Trout Road, West Drayton

Ecological Appraisal (including Biodiversity Net Gain)

Prepared for:

Cavendish and Gloucester

Date:

October 2025

CONTENTS

APPENDICES

INTRODUCTION

1.1 Cavendish and Gloucester (hereinafter referred to as the 'Applicant') is seeking detailed planning permission for the proposed redevelopment of an area of land bounded by the Trout Road to the north, the Grand Union Canal to the west, St. Stephen's Road to the south and West Drayton High Street and associated retail properties to the east. The Site covers a total area of 2.3 hectares (ha) and falls within the administrative boundary of the London Borough of Hillingdon (LBH).

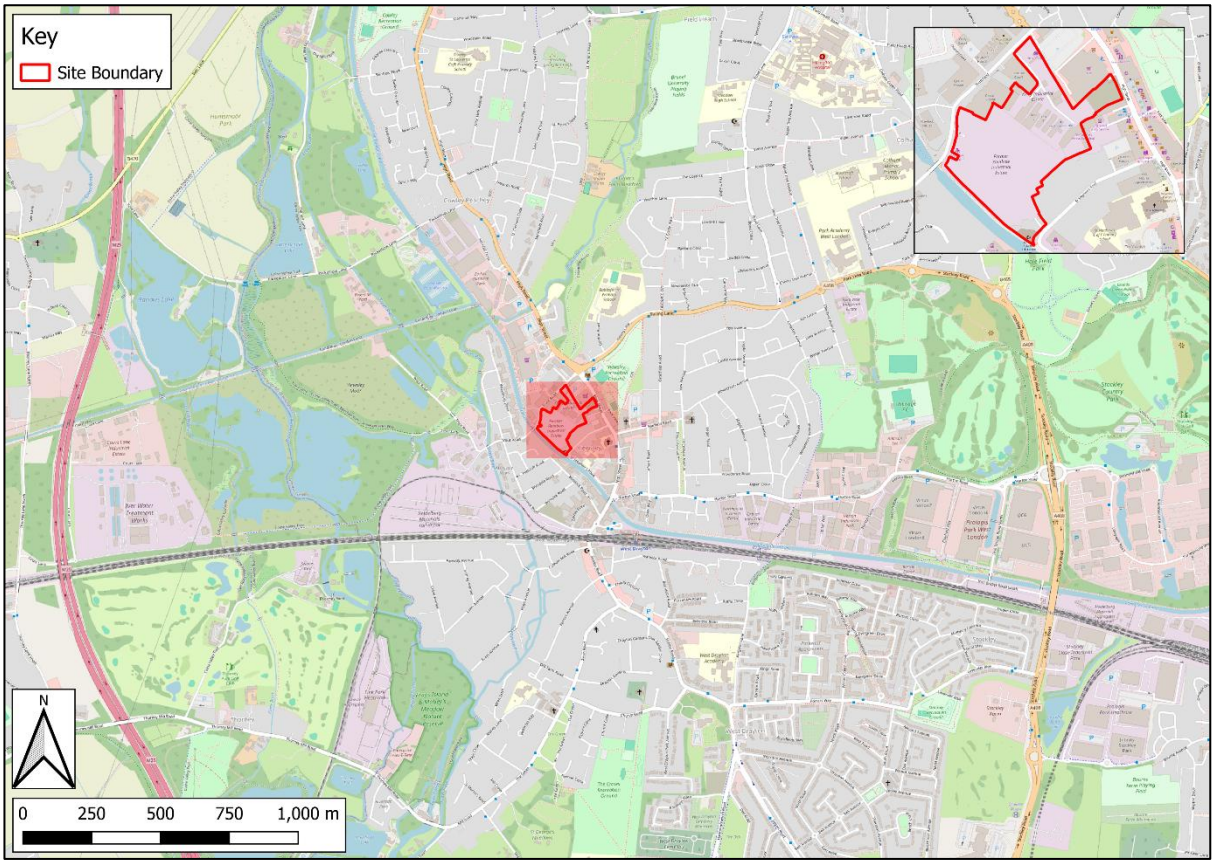
1.2 Currently on site comprises a mix of uses, comprising industrial workshops on the Kirby Estate that are currently vacant or in use for vehicle repair, respray and sales, vehicle repair at 20A St Stephen Road, residential properties at 10 and 22 St Stephens Road, the Al Falah Masjid Islamic Community Centre, vacant land and the main area of the Site is split into a series of compounds comprising a construction compound, concrete mixing, timber and roofing merchant and waste processing.

