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Client: NHS, Royal Brompton and Harefield Hospital, Part of the Guy and St Thomas NHS Foundation Trust

Project: Harefield Hospital

Report: Biodiversity Net Gain Assessment

QUALITY ASSURANCE

Issue/Revision:	Draft	Final	Final	Final
Date:	October 2024	November 2024	September 2025	September 2025
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Prepared by:	Yasmine Airton	Yasmine Airton	Emer Heffernan	Emer Heffernan
Authorised by:	Francesca Thorley	Laura Homfray	Paul White	Paul White
File Reference:	552886ya02Oct24FV01_BNG A	552886ya02Oct24FV01_BNG A	552886EH01Sep25FV02_BNG A	552886EH22Sep25FV03_BNG A

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1.0 EXECUTIVE SUMMARY

Greengage Environmental Ltd (Greengage) was commissioned by NHS Royal Brompton and Harefield Hospital, Part of the Guy and St Thomas NHS Foundation Trust to undertake a Biodiversity Net Gain Assessment (BNGA), using the Statutory Biodiversity Metric (SBM), for a site located at Harefield Hospital in The London Borough of Hillingdon hereafter referred to as 'the site'.

The BNGA aims to quantify the predicted change in biodiversity value of the site in light of the proposed development to assess compliance against national and local planning policy and against the BNG mandate set out in the Environment Act 2021, which states that all planning permissions granted in England (with a few exemptions) will have to deliver at least 10% biodiversity net gain.

The site extends to 0.055 hectares (ha) and comprised lowland mixed deciduous woodland, with an area of modified grass and developed land; sealed surface as identified from a site walkover undertaken on 29th August 2024, an updated site walkover on 19th September 2025, alongside data received from a desk study which is discussed further within the corresponding PEA[1] report.

Proposed habitat creation within the application site includes incorporation of 0.055ha of developed land; sealed surface in replacement of the lowland mixed deciduous woodland.

The locations, extents, conditions and habitat parcel reference numbers of the pre-development (baseline) and post-development habitats are mapped in Appendix A and Appendix B. The habitat values are split into three categories: area-based 'Habitat Units' (HU), linear-based 'Hedgerow Units' (HeU) and aquatic linear-based 'Watercourse Units' (WU) respectively, where applicable to the site.

The site pre-development baseline is 0.50HU. No HeU or WU were applicable within the baseline habitat.

Based on landscape design proposals, the site post-development outline design proposals are predicted to deliver a net loss of 0.47HU (equivalent to -92.28% for HU). No hedgerow units or watercourse units are included in the design proposals.

However, using areas which are proposed within the identified off-site compensatory area, there will be a net change of 0.25HU, which contributes to a net gain of 49.71%. The BNG trading rules are also met.

The proposed off-site development will include areas that will significantly contribute to the biodiversity value of the site, including the increase of areas of high distinctiveness off-site. Therefore, a Habitat Management and Monitoring Plan (HMMP) for the habitat retention/enhancement, creation and long term management over 30 years (minimum) would be required for submission to the Local Planning Authority (LPA). If these recommendations are adhered to, the proposals stand to be compliant with legislation and current planning policy.

Upon receiving planning permission, the submission of a Biodiversity Gain Plan (BGP) to the LPA will be required. This BGP must include details of the proposed BNG compensation, including the Biodiversity Gain Site Register Reference.

2.0   INTRODUCTION

Greengage Environmental Limited (Greengage) was commissioned by NHS Royal Brompton and Harefield Hospital, Part of the Guy and St Thomas NHS Foundation Trust to undertake a Biodiversity Net Gain Assessment (BNGA), using the Statutory Biodiversity Metric (SBM), for a site located at Harefield Hospital in The London Borough of Hillingdon hereafter referred to as 'the site'.

Under the Environment Act 2021, developments are mandated to achieve a 10% biodiversity net gain (BNG), and they may also be required to under local policy. Most Local Planning Authorities (LPA) require a 10% net gain delivered against a site's pre-development (baseline) value. This is determined through assessing the condition of pre-development habitats on the site i.e. calculating the baseline at the BNGA Baseline stage, followed by comparison against the anticipated changes in biodiversity value based on the development proposals.

The purpose of this BNGA which has been completed for the Design Stage is to compare the predicted post-development biodiversity value of the site against the pre-development (baseline) value, to identify if the 10% BNG target will be reached, or if it can be reached through implementation of 'suggested changes' to the site/landscape design.

This BNGA Design Stage report identifies that the 10% BNG target will be reached through off-site compensation.

This BNGA has been undertaken in September 2025. Any further changes to the design will impact upon the BNG score and the SBM calculations will need to be updated to reflect such changes. This also carries forward throughout the entire lifetime of the project, including after planning permission has been granted, in and throughout the construction phase. BNG aims to give an accurate reflection of the changes happening on site.

2.1   SITE DESCRIPTION

The site extends to approximately 0.055 hectares and is centred on National Grid Reference TQ 05267 90758, OS Co-ordinates 505267, 190758.

The site itself lies within a parcel of woodland located on the south-eastern border of Harefield Hospital. The site is bound by Rickmansworth Road to the east which leads to the main entrance of the hospital to the north, to the west is the main grounds of the hospital. The woodland contains a chained fence running near the centre of the woodland which extends along the boundary of the hospital. It is relatively dense and shaded with entrance into the wood being limited. Harefield Village green lies adjacent to the woodland with the two areas being separated by Rickmansworth Road. A residential area also lies adjacent to the site in the form of detached housing.

Harefield hospital is situated within the village of Harefield, 17 miles north-west of Charing Cross near Greater London's boundary. The village is surrounded by areas of arable fields and woodland, with four Sites of Special Scientific Interest (SSSI's) within 2km of the site. Old Park Wood is situated 500 metres from the site boundary which becomes fragmented with other parcels of woodland scattered around the hospital site.

2.2   PROPOSED DEVELOPMENT

The proposed development seeks to remove an area of deciduous woodland on the site to install generators and related equipment on to the area of land. This will require removal of an area of woodland currently on the site which is connected to a larger parcel of woodland bordering the east of the hospital. The generators will be connected via a buried cable run beneath the modified grassland. The alignment has been selected to avoid disturbance to the existing walkway

Drawings provided by Design Buro Ltd has been used as the basis for information regarding the proposed post-development habitats and has been used to inform the comparison against the baseline values.

