5.

4.3.1.2 Common toad

Sixteen records of common toad *Bufo bufo* were returned from SBIC and SxBRC within 2km of the Site. The most recent record is from 2015 and the closest record is located 0.9km to the south.

As for GCN, the habitats within the Site are not those typically suitable for amphibians without the presence of waterbodies or hibernacula. Despite the proximity of the large pond within the hospital grounds, it is unlikely that common toad will be present on-site.

4.3.2 Badger

No records of Eurasian badger *Meles meles* were returned from the SBIC and SxBRC records within 2km of the Site.

No signs of badger were identified during the ecological survey within the Site or the 20m buffer of surrounding natural habitats. Owing to the urban location, frequent use by humans and small-scale of the natural areas, badger are considered unlikely to be present and using the Site.

As such, badger are scoped out of this report, however general mitigation pertaining to mammal species is included in Section 5.

4.3.3 Bats

A summary of bat records returned from within 2km of the Site is provided below. Some records have been included despite being over 20 years old, depending on their proximity to the Site and record type (roost) as these may bear relevance to the bat-suitability assessment of the proposed development.

Table 4.4: Summary of bat species records

Species	No. of records	Nearest roost / other record	Most recent record
Brown long-eared bat <i>Plecotus auritus</i>	18	Unspecified roost, 0.8km, east	2019
Common pipistrelle <i>Pipistrellus pipistrellus</i>	59	Three unspecified roosts all 0.2km north-west (within the grounds of the Queen Victoria Hospital)	2023
Daubenton's bat <i>Myotis daubentonii</i>	1	Foraging / commuting, 0.8km south	2013
Leisler's bat <i>Nyctalus leisleri</i>	1	Foraging / commuting, 1.2km south	2023
Long-eared bat <i>Plecotus sp.</i>	6	An unspecified roost 0.2km north-west (within the grounds of the Queen Victoria Hospital)	2011
<i>Myotis sp.</i>	1	An unspecified roost 1.8km east	2015
Nathusius's pipistrelle <i>Pipistrellus nathusii</i>	1	An unspecified roost 0.2km north-west (within the grounds of the Queen Victoria Hospital)	2011
Noctule <i>Nyctalus noctula</i>	1	Foraging / commuting, 1.2km south	2023
Pipistrelle sp.	6	An unspecified roost 0.3km north	2001
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	9	Foraging / commuting, 0.16km north-west (within the grounds of the Queen Victoria Hospital)	2020

Source: SBIC, 2024, SxBRC, 2024.

A large, mature oak tree which lies approximately 22m from the Site to the west (Ordnance Survey National Grid reference (OSNGR): TQ 39940 39158) (TN1) forming part of a tree line was assessed as having multiple potential roosting features and was assigned PRF-M³. These included:

³ PRF-M refers to a feature suitable for multiple bats and may therefore be used as a maternity roost.

- A woodpecker hole on the trunk 4m high and facing west (labelled as A in photographs of TN1), which is unlikely to lead to a large cavity but would be capable of supporting individual / small numbers of roosting bats.
- A knot hole on trunk 5.5m high and west facing (labelled as B in photographs of TN1). This feature was larger in size but, due to the trees age (approximately 150 years old), unlikely to lead into large cavity and would be capable of supporting individual / small numbers of roosting bats.
- Two rotted ends of branches, 6.5m high and facing north-west and south-west (labelled as C & D in photographs of TN1). Both of these features were open skywards and likely too exposed to present as useable features for bats.

The tree borders the main entrance road to the hospital, Meridian Way, and borders the visitor car park. As such, it is subject to regular disturbance from cars and larger delivery / heavy-goods vehicles and illuminated by street lighting / lighting associated with the operational hospital. At a distance of ~20m from the Site, disturbance to the tree is not anticipated. As there are no perceived impacts on the tree and the proposed works are unlikely to create disturbance above existing levels, no further surveys are recommended for these features.

The building immediately adjacent to the north of the Site also had a small section of brick missing on the outer wall. The hole was approximately 2m high and facing south-east (Ordnance Survey National Grid reference (OSNGR): TQ 39983 39208) (TN2). The feature is adjacent to windows and doorways leading into the building which may emit a small amount of light pollution, however, the feature is subject to less noise disturbance from the road due to the distance. No staining or droppings were present. An endoscope survey of this PRF was carried out on 18 September 2024. No bats were identified, however the endoscope revealed a large cavity between two layers of bricks forming the wall. This cavity is large enough to support multiple roosting bats and is therefore assigned PRF-M. No direct disturbance will occur to the building and its walls, however, the proposed works fall within 20m of this feature and as such, precautionary disturbance mitigation is recommended.

The woodland within the north of the Site is suitable habitat for roosting and foraging bats, with five roosts recorded within the last 15 years. Owing to the proximity of bat roosts to the Site, linear features such as the tree line bordering the Site 20m to the west and to the south-west along Holtys Road may be used as foraging or commuting features by bats.

Further recommendations with respect to bats are provided in Section 5.