1.3 The scheme proposals (hereafter referred to as the Proposed Development) will provide for a masterplan consisting of multiple buildings, some interconnected, which vary from 2 storeys to 11 storeys (the 'Proposed Development'). The Proposed Development will provide:

- Approximately 400 new homes (a mix of 1, 2 and 3 bed homes) of which 35% will be affordable;
- 1,350m^2 of light industrial floor space;
- 375m^2 of commercial space; and
- New and improved public realm through the introduction of new gardens, a green walk and the canal walk.

1.4 Figure 1.1 identifies the redline planning application boundary and Site location.

Figure 1.1 **Site Location** (contains map data from OpenStreetMap)



Purpose

1.5 This Ecological Appraisal seeks to establish the effects of the Proposed Development upon valued biodiversity receptors, identify appropriate mitigation measures to ensure the protection of valued and legally protected features and establish enhancement opportunities within the design and through recommendations that deliver an enhancement for biodiversity. The report also provides the reporting requirements for biodiversity net gain at the planning application stage, setting out the baseline value and outlining the proposed strategy for delivering a policy and legally compliant net gain.

1.6 Initial versions of the Ecological Appraisal will serve to communicate the ecological constraints and opportunities to the design team for consideration in the development of proposals, and will be updated through the evolution of the design to reflect changes in the proposals and accompany the planning application for the development.

Scope

1.7 The Ecological Appraisal seeks to achieve its purpose through the following Scope of Works:

- Identify the presence of biodiversity features, including designated sites, notable habitats and legally protected and/or ecologically significant species, through a desk study of reliable web-based resources and data purchased from the local biodiversity centre;
- Map the habitats present within the Site and immediately adjacent environs, following the UK Habitat Classification methodology, to establish the baseline environment, consider their importance and assess the potential supporting value for legally protected and/or ecologically significant species;
- Identify the requirement for and scope of further targeted surveys required to accompany a planning application;
- Appraise the effects of the proposed development upon valued biodiversity resources and identify mitigation measures required to negate or minimise adverse effects;
- Outline measures proposed to enhance the biodiversity value of the Proposed Development and strategy for compliance with the mandatory and policy requirements for biodiversity net gain.

Declaration of Conformity

1.8 The ecological appraisal has been led and carried out by Tom Hall MEnvSci CEnv MCIEEM, who holds over 19 years' professional consultancy experience. Tom holds an undergraduate master's degree in Environmental Science, full membership of the Chartered Institute of Ecology and Environmental Management (CIEEM) and Chartered Environmentalist status.

1.9 I can confirm that the information and assessment provided in this Ecological Appraisal is an accurate and realistic assessment of site conditions and potential supporting value, and has been prepared and provided in accordance with the CIEEM's Code of Professional Conduct. Consideration has been given to best practice guidance in the completion of the appraisal, including British Standard 42020 and appropriate assessment guidance.

Tom Hall MEnvSci CEnv MCIEEM.

Period of Validity

1.10 In line with CIEEM guidelines[1], the reporting is considered to be valid for a period of 24 months from the completion of the survey on 6th November 2024, although the licence associated with the desk study data identifies a period of 12 months for use of the associated data. Following on from this, any reliance on the information may need to be subject to an update, including survey to assess the findings and data search to consider any new species information available.

LEGISLATIVE AND POLICY CONTEXT

Legislation

1.11 Legislative protection for biodiversity, afforded to a range of sites, habitats and species, is principally derived from the following statute and regulations:

- Schedule 7A of the Town and Country Planning Act 1990 (as amended)[2];
- Conservation of Habitats and Species Regulations 2017 (as amended)[3];
- Wildlife and Countryside Act 1981 (as amended)[4];
- Countryside and Rights of Way (CRoW) Act 2000[5]; and,
- Natural Environment and Rural Communities (NERC) Act 2006[6].

1.12 Further details on the legislative protection afforded by these is provided in Appendix A, with the level of protection afforded to designated sites, habitats and/or species varying according to the sensitivity, rarity and scale at which they are considered valuable.

Planning Policy

1.13 National and local government provides guidance on the standards and expectations for development through adopted planning policy, with national policy and guidance typically cascading down to inform the shape of local planning policy. Planning policy will generally cover a wide variety of topics, including economic, social and environmental aspects, against which the merits of a development proposal can be considered. As a result, there are a number of planning policy documents that are relevant to the development proposal, which are identified below with key aspects of these in relation to biodiversity summarised in Appendix A:

- National Planning Policy Framework (NPPF) [7];
- Planning Practice Guidance[8];