3.0 METHODOLOGY

3.1 PRE-DEVELOPMENT (BASELINE)

Habitat Data

A Preliminary Ecological Appraisal (PEA)[1] been undertaken by Greengage in accordance with guidance in the UK Habitat Classification System (UKHab)[2] and the Chartered Institute of Ecological and Environmental Management (CIEEM) (2017) Guidelines for Preliminary Ecological Appraisal[3], in accordance with British Standard (BS) 42020: 2013: Biodiversity[4]. The PEA included a site walkover which identified and mapped the extent and distribution of different habitat types on site according to the standard UKHab classification methodology, i.e. using primary codes, and supplemented with secondary codes. A habitat map was produced to illustrate the results, which is provided as Appendix A.

During the PEA, the habitats were also subject to Condition Assessments, where relevant, in accordance with the SBM Condition Assessments. (See 'Habitat Condition' below).

Statutory Biodiversity Metric Calculation Tool

This BNGA uses the government mandated methodology within the 'Statutory Biodiversity Metric User Guide' (SBM User Guide), distributed by Department for Food Environment and Rural Affairs (Defra), February 2024[5].

BNG uses habitat type and condition as a proxy for overall biodiversity value, measured in Biodiversity Units (BU) which are calculated using the SBM. The BU are separated into area-based Habitat Units (HU), linear-based Hedgerow Units (HeU) and aquatic linear-based Watercourse Units (WU), as applicable to a site, respectively. For this site, only HU is applicable.

The following information on each habitat type are the required SBM inputs:

- Type;
- Area/length;
- Condition; and
- Strategic significance.

The areas of each habitat parcel are measured, with each habitat parcel assigned a 'Distinctiveness', 'Condition' and 'Strategic Significance' score. Distinctiveness is a default score for the habitat classification, representing its inherent biodiversity value, whereas condition refers to the state each habitat parcel is in relative to a predetermined set of criteria outlined in the SBM User Guide.

Strategic significance draws upon priorities and objectives within local plans and strategies, and is measured by providing habitats with a score from low to high as follows:

- Low - "area / compensation not in local strategy";
- Medium - "location ecologically desirable but not in local strategy"; and

- High - "formally identified in local strategy".

To calculate the pre-development (baseline) BU value, habitat data collected during the PEA has been used. A BNGA habitat map has been created based on the data collected in the field using Coreo[6] software. The area extents for each habitat type shown in the BNGA habitat map were then measured using Quantum Geographical Information System (QGIS) software. (See Appendix A).

To calculate the HU associated with trees on site, stem diameters of each tree were used to assign each tree a rating of 'small', 'medium', 'large' or 'extra large', in line with the SBM User Guide. The rating corresponds to an area value to be used.

Distinctiveness values were automatically calculated for the site and habitat conditions were assessed both in the field, and retrospectively using site photos.

Type and Area/Length

Habitat types documented in the PEA use UKHab classifications and primary codes supplemented by secondary codes, where applicable. The SBM uses a classification system based mainly on the UKHab Classification System[2] but with input also from other systems including the Water Framework Directive (WFD) Lakes Typology[7], the European Nature Information System (EUNIS) habitat definitions[8], Habitats Directive Annex 1 definitions[9].

The habitats on site directly correlated with the translation into the SBM.

For individual trees present on the site, the area extent attributed to individual trees has been calculated using the 'Tree helper' within the SBM calculation tool. This is based upon using Diameter at Breast Height (DBH) in centimetres (cm). In accordance with the SBM User Guide, based on DBH, tree sizes have been recorded as follows;

- Small is greater than 7.5cm and less than 30 cm diameter,

- Medium is greater than 30 cm, to less than or equal to, 60 cm;

- Large is greater than 60 cm, to less than or equal to 90 cm; and,

- Extra large is greater than 90 cm.

Habitat Condition

Where applicable, habitats were subject to a condition assessment in accordance with the SBM Condition Assessments. Formalised copies of the Condition Assessments for the baseline habitats are provided as Appendix C.

Habitats must be quantified using criteria set out by the SBM Condition Assessments to determine their relative condition.

The condition of a habitat is a measure of the biological 'working-order' of a habitat type judged against the perceived ecological optimum state for that particular habitat.

The condition of each habitat type was assessed against pre-set criteria and categorised as either 'Good', 'Fairly Good', 'Moderate', 'Fairly Poor' or 'Poor'. Where a habitat type varies in condition within the site this was recorded and mapped.

Strategic Significance

The SBM calculation tool accounts for whether the habitat is situated in an area locally identified as significant for nature.

Data on areas and habitats locally identified as significant for nature were obtained from the following:

- Multi-Agency Geographical Information for the Countryside (MAGIC) website for mapped statutory designated sites;

- Greenspace Information for Greater London (GIGL) was consulted in August 2024 for the PEA for records of statutory and non-statutory designated sites for nature conservation within and adjacent to the site;

- Habitats listed within the Local Biodiversity Action Plan (LBAP) for Harrow Local Plan; and

- Priority Habitats for Restoration.

Using the SBM calculation tool, habitat values have been calculated based on whether they occur commonly or whether they are rare, condition and importance within the local area, usually identified from local relevant planning policies or documents.

3.2   POST-DEVELOPMENT (PROPOSED)

To calculate the post-development BU value, the area extents for each habitat type were measured based on the proposed layout and habitats have been given in the '1933-DBC-S2-00-DR-A-0301 P05 Proposed Plan - Generators Serving Substations 2 & 3[10] drawing provided by Design Buro using Quantum Geographical Information System (QGIS) software.

Habitat types were inferred from the document referenced above in September 2025 Justification of habitats, as well as condition of habitats is provided in Section 4.0.

Targeted condition scores were assigned by Greengage, using the SBM habitat condition criteria, whilst considering the likely future use of each area and what was considered feasible to reach.

In accordance with the BNG trading rules, changes in broader habitat types (for example, 'Woodland' and 'Grassland' habitats) are also tracked, and trading habitats is discouraged unless specifically targeted within a local strategy. Trading down of habitats is not permitted.