4.3.4 Birds

55 notable bird species records returned from SBIC and SxBRC within the 2km buffer shown in Table 4.5 below. Certain species were omitted based on notable status and the habitats present within and immediately surrounding the Site.

Table 4.5: Summary of notable bird species records

Species	No. of records	Most recent record	Schedule 1 of 1981 Act	NERC Section 41	Bird of Conservation Concern Red	Bird of Conservation Concern Amber	Local BAP
Bullfinch <i>Pyrrhula pyrrhula</i>	10	2011	x	✓	x	✓	x

Species	No. of records	Most recent record	Schedule 1 of 1981 Act	NERC Section 41	Bird of Conservation Concern Red	Bird of Conservation Concern Amber	Local BAP
Dunnock <i>Prunella modularis</i>	31	2022	x	✓	x	✓	x
Grey wagtail <i>Motacilla cinerea</i>	6	2013	x	x	x	✓	x
Hawfinch <i>Coccothraustes coccothraustes</i>	2	2021	x	✓	✓	x	x
Lesser spotted woodland <i>Dryobates minor</i>	18	2019	x	✓	✓	x	x
Linnet <i>Linaria cannabina</i>	2	2009	x	✓	✓	x	x
Marsh tit <i>Poecile palustris</i>	7	2022	x	✓	✓	x	x
Nightingale <i>Luscinia megarhynchos</i>	6	2015	x	x	✓	x	x
Song thrush <i>Turdus philomelos</i>	21	2011	x	✓	x	✓	x
Spotted flycatcher <i>Muscicapa striata</i>	2	2011	x	✓	✓	x	x
Starling <i>Sturnus vulgaris</i>	25	2020	x	✓	✓	x	x
Tree pipit <i>Anthus trivialis</i>	1	2010	x	✓	✓	x	x

Source: SBIC, 2024, SxBRC, 2024.

Owing to the small size and urban nature of the Site, Schedule 1 bird species are not anticipated to be present within or surrounding the Site. The scattered trees and parcels of ornamental shrub within the Site boundary may provide nesting opportunities for common bird species. The woodland within the grounds of Queen Victoria Hospital 0.2km to the north is suitable foraging and breeding habitat for a variety of bird species, however, due to the small scale of the works, distance and lack of pathways, direct and indirect (noise, vibrations etc) disturbance is considered very unlikely.

Further recommendations pertaining to nesting birds are given in Section 5.

4.3.5 Hazel dormouse

Ten records of hazel dormice *Muscardinus avellanarius* were returned in the Zol, the nearest being 0.9km to the north and the most recent record being from 2020.

Owing to the urban nature of the Site, lack of suitable habitats and lack of connections to the wider landscape, the presence of hazel dormouse is considered unlikely and this species is scoped out of this report.

4.4 Red squirrel

One record of red squirrel *Scirius vulgaris* was returned 0.65km to the east of the Site, from 2013. This record may be an anomaly, as East Grinstead is not within the known range of red squirrel. Additionally, no squirrel dreys were identified within the trees surveyed on-site. As such, this species is scoped out of this report.

4.4.1 Invertebrates

The notable invertebrate species returned from within 2km of the Site are shown in Table 4.6 below.

Table 4.6: Summary of notable terrestrial invertebrate species records

Species	No. of records	Most recent record	Proximity to Site
Purple emperor <i>Apatura iris</i>	1	2013	[no location data]
Tanner beetle <i>Prionus coriarius</i>	1	2020	1.7km, north
White admiral <i>Limenitis camilla</i>	4	2012	0.9km, west

Source: SBIC, 2024, SxBRC, 2024.

Bee ‘hotels’ / nesting boxes for bees were located on the walls of the building adjacent to the north of the Site. These nest boxes harbour solitary bee and wasp species which require exposure to sunlight for long periods of the day. The proposed development may result in blocking of sunlight to these features for periods of the day.

The regularly mown grassland does not typically provide beneficial habitat to invertebrates and parcels of introduced shrub, comprising non-native species offer little foraging habitat for native invertebrates. Notable species are unlikely to be using the Site and as such, notable invertebrates are scoped of this report.

Nevertheless, general recommendations for how to improve the Site for invertebrates are included in Section 5.

4.4.2 Notable/protected plants

Records of English bluebell *Hyacinthoides non-scripta* were returned from within 2km of the Site, within ancient woodland 0.4km to the south. Other ancient woodland indicators such as sanicle *Sanicula europaea* and wood sorrel *Oxalis acetosella* were also returned from this woodland.

No notable plant species were identified within the managed modified grassland and the parcels of ornamental planting and non-native shrubs do not typically support notable plant species. Notable plant species are likely absent from the Site and as such, plants are scoped of this report.

4.4.3 Reptiles

Nine records of Slow worm *Anguis fragilis* and 20 Grass snake *Natrix Helvetica* returned from SBIC and SxBRC within 2km of the Site, the nearest of both being 0.16km, within the grounds of Queen Victoria Hospital, and the most recent from 2019 and 2020 respectively.