1 *CIEEM (2019) Advice Note: On the lifespan of ecological reports and surveys. Chartered Institute of Ecology and Environmental Management, Winchester.*
2 *The Town and Country Planning Act 1990 (as amended). His Majesty's Stationary Office (HMSO).*
3 *The Conservation of Habitats and Species Regulations 2017 (as amended). His Majesty's Stationary Office (HMSO).*
4 *The Wildlife and Countryside Act 1981 (as amended). His Majesty's Stationary Office (HMSO).*
5 *The Countryside and Rights of Way (CRoW) Act 2000. His Majesty's Stationary Office (HMSO).*
6 *The Natural Environment and Rural Communities (NERC) Act 2006. His Majesty's Stationary Office (HMSO).*
7 *Ministry of Housing, Communities and Local Government (2024) National Planning Policy Framework. December 2024.*
8 *Ministry of Housing, Communities and Local Government (2016) Planning Practice Guidance. Last updated February 2024.*

- London Plan[9];
- London Borough of Hillingdon Local Plan, Part 1 – Strategic Policies[10]; and,
- London Borough of Hillingdon Local Plan, Part 2 – Development Management Policies[11].

Ecological Initiatives

1.14 There are a number of ecological initiatives potentially relevant to the Site and surrounding area, these are discussed in full in Appendix A and comprise:

- UK Biodiversity Framework and Environmental Improvement Plan 2023[12];
- London Biodiversity Action Plan[13];
- All London Green Grid Strategy, Green Grid Area 10[14]; and,
- London's Living Landscape Initiative[15].

METHODOLOGY

British Standard 42020: Biodiversity – Code of Practice for Planning and Development

1.15 British Standard (BS) 42020[16] on biodiversity provides an industry standard for biodiversity assessment, reporting and decision making, ensuring high-quality ecological information is available to enable effective decision-making, legal and policy compliance, successful implementation of mitigation and enhancement measures and the achievement of desired outcomes. To achieve this, BS 42020 sets out a framework that seeks to: promote transparency and consistency in the quality and appropriateness of information; provide greater confidence to planning authorities and other regulatory bodies in the information they receive with which to make decisions; and, encourage proportionality in requirements and promote a good environmental legacy through development.

1.16 Key aspects in the delivery of biodiversity consultancy include the following:

- collaborative approach between ecologists and landscape architects as part of an interdisciplinary team;
- proportionality, ensuring provision of adequate information appropriate to the environmental risk of the development and its location;
- objective professional judgement, clearly justified through documented reasoning;
- application of the mitigation hierarchy as a fundamental approach to decision making.

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9 *Greater London Authority (2021) The London Plan. The Spatial Development Strategy for Greater London, March 2021.*
10 *London Borough of Hillingdon (2012) Hillingdon Local Plan: Part 1 – Strategic Policies. Adopted November 2012.*
11 *London Borough of Hillingdon (2020) Hillingdon Local Plan: Part 2 – Development Management Policies. Adopted January 2020.*
12 *Department for Environment, Food and Rural Affairs (2023) Environmental Improvement Plan 2023. First Revision of the 25 Year Environment Plan.*
13 *London Biodiversity Partnership (2007) London Biodiversity Action Plan. Access through www.gigl.org.uk*
14 *Greater London Authority (2012) Green Infrastructure and Open Environments: The All London Green Grid. March 2012. Greater London Authority, London*
15 *London Wildlife Trust (2014) London's Living Landscapes. A recovery plan for nature. London Wildlife Trust, London*
16 *British Standards Institute (2013) British Standard 42020: Biodiversity – Code of Practice for Planning and Development. BSI, London.*

Zone of Influence

1.17 The Zone of Influence is defined by CIEEM guidance as '*the area over which ecological features may be affected by biophysical changes as a result of the proposed project and associated activities*'. As a result, the Zone of Influence will vary between projects and biodiversity features, and in most circumstances will extend beyond the Site boundary.

1.18 In order to capture potentially relevant biodiversity features within the assessment, an appropriate geographical scale has been set across which the desk study and field survey will be completed, comprising the study area and survey area respectively.

1.19 The study area comprises the area over which the presence of biodiversity information is gathered to identify potential constraints to and opportunities for the development and establish an ecological context for the Site. As some designated sites, and their associated qualifying features, potentially hold greater sensitivity to impacts from development, the study area is considered across a varying geographic scale. All biodiversity features across a 1km radius from the Site are identified through the desk study, extending to 5 km for nationally designated sites and 10km for internationally designated sites.

1.20 The survey area comprises the Site, identified by the red line boundary for planning, along with accessible land adjacent to the Site where applicable. This area is subject to a walkover survey to map habitats present and identify the presence of biodiversity features potentially impacted by the development proposals.

Desk Study

1.21 The ecological context of the application site, based on the presence of ecological designations and local biodiversity records, has been established through an online search of information sources and geospatial data and a data request to the local biological records centre – Greenspace Information for Greater London (GiGL).