The definition of 'significant enhancements', in accordance with government guidance (www.gov.uk) is 'areas of habitat enhancement which contribute significantly to the proposed development's BNG, relative to the biodiversity value before development'.

Retention of existing habitat does not count as an on-site enhancement.

What counts as a significant enhancement will vary depending on the scale of development and existing habitat, but these would normally be:

- habitats of medium or higher distinctiveness in the SBM;

- habitats of low distinctiveness which create a large number of BU relative to the biodiversity value of the site before development;

- habitat creation or enhancement where distinctiveness is increased relative to the distinctiveness of the habitat before development;

- areas of habitat creation or enhancement which are significant in area relative to the size of the development;

- enhancements to habitat condition, for example from poor or moderate to good.

3.3   COMPETENCIES

In accordance with 'British Standard: 8683 (BS:8683) Process for designing and implementing biodiversity net gain – Specification', this BNGA and all associated condition assessments have been completed by competent, suitability trained and qualified ecologists.

Yasmine Airton, who wrote the report, has a degree in Zoology (BSc Hons), an MSc in Biology and is a Qualifying Member of CIEEM with 1 years' experience in ecological surveying. Yasmine assists with various field surveys and related reports such as Preliminary Ecological Appraisals and Ecological Management Plans.

Emer is a consultant with over 4 years' experience in ecological survey and assessment. She holds a BA in Geography and Information Science and an MSc in Environmental Resource Management. Emer's experience spans Preliminary Ecological Appraisal (PEA), Biodiversity Net Gain Assessment (BNGA) and species surveying, with ornithology being a particular interest.

Francesca Thorley has an undergraduate degree in Geography (BSc Hons) and a Master's degree in Biodiversity and Conservation (MSc), holds a Natural England Great Crested Newt Licence, is Certified to undertake River Condition Assessments and is an Associated Member of CIEEM. Francesca has over 6 years' experience in the commercial sector.

Laura Homfray has a BSc (Hons) in International Management and French and MSc in Sustainability and Consultancy. She has over 8 years of experience in her specialist areas of biodiversity net gain, natural capital and ecosystem service assessment. She is a Practitioner member of IEMA.

Paul White, Associate Consultant, has a Bachelor's degree in Marine Biology (BSc Hons), a Natural England Great Crested Newt Licence and Dormouse Licence, and is an Associate member of CIEEM. Paul has over 16 years' experience in ecological surveying and has undertaken and managed numerous ecological surveys and assessments.

The original report was written by Yasmine Airton, reviewed by Francesca Thornley and verified by Laura Homfray. The update was undertaken by Emer Haffernan and reviewed by Paul White, who confirms in writing (see the QA sheet at the front of this report) that the report is in line with the following:

- Represents sound industry practice;

- Reports and recommends correctly, truthfully and objectively;

- Is appropriate given the local site conditions and scope of works proposed; and

- Avoids invalid, biased, and exaggerated statements.

3.4   ASSUMPTIONS

Statutory Biodiversity Metric Calculation Tool

Strategic significance has been determined to be 'Formally identified in local strategy' for both lowland mixed deciduous woodland and traditional orchards. Both habitats are identified as UK BAP priority habitats and are significantly placed within the surrounding landscape to have the potential to provide ecological benefit. Specifically, the placement of the current woodland was likely to be significant as acting as a green corridor between the nearby statutory and non-statutory designations, such as Old Park Wood and Harefield Village Green.

4.0   RESULTS

4.1   PRE-DEVELOPMENT (BASELINE)

Desk Study

Statutory Designated Sites

The desk study had identified a total of five statutory designated sites within 2km of the site; comprising four Sites of Special Scientific Interest (SSSIs) and a National Nature Reserve (NNR). The nearest lies within 0.53km of the site, identified as Old Park Wood. The site also lies within the Impact Risk Zone (IRZ) in two out of four SSSIs within the surrounding area. For best practice, it is acknowledged here that measures to protect these designated sites from impacts by any future development should be undertaken and are fully detailed in the PEA. Full details of the statutory designated sites are shown in the PEA.

Non-statutory Designated Sites

The desk study had identified 21 non-statutory designated sites within 2km of the site; comprising Sites of Importance for Nature Conservation (SINCs). For best practice, it is acknowledged here that measures to protect these designated sites from impacts by any future development should be undertaken and are fully detailed in the PEA.

Ancient Woodland Inventory

The desk study had identified 13 parcels of Ancient Woodland within 2km of the site. The nearest was identified within 0.53km of the site within Old Park Wood.

Statutory Biodiversity Metric Calculation Tool

Using the SBM calculation tool the baseline biodiversity value of the site has been identified to be 0.50 HU.

A breakdown of the baseline calculations for HU is provided in Table 4.1 below:

Table 4.1   Baseline Habitat Units

Broad Habitat	Habitat Type	Area (Hectares)	Distinctiveness	Condition	Habitat Units
On Site					
Woodland and forest	Lowland mixed deciduous woodland	0.0353	High	Moderate	0.47
Grassland	Modified grassland	0.0195	Low	Poor	0.04

Broad Habitat	Habitat Type	Area (Hectares)	Distinctiveness	Condition	Habitat Units
Urban	Developed land; sealed surface	0.0006	Very Low	N/A - Other	0.00
				TOTAL	0.50

The above table has been completed based on the methodologies detailed in Section 3.0 and on application of the below points:

- 'Lowland mixed deciduous woodland' habitat has been assigned a condition score of 'Moderate'. Whilst this woodland has a diversity of age classes, good tree health and several native tree species, it contained invasive plant species, lacked National Vegetation Classification (NVC) plant communities and displayed signs of nutrient enrichment.

- 'Modified grassland' has a condition score of 'Poor' as the habitat parcels failed 4 out of 6 criteria including essential Criterion A which is required to achieve moderate or good condition. The habitat failed Criteria B "Sward height is varied" and Criterion A "There are 6-8 species per m2". The habitat passed Criterion C "Scrub accounts for less than 20% of grassland area", Criterion D "Physical damage is evident in less than 5% of the habitat, Criterion E "Cover of bare ground is between 1% and 10%", Criterion F "Cover of bracken less than 20%" and Criterion G "absence of INNS".