No evidence of reptiles was recorded during the field survey and the existing habitats within the site are unsuitable for reptile, with closely mown grassland, non-native shrubs and a lack of potential hibernacula / sheltering habitat. As such, reptiles are scoped out of this report.

4.4.4 Invasive non-native species

Desk study records from within the ZOI returned the following non-native invasive species (INNS) from SBIC and SxBRC.

Table 4.7: Invasive plant species records

Species	Most recent record	Proximity to the Site	Number of records
Japanese rose <i>Rosa rugosa</i>	2009	0.6km, west	3
Himalayan Cotoneaster <i>Cotoneaster simonsii</i>	2013	1.3km, south	5
Wall cotoneaster <i>Cotoneaster horizontalis</i>	2019	0.5km, west	8
Himalayan balsam <i>Impatiens glandulifera</i>	2012	1.6km, north	7
Japanese knotweed <i>Reynoutria japonica</i>	2015	1.3km, south	5
Montbretia <i>Crocsmia x crocosmiiflora</i>	2018	0.8km, west	1

Source: SBIC, 2024, SxBRC, 2024.

Rhododendron, an invasive non-native species listed under Schedule 9 of the Wildlife and Countryside At 1981 was identified within the areas of introduced shrub within the site boundary. It is an offence to allow the spread of this plant into surrounding habitats.

Additionally, species such as cherry laurel and snowberry were also identified within the parcels of introduced shrub on-site. These species are not listed under Schedule 9 of the Wildlife and Countryside At 1981, however, they are invasive in woodland settings.

There is low risk that these species could be spread unintentionally into surrounding habitats without correct disposal protocol and as such, further recommendations are provided in Section 5.

4.5 Summary of ecological constraints

The table below summarises those receptors that require further survey, assessment or have further recommendations based on the findings of the desk study, field survey and interpretation of the potential for protected and notable flora and fauna⁴.

⁴ Ecological receptors such as fish, water vole, otter, red squirrel and pine martin have been omitted from the report based on the absence of suitable / essential habitats and their known ranges.

Table 4.8: Ecological receptors for further consideration

Ecological receptor	Scoped in / out
Other habitats	In
GCN (and other amphibians)	In
Bats	In
Birds	In
Invasive non-native species	In
Statutory designated sites	Out
Non-statutory designated sites	Out
HPIs and Ancient woodland	Out
Badger	Out
Hazel dormouse	Out
Invertebrates (terrestrial)	Out
Plants	Out
Reptiles	Out

Source: Mott MacDonald, 2024.

5 Recommendations for further surveys, mitigation and enhancement

5.1 Overview

On the basis of the survey work undertaken to date, the current scope of works and consideration of ecological constraints, this section provides details on the necessary mitigation.

5.2 Avoidance

Where possible, the design of the works should seek to avoid impacts to ecological receptors, or where this is not possible, minimise the impacts from the proposed works. In particular, the works design should seek to avoid impacts to:

- All species by minimising the loss of habitat and using existing hard standing to store equipment / works facilities wherever possible;
- Bat foraging and commuting by avoiding the need for artificial lighting, or if this is not possible, following the Institute of Lighting Professionals (ILP) Guidance Note on artificial lighting and bats (ILP, 2023) in the design of operational lighting;
- Bat roosts by avoiding removal of the tree / works falling within 20m of the tree adjacent to the RLB identified as having potential to support roosting bats (TN1).

Where this is not possible, mitigation and enhancement measures that are likely to be appropriate for the proposed development are detailed within the following sections.

5.3 Biodiversity net gain assessment

A BNG feasibility assessment will be undertaken following the framework provided in the CIEEM BNG Report & Audit Templates document (CIEEM, 2021) for a 'BNG Feasibility Report' and will be issued as part of the planning application alongside this report and any other ecological assessments. The BNG feasibility assessment will provide information on the feasibility of delivering a net gain by providing the baseline figures of habitat areas and biodiversity units present and comparing that to the post-development habitats that would be present without a BNG design. Recommendations will be given, in line with the mitigation hierarchy, of what onsite habitats should be avoided and habitats that could be enhanced and created to provide BNG, including whether off-site compensation habitats is likely to be required to achieve the minimum BNG increase.

5.4 Mitigation

Based on the assessment of effects and current proposals, the measures below are likely to be required to comply with legislative and planning requirements.

- **Construction Environmental Management Plan (CEMP):** A CEMP or equivalent should be produced prior to the commencement of the works, which will capture all measures to minimise impacts to areas of retained habitat and to safeguard protected and/or notable species throughout the works. This should include the measures below, which will be tailored to the proposed development, once there is more detail on construction activities and phasing.
- **Noise.** Noise-reducing fencing should be used along the northern boundary of the construction site perimeter for the duration of works, to reduce any disturbance towards the building adjacent to the north which contains a potential roost feature.