1.22 Information requested from the local biological records centre included statutory and non-statutory designated sites, notable habitats and legally protected and ecologically significant species. This has been supplemented by interrogation of the following publicly available data sources:

- Aerial imagery from Google Earth;
- Designated site and notable habitat geospatial information, published by Natural England;
- Biodiversity Hotspots for Planning geospatial information, published by GiGL; and,
- London Tree Map geospatial information, published by the Greater London Authority.

1.23 Due to the mobile nature of species, presence and distribution information will vary over time, and as a result information obtained through the desk study for species has been restricted to records from 2004 and onwards to ensure records are up-to-date and remain relevant. Any species without a record in the last 20 years are unlikely to remain present within the study area.

Field Survey

Habitat Survey

1.24 Habitats present within the survey area, comprising the Site and immediately adjacent habitats, have been classified and mapped following the UK Habitat Classification methodology[17], a new comprehensive habitat classification system that was developed to provide greater consistency between applications and, through the combination of primary habitats and secondary codes enable clearer identification of habitat mosaics, management, origins and other environmental and species features associated with primary habitat types.

1.25 The methodology is suited to application through both remote-sensing observation and walkover survey mapping, or a combination of both, and is well suited to urban environments as the secondary codes allow for green infrastructure features to be identified and reflect their contribution to biodiversity potential.

1.26 The UK Habitat Classification system is hierarchical with the professional edition applied for the assessment requiring habitats to be identified to Level 4 where possible. Considering the scale of the development proposals and urban context of the Site, where habitats are often present at limited extent and in contrast to often dominant artificial surfaces, the fine-scale Minimum Mapping Unit (MMU) has been applied, comprising habitats > 25m^2 and 5m length for linear features.

1.27 An initial appraisal of the Site, using existing site drawings, aerial photography and site images, has been undertaken to establish the habitats present on the Site in as much detail as possible. As the Site is principally urban in nature, many of the habitats are relatively common and principally fall within the u- urban and u1-built-up areas and gardens categories. Whilst some habitats can only be identified at a high level following this approach and require a walkover survey to accurately identify to Level 4, within the urban categories the distinction between Level 4 habitats, and for developed land Level 5 habitats, is straightforward and achievable.

1.28 The initial remote sensing appraisal has been followed up with a walkover survey to ensure the accuracy of the mapping, identify all habitats to Level 4, establish floral species lists for the habitats present and assess the potential for the habitats and any notable features present to support legally protected or ecologically significant species. All habitats have also been attributed relevant secondary codes, based on the findings of the walkover survey, to provide additional information on the presence of features and management activities.

1.29 In addition to the habitat mapping, habitat condition assessments for those identified in Defra's Statutory Biodiversity Metric are requiring one have also been carried out in the walkover survey. For each habitat requiring a condition assessment, the criteria identified within the methodology[18] have been considered in turn with appropriate information recorded to confirm the status of each habitat parcel.

1.30 The walkover survey was carried out on 6th November 2024 by Tom Hall MEnvSci CEnv MCIEEM, on a dry yet overcast and mild day. Vegetation present was identified in accordance with Blamey *et al*. (2003)[19].

[17] *UKHab Ltd (2023) UK Habitat Classification Version 2.0 (at https://www.ukhab.org)*
[18] *Department for Environment, Food & Rural Affairs (2024) The Statutory Biodiversity Metric. Technical Annex 1: Condition Assessment Sheets and Methodology.*
[19] *Blamey, M., Fitter, R. and Fitter, A. (2003) Wild flowers of Britain and Ireland. Domino Books Ltd, Jersey.*

Daytime Bat Walkover

1.31 The potential for the Site to support bats has been considered in the ecological appraisal through the completion of a Daytime Bat Walkover in line with the latest best practice guidance[20]. The assessment considers the suitability of the Site to support bats, with structures and features assessed for their potential to support roosting bats and habitats assessed for their potential to provide commuting or foraging habitat. Habitat suitability is considered in line with the descriptions provided in Table 1.1.

Table 1.1 Guidelines for Assessing the Potential Suitability of the Site for Bats

Potential Suitability	Description for Roosting Habitats in Structures	Description for Potential Flight-Paths and Foraging Habitats
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels).	No habitat features on site likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade/protection for flight-lines, or generate/shelter insect populations available to foraging bats).
Negligible	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.	No obvious habitat features on site likely to be used as flight-paths or by foraging bats, however a small element of uncertainty remains in order to account for non-standard bat behaviour.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions 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 gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions 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 is made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for flight-paths such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions 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. Sute is close to and connected to known roosts.