Further details on the condition of the habitats are shown in the condition assessments provided in Appendix C.

4.2   POST-DEVELOPMENT (PROPOSED)

Using the SBM calculation tool, the proposed development is predicted to deliver 0.04HU, as shown in Table 4.2 below.

Table 4.2   Post-Development Habitat Units

Broad Habitat	Habitat Type	Area (Hectares)	Distinctiveness	Condition	Habitat Units
Created					
Urban	Developed land; sealed surface	0.0353	Very Low	N/A - Other	0.00
Retained					
Grassland	Modified Grassland	0.0195	Low	Poor	0.004

Broad Habitat	Habitat Type	Area (Hectares)	Distinctiveness	Condition	Habitat Units
Urban	Developed land; sealed surface	0.0006	Very Low	N/A - Other	0.00
				TOTAL	0.04

The above table has been completed based on the methodologies detailed in Section 3.0 and on application of the below points:

- The SBM calculation reflects area-based habitats only as no linear, or river habitats are proposed within the post-development design.

- 'Developed land; sealed surface' relates to all areas of hardstanding, building and impermeable surfaces within the proposed development design. The habitat has a pre-set condition within the SBM and does not contribute any BU to the calculation.

Broad Habitat	Habitat Type	Area (Hectares)	Distinctiveness	Condition	Habitat Units

5.0 EVALUATION AND DISCUSSION

The application site pre-development baseline is 0.50HU. HeU and WU were not applicable to the baseline or post-development.

To deliver a 10% BNG, the post-development design at the application site should therefore deliver, as a minimum, 0.56HU.

Based on applied assumptions as described above, the application site post-development outline design proposals are predicted to deliver 0.04HU. This is equivalent to a net loss of 92.28%.

The current on-site proposals do not meet trading rules.

In its current form the proposals at the application site alone are not compliant with legislation and current planning policy (Appendix D) therefore off-site compensation will be required to meet a 10% BNG. The next section discusses the off-site compensation and how this will contribute to a 10% BNG.

Table 5.1 below evaluates whether the habitat types that will be present post-development will contribute 'significant enhancements'.

Table 5.1   Significant Enhancements Evaluation

Criteria	Present/Absent	Comments
Habitats of medium or higher distinctiveness in the biodiversity metric (created)	Absent	Habitats of low distinctiveness are created.
Habitats of low distinctiveness which create a large number of biodiversity units relative to the biodiversity value of the site before development	Absent	Proposed 'Developed land; sealed surface' provides no additional BU
Habitat creation or enhancement where distinctiveness is increased relative to the distinctiveness of the habitat before development	Absent	Proposed 'Developed land; sealed surface' provides a Very Low distinctiveness
Areas of habitat creation or enhancement which are significant in area relative to the size of the development	Absent	No habitat creation or enhancement on site.
Enhancements to habitat condition, for example from poor or moderate to good	Absent	No habitat enhancement on site.

The habitats present on site post-development will comprise low and medium distinctiveness habitats with no enhancement on the site. However off-site compensation is predicted to comprise priority habitats of high distinctiveness and significant enhancement. Off-site opportunities are discussed below.

Further qualitative ecological enhancement should ideally also be targeted on site through the provision of invertebrate habitat features (such as pollinator posts or bee bricks), bird boxes (such as for garden birds) and bat boxes, to help protect nationally and locally important species, including those specified in national, regional and local Biodiversity Action Plans.

6.0   OFF-SITE COMPENSATION

It was identified in Section 5.0 that a 10% BNG on-site was not achievable with the post-development proposals. As such off-site compensation will be required to provide a 10% BNG for the proposals. The off-site compensation required to meet 10% BNG is 0.55HU.

This will be provided through purchasing off-site units through a third party (calculated at 0.55 units).

An indicative example of how the latter could be achieved is provided below.

6.1   OFF-SITE BASELINE

Areas of land that could be used for the off-site enhancement are shown in Appendix B below.

Using the SBM calculation tool the baseline biodiversity values of the possible off-site compensation area have been identified to be 1.34HU.

A breakdown of the calculations for HU is provided in Table 6.1 below.

Table 6.1   Baseline Habitat Units

Broad Habitat	Habitat Type	Area (Hectares)	Distinctiveness	Condition	Habitat Units
Grassland	Modified grassland	0.61	Low	Poor	1.34
				TOTAL	1.34

The table above has been completed based on the following condition:

- 'Modified grassland' has a condition score of 'Poor' as the habitat parcels failed 4 out of 6 criteria including essential Criterion A which is required to achieve moderate or good condition. The habitat failed Criteria B "Sward height is varied" and Criterion A "There are 6-8 species per m^2". The habitat passed Criterion C "Scrub accounts for less than 20% of grassland area", Criterion D "Physical damage is evident in less than 5% of the habitat, Criterion E "Cover of bare ground is between 1% and 10%", Criterion F "Cover of bracken less than 20%" and Criterion G "absence of INNS".

6.2   OFF SITE POST-DEVELOPMENT (PROPOSED EXAMPLE)

Using the SBM calculation tool, the example off-site enhancements could deliver 2.06HU, as shown in Table 6.2

Table 6.2   Post-Development Habitat Units

Broad Habitat	Habitat Type	Area (Hectares)	Distinctiveness	Condition	Habitat Units
Grassland	Traditional orchard	0.21	High	Moderate	1.42
Woodland and forest	Lowland mixed deciduous woodland	0.4	High	Poor	0.64
				TOTAL	2.06

The above table has been completed based on the application of the points below:

Lowland mixed deciduous woodland

Whip planting would be required with a species matrix that reflects nearby woodland. This should include pedunculate oak (*Quercus robur*), field maple (*Acer campestre*), cherry (*Prunus avium*), hazel (*Corlyus avellana*) and birch (*Betula pendula, Betula pubescencs*). An NVC woodland mix should be sown once woodland is established. The created woodland should be managed sensitively for wildlife.

Traditional orchard

Whip planting would be required with a species matrix of specific fruit and nut trees, planted at low densities within the area of permanent grassland. This would include apple (*Malus x domestica*), pear (*Pyrus communis*) and cherry plum (*Prunus cerasifera*). The grassland would need specific management to ensure it is in line with the suitable conditions of the orchard.