- **Lighting.** All construction works should be restricted, where possible, to daylight hours to prevent any adverse impacts on nocturnal species such as roosting bats. If night work is essential this should avoid unnecessary disturbance by ensuring that the height of lighting columns is as low as possible; and that lighting hoods, cowls and shields are used to focus light into the working areas and away from the surrounding environment. An ecologist should be consulted prior to installing artificial lighting, with a compliance check carried out during the works (BCT, 2023).
- **Excavations** should be fenced off and/or covered to avoid animals becoming trapped. Otherwise, a mammal ladder should be erected to allow any animals that may become trapped to escape, and a check undertaken each morning to check if animals have become trapped overnight. If a trapped animal is found, then a suitably experienced ecologist should be contacted immediately to advise.
- **Nesting birds.** Where vegetation loss or management is required, it is strongly advised that this be programmed outside of the breeding bird season (typically March to August inclusive) to comply with Government standing advice. Where it is not possible to avoid the breeding season the following will be required:
 - undertake pre-construction breeding bird surveys to identify potential breeding habitat and;
 - if nesting birds are located, either delay works until breeding attempts have finished and any fledged young are fully independent or have moved away; or mark exclusion zones around bird nests or potential breeding habitat (see below for detail on exclusion zones).
- **GCN and common toad.** Following the removal of shrubs and trees, the vegetation should not be stored on-site as log piles / brash piles. This is to ensure there are no features which attract GCN or other amphibians to the site. Log piles and brash piles would, however, be suitable additions to other areas of site - within the immediate vicinity of the existing pond, for example. Should GCN or any amphibian be found at any time, works must stop, and an ecologist should be notified.
- **Invasive Species Management.** Rhododendron is an invasive non-native species listed under Schedule 9 of the Wildlife and Countryside Act 1981 and as such it is an offence to allow the spread of this plant into surrounding habitats. As such, should the removal of these shrubs be required as part of the works, the organic waste must be disposed of responsibly at a suitable waste facility. Additionally, cherry laurel and snowberry are also present on-site and while not listed under Schedule 9 of the Wildlife and Countryside Act 1981, they are invasive in woodland settings. All non-native shrubs removed from site should be disposed of at suitable waste facilities, to avoid any chance of the organic matter being spread into surrounding habitats – particularly the ancient woodland to the north that lies within the hospital grounds.

5.5 Compensation (on and off-site)

The Environment Act 2021 requires that new development achieves a mandatory minimum of 10% BNG in all habitat types. Designing for BNG means that where habitat loss cannot be avoided, minimised or mitigated, compensation will be required. The BNG feasibility report will identify if compensation habitats are required and the type of habitats required to achieve the minimum BNG.

5.6 Opportunities for Enhancement

National and local planning policy promotes ecological enhancement. Starting at the earliest possible stage and throughout the scheme design, an ecologist should be consulted to provide strategic and technical advice on the delivery of net benefits for biodiversity including, if appropriate, off-site opportunities to deliver BNG.

The following suggested opportunities have been identified which could be incorporated into the scope of works:

- Provision of bat boxes (or the creation of natural tree features) and nest boxes for birds (tailored to species-specific requirements following further survey work);
 - Bird boxes can be sited on any suitable existing trees surrounding the Site
 - Bat box/boxes can be sited on any of the large oak trees within the tree line to the west of the proposed works (TN1 is part of this tree line)
- Incorporation of native species within any landscaping upon completion of the works, such as native tree, scrub and wildflower species;
- Provision of 'insect hotels' or natural brash piles/earth banks;
 - New solitary bee hotels should be sited on south-facing walls which receive maximum sunlight (i.e. no shading from trees or other structures)
 - Existing bee hotels (on the southern-facing wall of the Jubilee building) should be relocated into a sunny position if their current placement is no longer receiving adequate sunlight as a result of the proposed works (Optimum time for relocation is between October and February)
- Collaboration with landscape architects and maintenance personnel to encourage and implement ecologically sensitive management of amenity grassland areas, in order to encourage the diversification of plant species and in turn enhanced resources for invertebrates and birds; and
- Biodiverse green roofing.

5.7 Ecological Impact Assessment

The Validation Criteria for Planning Applications⁵ (Mid Sussex district Council, 2024b), states that an Ecological Impact Assessment Report (EclA) is required if there is a reasonable likelihood that protect species, species of conservation concern, designated nature conservation sites and Habitats of Principal Importance within or adjacent to the application site may be affected by the proposed works.

The proposed development is small scale and in an urban setting. The risk of disturbance to protected species / species of conservation concern within or adjacent to the works area has been assessed as low, with further measures recommended in Section 5 to further reduce any potential impacts. As such, this PEA report is considered sufficient for planning submission and an EclA is not considered necessary.

⁵ <https://www.midsussex.gov.uk/media/leh1x4uu/validation-criteria-for-planning-applications-including-technical-details-consent.pdf>

6 Summary and conclusion

The potential of impacting bats is considered to be low, but precautionary mitigation is required due to the suitability of the roosting feature identified in the wall of the adjacent building (TN2).