1.32 As trees do not fit into the categorisation above, the BCT Guidance provides the following suitability categories to be applied to them:

- None – either no Potential Roost Features (PRFs) in the tree or highly unlikely to be any;
- FAR – Further Assessment Required to establish if PRFs are present in the tree; and,
- PRF – A tree with at least one PRF present.

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

Preliminary Roost Assessment

1.33 Following the initial walkover survey, including the completion of a Daytime Bat Walkover, a detailed inspection of the exterior and interior of the buildings identified with potential to support bats was undertaken to assess the potential features bat could use for entry/exit and roosting and to search for signs of bats. The PRA was carried out in accordance with best practice guidance[21] by David Kent MSc ACIEEM, a licensed bat surveyor, on 31st January 2025. The full methodology is reported in Appendix B.

Bat Emergence Survey

1.34 Best practice guidance[22] identifies that where the reasonable likelihood of a roost being present has not been ruled out but no definitive evidence of presence has been recorded, a presence/likely absence survey should be carried out.

1.35 The guidelines recommend buildings of low roost suitability are subject to a single dusk emergence survey, completed between May and August, whilst buildings of moderate roost suitability are subject to two surveys between May and September, with at least one survey between May and August and with at least three weeks between surveys. The emergence surveys were carried out by suitably qualified ecologists with full spectrum bat detectors with recording capability, and supplemented by night vision cameras and Infra-red lighting monitoring all potential roost features.

1.36 Surveys were carried out on 23rd May 2025 and 29th June 2025, and were suitably spaced and undertaken during the maternity and transitional periods for bats to maximise the possibility of detecting maternity and transitional roosts. The survey commenced fifteen minutes prior to dusk and concluded 90 to 120 minutes after local sunset, in appropriate weather conditions.

1.37 Video recordings were reviewed using Cyberlink Power Director software, which enables full screen, frame by frame playback and all bat call recordings were reviewed post survey by an experienced ecologist using appropriate software.

1.38 The full methodology and survey findings of the bat emergence survey are included as Appendix B.

Modular River Physical Assessment

1.39 A Modular River Physical (MoRPh) survey was carried out to inform the River Condition Assessment for the watercourse habitat and establish the baseline value for the Biodiversity Net Gain assessment. The assessment was carried out by David Kent MSc ACIEEM, a qualified surveyor in the use of MoRPh Survey for River Condition Assessment to inform the BNG assessment.

1.40 The MoRPh survey was carried out on 25th May, during suitable weather conditions and with no adverse river conditions or high flow conditions, and in line with survey methodology guidance[23,24]. The full survey methodology is provided in Appendix C.

[21] *Collins, J. (ed) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London.*
[22] *Collins, J. (ed) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London.*
[23] *Gurnell, A. M., England, J., Scott, S. J. and Shuker, L. J. (2024) A Guide to Assessing River Condition. Part of the Rivers and Streams Component of the Biodiversity Metric Watercourse Module for calculating Biodiversity Net Gain. January 2024.*
[24] *Gurnell, A. M. and Shuker, L. J. (2022) The MoRPh Survey. Technical Reference Manual, 2022 Version. March, 2022.*

Assessment Methodology

1.41 An important aspect of ecological appraisal is establishing which ecological features are important and warrant consideration, with CIEEM guidance on both Preliminary Ecological Appraisal[25] and Ecological Impact Assessment (EcIA)[26] requiring the establishment of the likely importance of receptors present.

1.42 In determining importance, it is important to distinguish between the *biodiversity value* of a receptor and it's *legal status*. Features of high biodiversity value many not necessarily attract legal protection and vice versa, for example a viable area of ancient woodland is likely to be considered of high biodiversity value even if it does not receive any formal statutory designation affording legislative protection.

1.43 In accordance with CIEEM's EcIA guidance, each biodiversity feature has been assessed as important, or potentially important, within the following geographical frame of reference:

- International – e.g. existing or warranting designation as a Special Protection Area (SPA) and/or of significant conservation status for Europe;
- National – e.g. existing or warranting designation as a Site of Special Scientific Interest (SSSI) and/or of significant conservation status for England;
- Metropolitan – e.g. existing or warranting designation as a Site of Metropolitan Importance for Nature Conservation (SMINC) and/or of significant conservation status for Greater London;
- Borough – e.g. existing or warranting designation as a Site of Borough Importance for Nature Conservation (SBINC) and/or of significant conservation status for the London Borough of Hillingdon;
- Local – e.g. existing or warranting designation as a Site of Local Importance for Nature Conservation (SLINC) and/or of significant conservation status within a local context (e.g. within 1km of the Site);
- Within the immediate survey area only – e.g. habitats or species populations of significant conservation status within the Site and immediate surrounding lands
- Negligible – e.g. habitats or species whose presence does not contribute to the local biodiversity resource or has negative effects on local biodiversity (e.g. invasive species).