Whip planting would be required with a species matrix of apple (*Malus x domestica*), pear (*Pyrus communis*) and cherry plum (*Prunus cerasifera*), planted at low densities within permanent grassland. The orchard will be managed to meet moderate condition criteria, including appropriate tree spacing, retention of dead wood, and management of the grassland through cutting or grazing to maintain species diversity. Non-native invasive species will be controlled to ensure they remain below threshold levels.

As the above would constitute significant enhancements, A Habitat Management and Monitoring Plan (HMMP) would be required to detail the procedure of creating the off-site habitat as well as its long-term management over 30 years (minimum). The HMMP will be required for submission to the LPA. The development will require registration with the National England Biodiversity Gain Site register.

6.3   COMBINED RESULTS

Should the example off-site compensation be delivered within the land ownership, the application site should reach a 10% BNG and satisfy trading rules. The combined results for the on-site and off-site post-development are as follows:

The pre-development baseline value would be 1.84HU. HeU and WU are not applicable to the site.

The post-development design proposal would be predicted to deliver 2.06HU. This is a net gain of 0.25 HU, equivalent to 49.71%.

The development would meet trading rules.

7.0   SUMMARY AND CONCLUSIONS

In accordance with the Environment Act 2021, the National Planning Policy Framework (Appendix D), developments (with a few exemptions) have to deliver at least a 10% net gain in biodiversity, which should be evidenced through a complete BNGA using the SBM.

This BNGA has been completed to identify the pre-development (baseline) biodiversity value of the site and compare against the predicted post-development biodiversity value.

The application site pre-development baseline is 0.50HU. No HeU or WU were applicable within the baseline habitat.

Based on landscape design proposals, the application site post-development outline design proposals are predicted to deliver a net loss of 0.47HU (equivalent to -92.28% for HU). No HeU or WU are included in the design proposals.

Therefore, off-site compensation is required to meet the 10% BNG proposed. Off-site compensation will be delivered through purchasing units from a third party (calculated at 0.55 units).

An illustrative off-site compensatory plan shows that there could be a net change of 0.25HU, which would contribute to a net gain of 49.71%. The BNG trading rules would also be met.

The example would deliver a significant BNG due to incorporation of high distinctiveness habitats. Therefore, a Habitat Management and Monitoring Plan (HMMP) for the habitat creation and long term management over 30 years (minimum) would be required for submission to the LPA. When these recommendations are adhered to, the proposals stand to be compliant with legislation and current planning policy.

Upon receiving planning permission, the submission of a Biodiversity Gain Plan (BGP) to the LPA will be required. This BGP must include details of the proposed off-site BNG compensation (either within the land ownership or purchased via a third party), including the Biodiversity Gain Site Register Reference.

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APPENDIX A ON AND OFF-SITE PRE-DEVELOPMENT HABITAT MAPS

HARTFIELD HOSPITAL

Key

- ▢ Red Line Boundary
- ▥ Developed land; sealed surface
- ▤ Lowland mixed deciduous woodland
- ▮ Modified grassland