The potential of impacting GCN is considered to be low and precautionary measures will further reduce the risk of impacting this species.

The potential to impact breeding birds is considered low, provided the proposed mitigation centred around the timing of vegetation removal is adhered to.

There should not be any delay to the proposed works associated with the presence of these ecological receptors provided that they are reviewed during the design stage to ensure that the outlined recommendations are undertaken.

This PEA is considered to be sufficient for planning submission and as such, provision of an EcIA will not be necessary.

There are a small number of enhancement opportunities suggested below which can be implemented across the Site as outlined in section 5 for the project to benefit local biodiversity.

Table 6.1 below summarises the required mitigation.

Table 6.1: Summary of required mitigation

Ecological receptor	Recommended mitigation
Bats	• Avoidance of after-dark lighting during construction or the use of directional lighting to avoid illuminating the line of oak trees to the west of the site; • Ecologist consulted to aid design of operational lighting; • Noise-reducing fencing to prevent indirect disturbance to the potential roost feature within the building to the north.
Breeding birds	• Removal of suitable bird-nesting habitat outside of the bird nesting season (which is typically March-late September); • If this is not possible, vegetation removal must occur under ecological supervision.
GCN, reptiles and amphibians	• Appropriate storage of vegetation removed – i.e. no brash or log piles created and kept on site, to prevent attracting amphibians such as GCN
Invasive species	• Appropriate disposal of the Schedule 9 invasive plant rhododendron and other non-Schedule 9 (but invasive) plants such as cherry laurel and snowberry, to ensure these are not spread into the surrounding habitats

7 References

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Appendices

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A. Species specific legislation and policy

Species	Summary of legislation and policy
European Protected Species - (EPS) - Animals Bats (all species) Great crested newt	Legislation These species are listed on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended). In summary it is an offence to: • Deliberately capture, injury or kill such a species; • Deliberately disturb such a species by which – It impairs their ability to survive, breed or reproduce, or to rear or nurture their young; or in the case of animals of a hibernating or migratory species, to hibernate or migrate. – It significantly affects the local distribution or abundance of the species to which they belong. • Deliberately takes or destroys the eggs of such a species; and • Damages or destroys a breeding site or resting place of such a species. All species as given here are also listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) (the 1981 Act) and receive additional, limited, protection. In summary it is an offence to: • Intentionally or recklessly damage or destroy a structure or place used for shelter or protection; • Intentionally or recklessly disturb such a species while it is occupying a structure or place used for shelter or protection; and • Intentionally or recklessly obstruct access to any structure or place used for shelter or protection. Policy Seven species of bat and great crested newt are also listed on Section 41 (S41) of the Natural Environment and Rural Communities Act (NERC) (2006) as species of principal importance/priority species.
Widespread reptiles: Common lizard, slow worm, grass snake.	Legislation All widespread reptiles are afforded partial protection under Schedule 5 of the 1981 Act. It is offence to intentionally kill or injure any of these species. Policy All widespread reptiles are also listed on S41 of the NERC Act.
Wild birds, their nests and eggs	Legislation All wild birds are fully protected at all times under the 1981 Act. In summary it is an offence to intentionally: • Kill, injure or take any wild bird. It is also an offence to: • Take, damage or destroy the nest of any wild bird while it is being built or in use. • Take or destroy the eggs of any wild bird. In addition to the above, it is also an offence for species listed on Schedule 1 of the 1981 Act as amended to: • Disturb and wild bird whilst it is building a nest or is in, on or near a nest containing eggs or young. • Disturb dependent young of such a bird. • Nests of certain species (osprey, golden and white-tailed eagle) are also protected at all times in England, Wales and Scotland.

Species	Summary of legislation and policy
	Policy A total of 49 bird species are listed on S41 of the NERC Act.
Badger	Legislation Badgers and their setts are protected under the Protection of Badgers Act (1992). In summary it is an offence to: • Wilfully kill, injure or take a badger; • Interfere with a badger sett in any of the following ways: – Damage a badger sett or any part of it. – Destroy a badger sett. – Obstruct access to, or any entrance of, a badger sett. – Disturb a badger when it is occupying a badger sett.
Widespread mammals e.g. Hedgehog	Legislation All wild mammals are afforded protection from actions which are considered cruel under the Wild Mammals (protection) Act 1996 and others are listed on Schedule 6 of the 1981 Act which prohibits certain methods of taking them e.g. artificial light for hedgehog and traps for polecat. Policy All species as given here are listed on S41 of the NERC Act.
Widespread Amphibians e.g. Common toad	Legislation Widespread amphibians have no protection under legislation, however common toad is listed as a priority species under S41 of the NERC Act in England
Terrestrial invertebrates	Legislation Some invertebrates are fully protected under Schedule 2 of the 2017 Regulations (e.g. large blue butterfly) with others receiving varying degrees of protection (from full to that relating to sale only) under the 1981 Act. The Schedules will need to be checked for the species concerned and the level of protection, taking care to take account of footnotes within the Schedules, which reference the relevant sub sections and define the protection status. Policy A total of 398 invertebrate species are listed on S41 of the NERC Act, the majority of which are terrestrial invertebrates.
Wild Plants	Some species of plant, e.g. floating water plantain are listed as EPS plants under the 2017 Regulations and are afforded full protection. A large amount of plant species are also listed on Schedule 8 of the 1981 Act and as such also have protection from being taken from the wild. Most plants listed on Schedule 8 have full protection however this does not apply to all species. Notably the native bluebell (<i>H. non scripta</i>) is afforded protection from sale only.
Invasive non-native species Japanese knotweed Giant hogweed Indian balsam etc	Legislation It is an offence to plant or otherwise cause such a plant to grow in the wild species listed on Schedule 9 of the 1981 Act and Schedule 2 of The Invasive Alien Species (Enforcement and Permitting) Order 2019.