Biodiversity Net Gain Assessment

Principles of Biodiversity Net Gain

1.44 The application of the Mitigation Hierarchy is a fundamental element of delivering BNG, ensuring development proposals consider the baseline environment and opportunities to retain habitats where possible and not use the process to justify losses. This requirement is set out in British Standard (BS) 8683[27], which states that development should:

- '*first avoid impacts on biodiversity, by identifying all possible avoidance measures especially to avoid impacts on irreplaceable and vulnerable habitats, statutory and non-statutory designated sites and biodiversity of high conservation value*';

[25] *CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.*
[26] *CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.2. Chartered Institute of Ecology and Environmental Management, Winchester.*
[27] *BSI (2021) British Standard 8683:2021 Process for designing and implementing Biodiversity Net Gain – Specification. British Standards Institute, London.*

- '*then be applied to minimise impacts, before restoring damaged habitats and other ecological features*';
- '*then, as a last resort, offsetting any residual impacts*'.

1.45 BS 8683 also establishes the 'like-for-like or better' principle as a fundamental element of BNG, whereby a net gain is achieved by 'restoring affected biodiversity or offsetting residual biodiversity loss with the same type of biodiversity (like-for-like) or with a type that is of higher conservation value'. This principle prevents replacement of high value habitat with a greater extent of habitat of lower conservation value.

1.46 The Construction Industry Research and Information Association (CIRIA), in partnership with the Chartered Institute of Ecology and Environmental Management (CIEEM) and the Institute of Environmental Management and Assessment (IEMA), have produced guidance on biodiversity net gain[28], setting out good practice principles for the delivery of BNG through development. These principles and how they have been addressed through the assessment are identified in Appendix D.

Ecological Significance

1.47 The Local Nature Recovery Strategy (LNRS) for London, a new system of spatial biodiversity strategies in England, is currently being prepared by the Greater London Authority with the aim for London's ecological network to be bigger, better and more joined up. The LNRS is not currently available, with the GLA aiming to complete the strategy by 2025. However, in the absence of the LNRS the GLA identify that the current London and Local Plans should be referenced to inform decision making.

1.48 The Hillingdon Local Plan does not identify the Site to be of particular significance in relation to green infrastructure links and does not appear to be part of the identified green chains forming part of Policy EM2 (Green Belt, Metropolitan Open Land and Green Chains). However, the Green Grid Area Framework covering the site identifies the potential for sites alongside the Grand Union Canal providing opportunities to include enhancement to the green corridor and as a potentially strategic location linking the town centre of Yiewsley with the Colne Valley Park.

Approach

1.49 The BNG assessment follows Defra's Statutory Biodiversity Metric, an auditing and accounting tool for biodiversity which comprises the assessment methodology required to demonstrate compliance with the mandatory BNG requirement through the Environment Act 2021. The BNG assessment has been completed using the Statutory Biodiversity Metric calculator[29], in line with the accompanying User Guide[30] and associated information within the Technical Annex[31].

1.50 In line with Section 7 of the Environment Act and the PPG on Biodiversity Net Gain, outlined in Appendix A, as the mandatory requirement for BNG is a condition to planning the information required at the planning application stage is principally associated with the establishment of the baseline. However, in line with Paragraphs 013 and 014 of the PPG, additional information is provided to demonstrate how the proposals will deliver a policy and legally compliant net gain for biodiversity. As a result, the BNG assessment is split into two parts.

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[28] *CIRIA (2019) Biodiversity net gain. Good practice principles for development. A practical guide. CIRIA Report C776a. Construction Industry Research and Information Association, London.*
[29] *Department for Environment, Food & Rural Affairs (2025) The Statutory Biodiversity Metric v1.0.4. July 2025.*
[30] *Department for Environment, Food & Rural Affairs (2025) The Statutory Biodiversity Metric. User Guide. July 2025.*
[31] *Department for Environment, Food & Rural Affairs (2024) The Statutory Biodiversity Metric. Technical Annex 1: Condition Assessment Sheets and Methodology v1.0.2.*

1.51 The Biodiversity Gain Requirements (Exemptions) Regulations 2024 set out the criteria in which certain developments may be exempt from meeting the mandatory biodiversity net gain requirement that would otherwise be imposed as a general condition of planning. However, the Proposed Development does not meet any of the identified exemption criteria and will, therefore, be subject to the mandatory biodiversity net gain requirement.