1:5,000

Title: Baseline Habitat

Drawn by: EH
Date: 25/09/2025

Reviewed by: PW
Date: 25/09/2025

Project number: 552886
Sources: Google Satellite Imagery

Greengage

1:350

0   10   20 m

HAREFIELD HOSPITAL

Key

🟥 Off-site boundary

Habitat

🟩 Modified grassland

Title: Off-site Baseline Habitat

Drawn by: Yasmine Airton
Date: 22/10/2024

Reviewed by: Francesca Thorley
Date: 24/10/2024

Project number: 552886
Sources: ESRI World Topo

1:1,600

0   20   40   60   80 m

Greengage

Greengage

APPENDIX B ON AND OFF-SITE POST-DEVELOPMENT HABITAT MAPS

HARTFIELD HOSPITAL

Key

- ⬜ Red Line Boundary
- ▥ Developed land; sealed surface
- 🟩 Modified grassland

1:5,000

Title: Post Development Habitat

Drawn by: EH
Date: 25/09/2025

Reviewed by: PW
Date: 25/09/2025

Project number: 552886
Sources: Google Satellite Imagery

Greengage

1:350

0   10   20 m

HAREFIELD HOSPITAL

Key

□ Off-site boundary

Habitats

▨ Lowland mixed deciduous woodland

▨ Traditional orchards

Title: Off-site Post-development

Drawn by: Yasmine Airton
Date: 22/10/24

Reviewed by: Francesca Thorley
Date: 24/10/24

Project number: 552886
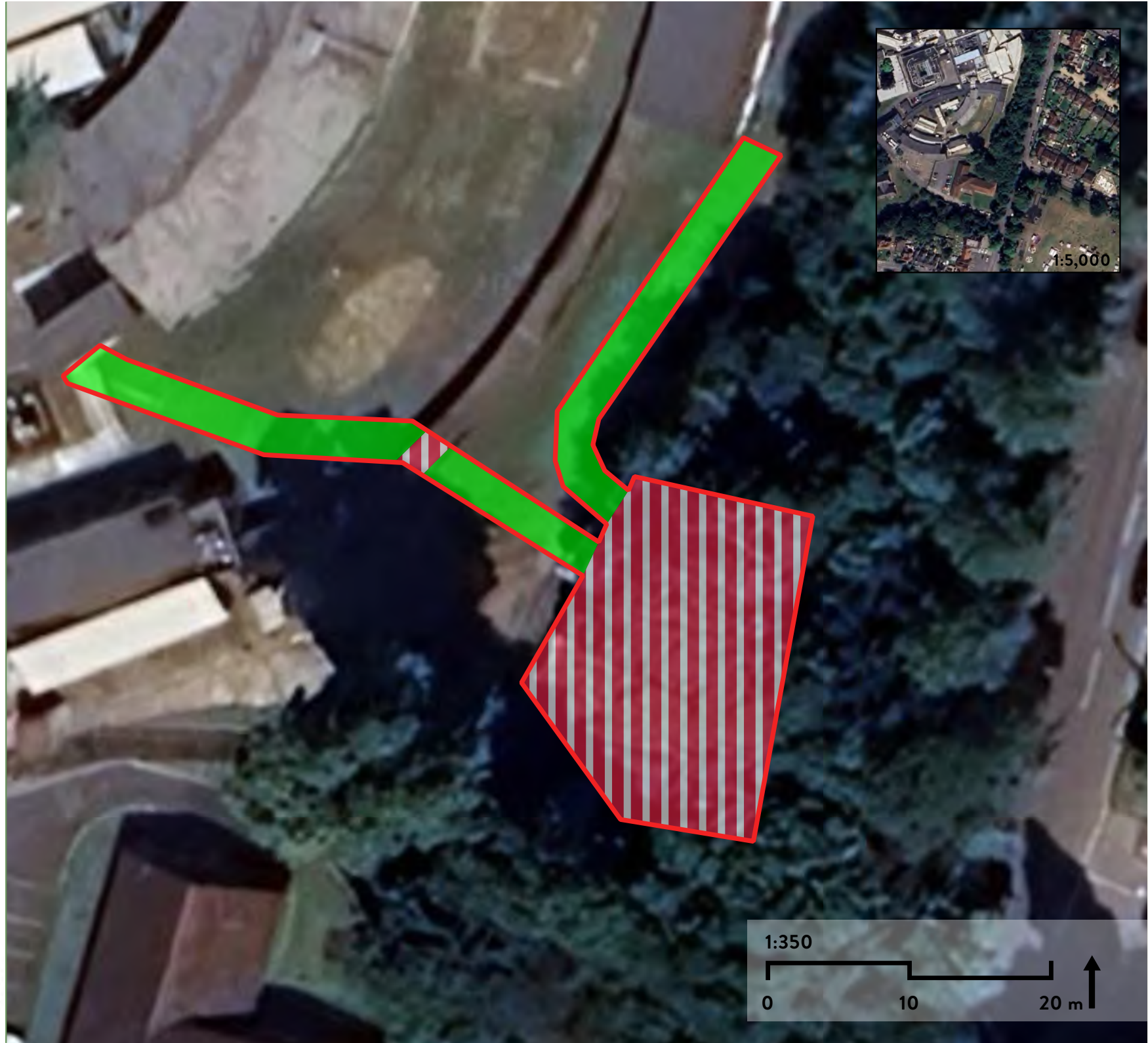Sources: ESRI World Topo

1:1,600

0   20   40   60   80 m

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APPENDIX C CONDITION ASSESSMENTS

The highlighted green text below indicates which condition has been achieved for each habitat.

Condition Assessment Result	Condition Assessment Score
Passes 5 or 6 of 6 criteria	Good (3)
Passes 3 or 4 of 6 criteria	Moderate (2)
Passes 2 or fewer of 6 criteria	Poor (1)

Modified Grassland

Condition Assessment Criteria		Criterion Passes (Yes or No)
A	There are 6-8 vascular plant species per m2 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.	No
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.	No
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble Rubus fruticosus agg. may be present).	Yes
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 (Footnote 2).	Yes
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	Yes
F	Cover of bracken Pteridium aquilinum is less than 20%.	Yes
G	There is an absence of invasive non-native plant species (Footnote 3) (as listed on Schedule 9 of WCA (Footnote 4)).	Yes
Essential criterion achieved (Yes or No)		No
Number of criteria passed		3
Condition Assessment Result	Condition Assessment Score	
Passes 6 or 7 criteria including passing essential criterion A	Good (3)	

Condition Assessment Criteria		Criterion Passes (Yes or No)
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)	
Footnotes		
Footnote 1 - Creeping thistle Cirsium arvense, spear thistle Cirsium vulgare, curled dock Rumex crispus, broad-leaved dock Rumex obtusifolius, common nettle Urtica dioica, creeping buttercup Ranunculus repens, greater plantain Plantago major, white clover Trifolium repens and cow parsley Anthriscus sylvestris. Footnote 2 - For example, this could include small, scattered areas of bare ground allowing establishment of new species, or localised patches where not exceeding 10% cover. Footnote 3 - Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels, accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement. Footnote 4 - Wildlife and Countryside Act 1981 (as amended).		

Lowland mixed deciduous woodland

Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	Score
Age distribution of trees	Three age-classes present.	Two age-classes present.	One age-class present.	3
Wild, domestic and feral herbivore damage	No significant browsing damage evident in woodland	Evidence of significant browsing pressure is present in less than 40% of whole woodland.	Evidence of significant browsing pressure is present in 40% or more of whole woodland.	2

Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	Score
Invasive plant species	No invasive species present in woodland.	Rhododendron *Rhododendron ponticum* or cherry laurel *Prunus laurocerasus* not present, and other invasive species <10% cover.	Rhododendron or cherry laurel present, or other invasive species ≥10% cover.	1
Number of native tree species	Five or more native tree or shrub species found across woodland parcel.	Three to four native tree or shrub species found across woodland parcel.	Two or less native tree or shrub species across woodland parcel.	2
Cover of native tree and shrub species	>80% of canopy trees and >80% of understory shrubs are native.	50 - 80% of canopy trees and 50 - 80% of understory shrubs are native.	<50% of canopy trees and <50% of understory shrubs are native.	3
Open space within woodland	10 - 20% of woodland has areas of temporary open space6. Unless woodland is <10ha, in which case 0 - 20% temporary open space is permitted.	21 - 40% of woodland has areas of temporary open space.	<10% or >40% of woodland has areas of temporary open space6. But if woodland <10ha has <10% temporary open space, please see Good category.	3
Woodland regeneration	All three classes present in woodland8; trees 4 - 7 cm Diameter at Breast Height (DBH), saplings and seedlings or advanced coppice regrowth.	One or two classes only present in woodland.	No classes or coppice regrowth present in woodland.	2
Tree health	Tree mortality 10% or less, no pests or diseases and no crown dieback.	11% to 25% tree mortality and or crown dieback or low-risk pest or disease present.	Greater than 25% tree mortality and or any high-risk pest or disease present.	3

Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	Score
Vegetation and ground flora	Recognisable NVC plant community at ground layer present, strongly characterised by ancient woodland flora specialists.	Recognisable woodland NVC plant community at ground layer present.	No recognisable woodland NVC plant community at ground layer present.	1
Woodland vertical structure	Three or more storeys across all survey plots, or a complex woodland.	Two storeys across all survey plots.	One or less storey across all survey plots.	2
Veteran trees	Two or more veteran trees per hectare.	One veteran tree per hectare.	No veteran trees present in woodland.	2
Amount of deadwood	50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, branch stubs and stumps, or an abundance of small cavities.	Between 25% and 50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities.	Less than 25% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities.	2
Woodland disturbance	No nutrient enrichment or damaged ground evident.	Less than 1 hectare in total of nutrient enrichment across woodland area, and or less than 20% of woodland area has damaged ground.	1 hectare or more of nutrient enrichment, and or 20% or more of woodland area has damaged ground.	1

Condition Assessment Result	Condition Assessment Score
Total score >32 (33 to 39)	Good (3)
Total score 26 to 32	Moderate (2)

Condition Assessment Result	Condition Assessment Score
Total score <26 (13 to 25)	Poor (1)

Urban - Developed Land; Sealed Surface

No assessment is required for this habitat as the condition is fixed within the SBM as N/A.

Grassland - Traditional Orchard

Condition Assessment Criteria		Criterion Passes (Yes or No)
A	Presence of ancient[1] and or veteran[1] trees. Note - this criterion is essential for achieving Good condition.	No
B	Presence of deadwood in or on trees, or on the ground: at least 20% of mature trees have deadwood associated with them. Some examples of deadwood are: standing, attached and fallen trees or limbs; dead stems; branches and branch stubs greater than 10 cm diameter; and internal cavities. The types and distribution of deadwood provide a range of habitats suitable to support a wide assemblage of saproxylic invertebrates. Note - this criterion is essential for achieving Good condition.	No
C	Less than 5% of fruit trees are smothered by scrub. Small patches of dense scrub and or scattered scrub growing between trees can be beneficial to biodiversity, however these occupy less than 10% of ground cover.	Yes
D	There is evidence of formative and or restorative pruning to maintain longevity of trees.	Yes
E	At least 95% of the trees are free from damage caused by humans or animals, for example browsing, bark stripping or rubbing on non-adjusted ties.	Yes
F	Grassland is not overgrazed, poaching is not evident around the trees, with no more than 10% of trees poached under the canopy.	Yes
G	Species richness of the grassland is equivalent to a medium, high, or very high distinctiveness grassland.	Yes

Condition Assessment Criteria		Criterion Passes (Yes or No)
H	There is an absence of invasive non-native plant species2 (as listed on Schedule 9 of WCA3) and species indicative of suboptimal condition4 make up less than 10% of ground cover.	Yes
Essential criterion achieved (Yes or No)		
Number of criteria passed		
Condition Assessment Result	Condition Assessment Score	
Passes 6- 8 criteria, including essential criteria A and B.	Good (3)	
"Passes 4 or 5 criteria; OR Passes 6 or 7 criteria but fails an essential criterion.	Moderate (2)	
Passes 3 or fewer criteria;	Poor (1)	
Footnotes		

Footnote 1 - See gov.uk standing advice on ancient and veteran trees. Available from:

Keepers of time: ancient and native woodland and trees policy in England (publishing.service.gov.uk)

and:

Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK (www.gov.uk)

"Footnote 2 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.

Footnote 3 – Wildlife and Countryside Act 1981 (as amended).

Footnote 4 - Species indicative of suboptimal condition for this habitat type include: creeping thistle Cirsium arvense, spear thistle Cirsium vulgare, curled dock Rumex crispus, broad-leaved dock Rumex obtusifolius and common nettle Urtica dioica. There may be additional relevant species local to the region and or site."

APPENDIX D RELEVANT LEGISLATION AND POLICY

D.1   LEGISLATION

The BNGA has been compiled with reference to the following relevant nature conservation legislation, planning policy and the UK Biodiversity Framework from which the protection of sites, habitats and species is derived in England including:

- UK Government's 25 Year Environment Plan (Defra, 2018);

- Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services (Defra, 2011);

- National Planning Policy Framework (NPPF) (MHCLG, 2023);

- The Natural Environment and Rural Communities (NERC) Act (HMSO, 2006); and

- The Environment Act (Defra, 2021).

The Environment Act, 2021

Under the Environment Act, 2021, as of 12th February 2024 and 2nd April 2024, it is mandatory in England for new developments (with a small number of exceptions) to deliver a minimum 10% biodiversity net gain (BNG), as measured by the Statutory Biodiversity Metric or Small Sites Metric (SSM) respectively, secured through planning condition as standard (as per schedule 14 of the Act). Approach to the delivery of BNG must follow the mitigation hierarchy, with avoidance of impact and on-site compensation/gains prioritised, ahead of the use of off-site compensation, or the purchase of statutory credits.

The Act introduces the condition that no development may begin unless a Biodiversity Gain Plan (BGP) has been submitted and approved by the LPA.

The Act also amends requirements of the NERC Act, 2006, adding the need to not just conserve, but enhance biodiversity through planning projects. Furthermore, it introduces the need for the LPA to have regard to relevant local nature recovery strategies and relevant species/protected site conservation strategies, when making their decision.

Under the Act, the enhancements must be maintained for at least 30 years.

D.2   PLANNING POLICY

National

National Planning Policy Framework

The National Planning Policy Framework (NPPF) 2023[11] sets out the Government's planning policies for England, including how plans and decisions are expected to apply a presumption in favour of sustainable development. Chapter 15 of the NPPF focuses on conservation and enhancement of the natural environment, stating plans should 'identify and pursue opportunities for securing measurable net gains for biodiversity'.

It goes on to state: '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'. Alongside this, it acknowledges that planning should be refused where irreplaceable habitats such as ancient woodland are lost.

Regional

The London Plan[12]

Policy G1 Green infrastructure

1. London's network of green and open spaces, and green features in the built environment such as green roofs and street trees, should be protected, planned, designed and managed as integrated features of green infrastructure.

2. Boroughs should prepare green infrastructure strategies that integrate objectives relating to open space provision, biodiversity conservation, flood management, health and wellbeing, sport and recreation.

3. Development Plans and Opportunity Area Planning Frameworks should:

    1. identify key green infrastructure assets, their function and their potential function

    2. identify opportunities for addressing environmental and social challenges through strategic green infrastructure interventions.