B. UK habitat classification map



- Proposed CDC site
- Target Note
- 11 Scattered trees
- h2b - Other hedgerows
- g4 - modified grassland
- u1b6 - other developed land
- u1d - suburban mosaic of developed/natural surfaces

Coordinate system: British National Grid; Datum: OSGB 1936
Data sources: Maxar, Microsoft, Esri UK, Esri, TomTom, Garmin, Foursquare, GeoTechnologies, Inc, METI/NASA, USGS



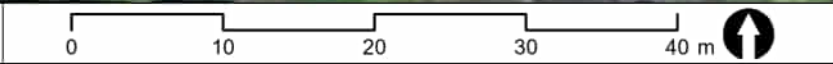
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Queen Victoria Hospital
NHS Foundation Trust

Queen Victoria Hospital (QVH)
CDC Project
UKHab Baseline Map

Drawn A Cjanfanelli	GIS Checked WJ Goh	Checked W Haigh	Approved Z Trent
Scale at A3 1:500	Status INF	Revision 01	Security STD



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C. Species specific assessment methods

C.1 Bats

C.1.1 Daytime Bat Walkover

In addition to the PEA and UKHab Habitat Survey, a Daytime Bat Walkover was undertaken on 30 July 2024 by a suitably experienced ecologist, to identify any habitat suitable for bats within 30m of the Proposed Development.

Where access allowed, all trees and structures were inspected from ground level for Potential Roost Features (PRFs), as identified within Collins (2023). The location of any trees or structures containing PRFs were recorded and were classified in line with Tables C.1 and C.2. The classifications provided within this report are intended to provide an initial estimation of the suitability of each feature only.

Table C.1: Bat Suitability Classification for Trees

Suitability	Description
NONE	No PRFs were identified within the tree, and it is considered unlikely that any are present.
FAR	Further assessment is required to establish if PRFs are present in the tree, that cannot be seen from ground level.
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.

Source: Collins, 2023

Table C.2: Bat Suitability Classification for Structures

Potential Suitability	Description of Roosting Habitats	Potential flightpaths and foraging habitats
None	No habitat features within the survey area 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 within the survey area 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	No obvious habitat features within the survey area 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 within the survey area 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 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).	Habitat that could be used by small numbers of bats as flight-paths such as a hedgerow with many gaps 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 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.

Potential Suitability	Description of Roosting Habitats	Potential flightpaths and foraging habitats
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 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.

Source: Collins, 2023

C.2 Badger

The Site was surveyed for badgers following the methodology outlined by Harris, Cresswell and Jefferies (1991). The search covered all land within the Site, and up to 30m potential impact zone beyond the boundaries. Any evidence or suitable habitat was target noted. Evidence of badger presence includes:

- Setts (which were classified as main, annex or outlier);
- Latrines or droppings;
- Paths, push-throughs or trackways;
- Hairs;
- Footprints;
- Snuffle pits;
- Scratching posts; and
- Feeding remains.

D. UKHab target notes and habitat photographs

D.1 Target notes

Table D.1: Target notes

Target note	Description	Photograph / s
TN1	Large, mature oak tree 22m from the Site to the west (Ordnance Survey National Grid reference (OSNGR): TQ 39940 39158) assigned PRF-M. Features include: • A woodpecker hole on the trunk 4m high and facing west (A). • A knot hole on trunk 5.5m high and west facing (B). • Two rotted ends of branches, 6.5m high and facing north-west and south-west (C & D).	

Target note	Description	Photograph / s
		
TN2	Small section of brick missing on the outer wall, which lead into a cavity between the bricks (Ordnance Survey National Grid reference (OSNGR): TQ 39983 39208) (TN2) The hole was located approximately 2m high on the building immediately adjacent to the north of the Site and was facing south-east.	

Source: Mott MacDonald, 2024.