Pre-Development

1.52 The ecological value of the baseline habitats has been established from the findings of the walkover survey and habitat mapping, with the extent of habitat identified using GIS and, where required, the associated condition score identified in the walkover survey for each habitat or habitat parcel. The only exception for this is the extent of urban trees, for which the tree helper tool within the metric has been used to establish the associated habitat area. This is based on the size classification of the tree, using it's Diameter at Breast Height (DBH).

1.53 Each habitat/habitat parcel has been assigned a 'Strategic Significance', in line with the requirements identified in the User Guide and outlined in Table 1.2.

Table 1.2 Strategic Significance Criteria Considerations

Category	Criteria where LNRS is Published	Criteria where LNRS is not Published
High Strategic Significance	This category can be applied when: • The location of the habitat parcel has been mapped in the Local Habitat Map as an area where a potential measure has been proposed to help deliver the priorities of that LNRS; and, • The intervention is consistent with the potential measure proposed for that location. If the project delivers the mapped measure set out in the LNRS the assessment should: • record the strategic significance as low in the baseline; • record the strategic significance as high in post-intervention sheets; • record that you have applied the published LNRS.	The habitat type is mapped and described as locally ecologically important within a specific location, within documents specified by the relevant planning authority. If the project delivers the mapped habitat creation, enhancement or actions set out within specified alternative documents, or enhances an existing habitat identified within specified alternative documents as locally ecologically important, strategic significance can be recorded as high in the post-intervention sheets. If the specified alternative documents identify existing habitat as locally ecologically important within a specified location, strategic significance may be recorded as high in the baseline. The assessment should record the name of the plan the relevant planning authority has specified in the Metric and record the specified document in the assessment.
Medium Strategic Significance	This category cannot be applied.	This category can be applied when the LPA has not identified a suitable document for assessing strategic significance. The assessment should: • explain how the habitat type is ecologically important within a specific location; • demonstrate the importance of that habitat in providing ecological linkage to other strategically significant locations; • use professional judgement. When the above criteria are met, strategic significance may be recorded as medium in the baseline and post-intervention sheets.
Low Strategic Significance	Where the definitions for high strategic significance are not met. Even if the project is in an area mapped with a potential measure, if it does not deliver the specific actions outlined for your location you should record strategic significance as low.	Where the definitions for high or medium strategic significance are not met.

1.54 The LNRS for London is not currently published, as outlined in Appendix A. At present, the Site does not provide semi-natural habitat that is locally important nor supporting ecological linkage to strategically significant locations, although the woodland on the western side does have potential to provide supporting value to the canal network as a result of its location. Consequently, the strategic significance of the woodland habitat is assessed as being medium, whilst the remaining habitats present on the Site are assessed as being low. Whilst outside of the Site, the canal habitat is within the area of influence for the BNG assessment which includes sites where they are within 10m of the bank of a watercourse. The canal is locally ecologically important and noted in the Local Plan and through designation as a Metropolitan SINC as an important habitat that provides connectivity through the urban environment. As a result, the canal habitat is assessed as being of high strategic significance.

Post-Development

1.55 The post-development scenario, based on the Landscape strategy and associated proposed drawings, produced by Patel Taylor, is provided as an indication as to how the Proposed Development can deliver a BNG, thereby complying with the associated policy and legislative requirements.

1.56 The habitat types and extents have been identified based on the landscape information, applying the precautionary principle where uncertainty exists, with the extent measured from the associated areas on the drawings. Where a habitat condition is required, appropriate consideration has been given to the various criteria that apply and recommendations made to ensure the condition assessed can be achieved. In line with the assessment guidelines, trees proposed for installation have been included as small trees, unless appropriate information can be provided to justify the medium size class.

1.57 The Strategic Significance has been assessed in line with the information in Table 1.1. As indicated, the LNRS for London has not currently been published. However, redevelopment of the Site has potential to deliver on an important link between Yiewsley town centre and the Grand Union Canal and deliver on the All London Green Grid aim for improved linkage to the Colne Valley from the town centre. Consequently, those habitats that help to create a new green link with the High Street, and habitats beyond, or add to the supporting potential around the Grand Union Canal are assessed to be of medium significance, whilst isolated or artificial habitats are assessed as being of low significance. The canal remains of high strategic significance, as discussed above.

Limitations

1.58 The Ecological Appraisal draws on a number of sources and methods on which the biodiversity value/ potential of the Site is derived, following best practice guidance and utilising up-to-date information, and thus is not considered to give rise to any significant limitations as a result.

1.59 Whilst the 1 km desk study area extends beyond the GiGL boundary, the information from GiGL provides over 90% coverage of the 1km radius study area surrounding the Site. As a result, additional information from Buckinghamshire and Milton Keynes Environmental Records Centre have not been requested, instead additional information available from the National Biodiversity Network has been assessed to inform the baseline context within the study area.