4. Development proposals should incorporate appropriate elements of green infrastructure that are integrated into London's wider green infrastructure network.

Policy G5 Urban greening

1. Major development proposals should contribute to the greening of London by including urban greening as a fundamental element of site and building design, and by incorporating measures such as high-quality landscaping (including trees), green roofs, green walls and nature-based sustainable drainage.

2. Boroughs should develop an Urban Greening Factor (UGF) to identify the appropriate amount of urban greening required in new developments. The UGF should be based on the factors set out in Table 8.2, but tailored to local circumstances. In the interim, the Mayor recommends a target score of 0.4 for developments that are predominately residential, and a target score of 0.3 for predominately commercial development. (excluding B2 and B8 uses).

3. Existing green cover retained on site should count towards developments meeting the interim target scores set out in (B) based on the factors set out in Table 8.2.

Policy G6 Biodiversity and access to nature

1. Sites of Importance for Nature Conservation (SINCs) should be protected.

2. Boroughs, in developing Development Plans, should:

a.   use up-to-date information about the natural environment and the relevant procedures to identify SINCs and ecological corridors to identify coherent ecological networks

b.   identify areas of deficiency in access to nature (i.e. areas that are more than 1km walking distance from an accessible Metropolitan or Borough SINC) and seek opportunities to address them

c.   support the protection and conservation of priority species and habitats that sit outside the SINC network, and promote opportunities for enhancing them using Biodiversity Action Plans

d.   seek opportunities to create other habitats, or features such as artificial nest sites, that are of particular relevance and benefit in an urban context

e.   ensure designated sites of European or national nature conservation importance are clearly identified and impacts assessed in accordance with legislative requirements.

3.   Where harm to a SINC is unavoidable, and where the benefits of the development proposal clearly outweigh the impacts on biodiversity, the following mitigation hierarchy should be applied to minimise development impacts:

a.   avoid damaging the significant ecological features of the site

b.   minimise the overall spatial impact and mitigate it by improving the quality or management of the rest of the site

c.   deliver off-site compensation of better biodiversity value.

4.   Development proposals should manage impacts on biodiversity and aim to secure net biodiversity gain. This should be informed by the best available ecological information and addressed from the start of the development process.

5.   Proposals which reduce deficiencies in access to nature should be considered positively.

Policy G7 Trees and woodlands

1.   London's urban forest and woodlands should be protected and maintained, and new trees and woodlands should be planted in appropriate locations in order to increase the extent of London's urban forest – the area of London under the canopy of trees.

2.   In their Development Plans, boroughs should:

a.   Protect 'veteran' trees and ancient woodland where these are not already part of a protected site

b.   Identify opportunities for tree planting in strategic locations

3.   Development proposals should ensure that, wherever possible, existing trees of quality are retained [Category A and B]. If planning permission is granted that necessitates the removal of trees, there should be adequate replacement based on the existing value of the benefits of the trees removed, determined by, for example, i-tree or CAVAT or another appropriate valuation system. The planting of additional trees should generally be included in new developments – particularly large-

canopied species which provide a wider range of benefits because of the larger surface area of their canopy.

London Environment Strategy 2018[13]

The Mayor's Environment Strategy was published in May 2018. This document sets out the strategic vision for the environment throughout London. Although not primarily a planning guidance document, it does set strategic objectives, policies and proposals that are of relevance to the delivery of new development in a planning context, including:

Objective 5.1 Make more than half of London green by 2050

Policy 5.1.1 Protect, enhance and increase green areas in the city, to provide green infrastructure services and benefits that London needs now.

This policy states:

"New development proposals should avoid reducing the overall amount of green cover and, where possible, seek to enhance the wider green infrastructure network to increase the benefits this provides. [...] New developments should aim to avoid fragmentation of existing green space, reduce storm water run-off rates by using sustainable drainage, and include new tree planting, wildlife-friendly landscaping, or features such as green roofs to mitigate any unavoidable loss".

This supports the 'environmental net gain' approach promoted by government in the 25 Year Environment Plan.

Proposal 5.1.1.d The London Plan includes policies to green streets and buildings, including increasing the extent of green roofs, green walls and sustainable drainage.

Objective 5.2 conserving and enhancement wildlife and natural habitats

Policy 5.2.1 Protect a core network of nature conservation sites and ensure a net gain in biodiversity

This policy requires new development to include new wildlife habitat, nesting and roosting sites, and ecologically appropriate landscaping will provide more resources for wildlife and help to strengthen ecological corridors. It states:

"Opportunities should be sought to create or restore priority habitats (previously known as UK Biodiversity Action Plan habitats) that have been identified as conservation priorities in London [and] all land managers and landowners should take BAP priority species into account".

Local

Hillingdon local Plan 2012-2026[14]

Policy EM7: Biodiversity and Geological Conservation

The Council will review all the Borough grade Sites of Importance for Nature Conservation (SINCs). Deletions, amendments and new designations will be made where appropriate within the Hillingdon

Local Plan: Part2-Site Specific Allocations Local Development Document. These designations will be based on previous recommendations made in discussions with the Greater London Authority.

Hillingdon's biodiversity and geological conservation will be preserved and enhanced with particular attention given to

1. The conservation and enhancement of the natural state of:

- Harefield Gravel Pits

- Colne Valley Regional Park

- Fray's Farm Meadows

- Harefield Pit

2. The protection and enhancement of all Sites of Importance for Nature Conservation. Sites with Metropolitan and Borough Grade 1 importance will be protected from any adverse impacts and loss. Borough Grade 2 and Sites of Local Importance will be protected from loss with harmful impacts mitigated through appropriate compensation.

3. The protection and enhancement of populations of protected species as well as priority species and habitats identified within the UK, London and the Hillingdon Biodiversity Action Plans.

4. Appropriate contributions from developers to help enhance Sites of Importance for Nature Conservation in close proximity to development and to deliver/assist in the delivery of actions within the Biodiversity Action Plan.

5. The provision of biodiversity improvements from all development, where feasible.

6. The provision of green roofs and living walls which contribute to biodiversity and help tackle climate change.

7. The use of sustainable drainage systems that promote ecological connectivity and natural habitats.

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