D.2 Habitat photographs

Table D.2: Habitat photographs

Photograph no.	Habitat description	Photograph
1	Modified grassland which represents the majority of the habitats on-site	
2	Introduced shrub parcels, which border the modified grassland	
3	Introduced shrub parcels, which border the modified grassland	

Photograph no.	Habitat description	Photograph
4	Flower beds bordering the Jubilee building to the north of the Site	
5	T1 – Medium-sized wild service tree	

Photograph no.	Habitat description	Photograph
6	T2&3 – Group of two small rowan trees	
7	T4-T7 - Group of four non-native trees; a medium-sized tulip tree (photograph 7), a medium-sized birch (photograph 8), a small-sized liquidambar (photograph 9) and a small-sized Japanese maple (photograph 10).	

Photograph no.	Habitat description	Photograph
8		
9		

Photograph no.	Habitat description	Photograph
10		
11	T8 - A medium-sized Lawson cypress tree	

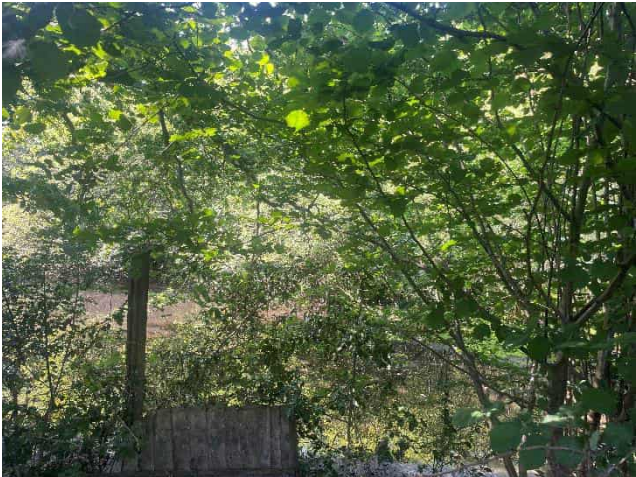
Photograph no.	Habitat description	Photograph
12	T9&T10 - Two medium-sized Lawson cypress trees	
13	T11&T12 - Two medium-sized Lawson cypress trees	

Photograph no.	Habitat description	Photograph
14	T13 - One large-sized Atlantis cedar	
15	T14-T16 - A group of three trees, two small and one medium-sized liquidambar	

Photograph no.	Habitat description	Photograph
16	T17 - a medium-sized red maple	
17	T18 - a small-sized Oregon crab apple	

Photograph no.	Habitat description	Photograph
18	T19 – a medium-sized Norway spruce	
19	Two sections of non-native hedgerow bordering the eastern boundary of the Site	

Photograph no.	Habitat description	Photograph
20		
21	The brick building to the north-west of the Site.	

Photograph no.	Habitat description	Photograph
22	The woodland pond, located within the deciduous woodland that lies 0.2km to the north-west of the Site, within the grounds of Queen Victoria Hospital. This pond was used as the receptor location for the GCN population found within a disused swimming pool in the hospital grounds in 2009, during surveys of the hospital site associated with the proposed development of new surgical wing.	

Source: Mott MacDonald, 2024.

E. Habitat Condition Assessments

Certain habitats identified on-site such as the non-native and ornamental hedgerows and the introduced shrub do not have a condition assessment sheet, and are automatically assigned a condition within the Statutory Biodiversity Metric (DEFRA, 2024b).

Table E.1: Grassland (low distinctiveness condition assessment sheet)

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)			
UK Habitat Classification (UKHab) Habitat Type			
Grassland - Modified grassland			
On-site or off-site, site name and location	On-site	Survey date and Surveyor name	30/07/2024, WH
Limitations (if applicable)	Grassland was mown very short and as such, identification of certain grasses, particularly to species level, was limited significantly.	Survey reference (if relating to a wider survey)	Ecology surveys for Queen Victoria Hospital, BNG baseline surveys
Grid reference	TQ 39993 39194	Habitat parcel reference	G4
Habitat Description			
A parcel of amenity grassland which is regularly mown short, with a sward length of 3-5cm across the entire parcel. The grassland is kept tidy and managed so no damage, bare ground, encroaching scrub or bracken was present. There were 5 to 6 species per m2 on average. Species included abundant Yorkshire fog, frequent perennial rye, white clover, creeping buttercup (which represented 6-7% of the herb cover), and occasional bird's-foot trefoil, self heal, creeping cinquefoil and doves-foot cranesbill.			
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. 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.	Y	Species ranged from 5 to 6 species per m2, which gives an average of 5.5, rounded to 6.
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	Grassland was mown 3-5cm short throughout.
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	No scrub present.
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.	Y	No damage recorded.
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens) ² .	N	No bare ground recorded (so not between 1-10)
F	Cover of bracken <i>Pteridium aquilinum</i> is less than 20%.	Y	No bracken present.
G	There is an absence of invasive non-native plant species ³ (as listed on Schedule 9 of WCA ⁴).	Y	No INNS present within the grassland.
Essential criterion achieved (Yes or No)			Y
Number of criteria passed			5
Condition Assessment Result (out	Condition Assessment Score	Score Achieved x/√	

of 7 criteria)			
Passes 6 or 7 criteria including passing essential criterion A	Good (3)		
Passes 4 or 5 criteria including passing essential criterion A	Moderate (2)	✓	
Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)	Poor (1)		

Table E.2: Individual trees condition assessment sheet (1st condition sheet)

Condition Sheet: INDIVIDUAL TREES Habitat Type														
Habitat Types														
Individual trees – Urban trees Individual trees – Rural trees Complete a condition sheet for each tree or block of trees. <i>Please see the separate Line of trees condition sheet for a line of <u>rural</u> trees. You should only use the Line of trees condition assessment and record that habitat type in <u>rural</u> locations.</i>														
Habitat Description														
Individual trees: 1. Mature, medium-sized wild service tree. Oversailing grassland with a continuous canopy and no ecological features. 2&3. Group of 2 young, small-sized rowan trees. with canopies continuous and no ecological features 4-7. Group of four non-native trees; a mature, medium-sized tulip tree, a mature, medium-sized paper birch/Chinese birch, a young, small-sized liquidambar and a young, small-sized, Japanese maple. All canopies were continuous, touching with no gaps, the trees were oversailing grassland and introduced shrub no ecological features were present. 8. One mature, medium-sized Lawson cypress oversailing grass and shrubs, healthy with a continuous canopy and no ecological features 9&10. Two mature, medium-sized Lawson cypress trees, both oversailing grass and shrubs, healthy with no ecological features. The canopies of these trees did not touch 11&12. Two mature, medium-sized Lawson cypress trees, both oversailing grass and shrubs, healthy with no ecological features. The canopies of these trees did not touch 13. One mature, large-sized Lebanon cedar, oversailing grassland. The tree was in good health, with a continuous canopy and no ecological features 14-16. 3 trees group; two young, small-sized and one young medium-sized liquidambar trees,. oversailing shrub and grassland. The trees were healthy and the canopies were continuous with no gaps, but they had no ecological features 17. A mature, medium-sized red maple tree with 70% of the canopy is oversailing shrubs and 30% over concrete. The tree was healthy with a continuous canopy spread but had no ecological features. 18. A semi-mature, small-sized Pacific / Oregon crab apple tree oversailing grassland completely. The tree was healthy with a continuous canopy and no ecological features.														
On-site or off-site, site name and location	On-site		Survey date and Surveyor name		30/07/2024, WH									
			Survey reference (if relating to a wider survey)		Ecology surveys for Queen Victoria Hospital, BNG baseline surveys									
Limitations (if applicable)			Habitat parcel reference											
			1	2 & 3	4 to 7	8	9 & 10	11 & 12	13	14 to 16	17	18		
			Grid reference											
Condition Assessment Criteria			TQ 39	TQ 39	TQ 39	TQ 39	TQ 39	TQ 40	TQ 40	TQ 40	TQ 40	TQ 39		
			94	95	97	98	99	00	00	00	04	99		
			9	9	1	7	7	8	3	3	2	7		
			39	39	39	39	39	39	39	39	39	39		
			18	17	15	16	17	18	19	19	21	21		
			2	8	8	3	2	3	5	5	5	1		
Criterion passed (Yes or No)											Notes (such as justifi			

												cation)
A	The tree is a native species (or at least 70% within the block are native species).	Y	Y	N	N	N	N	N	N	N	N	See habitat description box above
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	Y	Y	Y	N	N	Y	Y	Y	Y	See habitat description box above
C	The tree is mature (or more than 50% within the block are mature) ¹ .	Y	N	Y	Y	Y	Y	Y	N	Y	N	See habitat description box above
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.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	See habitat description box above
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	N	N	N	N	N	N	N	N	N	N	See habitat description box above
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	See habitat description box above
Number of criteria passed		5	4	4	4	3	3	4	3	4	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)		✓	✓	✓	✓	✓	✓	✓	✓	✓	
Passes 2 or fewer criteria	Poor (1)											

Table E.3: Individual trees condition assessment sheet (2nd condition sheet)

Condition Sheet: INDIVIDUAL TREES Habitat Type											
Habitat Types											
Individual trees – Urban trees Individual trees – Rural trees Complete a condition sheet for each tree or block of trees.											
Please see the separate Line of trees condition sheet for a line of <u>rural</u> trees. You should only use the Line of trees condition assessment and record that habitat type in <u>rural</u> locations.											
Habitat Description											
Individual trees (continued): 19. A mature, medium-sized Norway spruce oversailing grassland completely. No ecological features were present											
On-site or off-site, site name and location	On-site	Survey date and Surveyor name	30/07/2024, WH								
		Survey reference (if relating to a wider survey)	Ecology surveys for Queen Victoria Hospital, BNG baseline surveys								
Limitations (if applicable)	None	Habitat parcel reference									
		19									

		Grid reference										
Condition Assessment Criteria		TQ 399 73 391 90										
		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).	N										See habitat description
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 .	Y										
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.	Y										
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	N										
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Y										
Number of criteria passed		4										
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)	✓										
Passes 2 or fewer criteria	Poor (1)											