1.60 Whilst some areas of the survey area were not accessible, sufficient access was possible to make an assessment of the habitat present and their supporting potential for faunal species. Furthermore, the assessment has been supplemented with review of aerial photography and previous survey findings for the Site in respect to habitats present and supporting potential for species.

1.61 Ecological surveys inherently provide a snapshot in time, and conditions will change over time that will alter the conditions associated with the features/potential features present or introduce new features. Whilst the site visit has been completed at a sub-optimal time, given the domination of artificial habitats and high levels of maintenance/activity on the Site is considered to be an appropriate time and within suitable timescales. Whilst some aspects may be missed, for example as a result of flowering periods, the information gathered is sufficient to assess the value and associated risks. The mitigation also takes into account the potential for the Site to change, with recommendations made to address this potential and reference given to CIEEM guidance in relation to the period of validity for surveys.

1.62 No significant limitations were reported within the targeted surveys, reported in Appendix B and C.

BASELINE

Desk Study

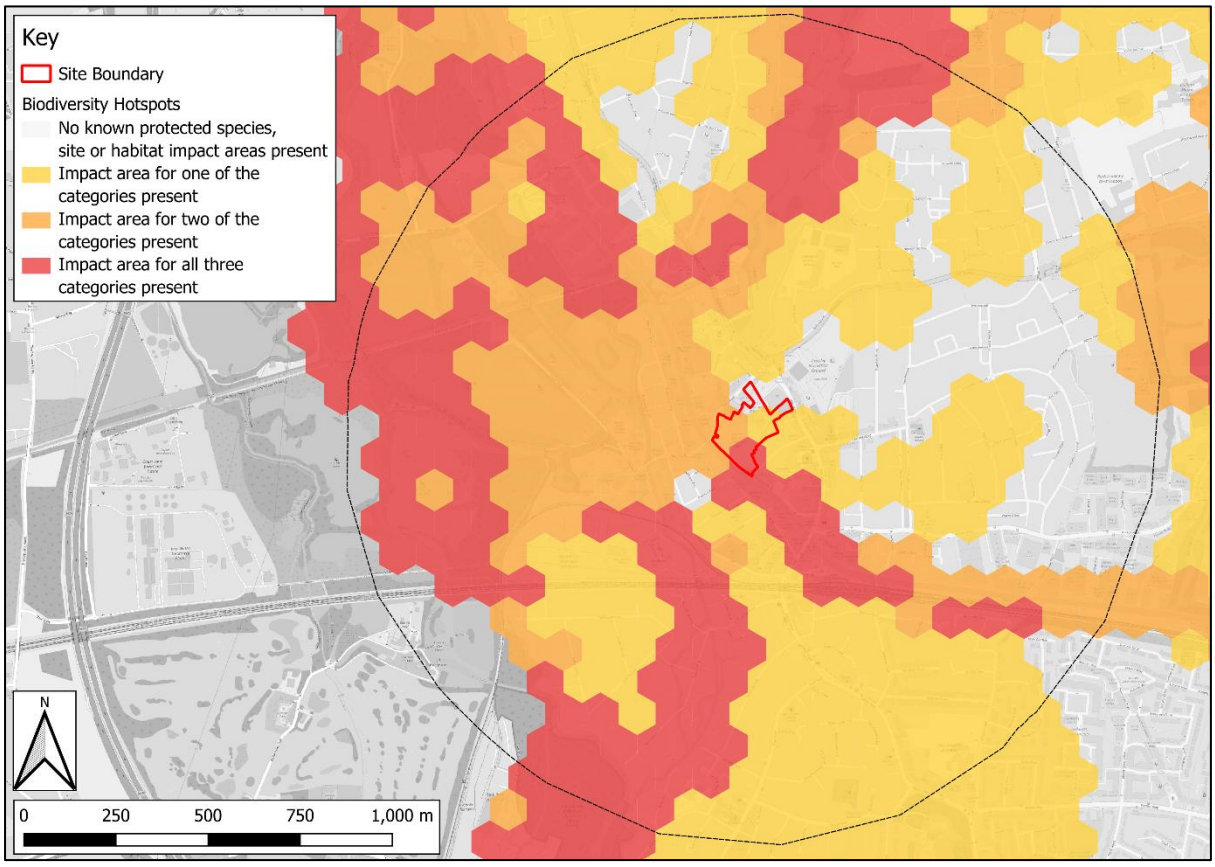
Biodiversity Hotspots

1.63 The Biodiversity Hotspots for Planning dataset[32], created by Greenspace Information for Greater London (GiGL), identifies areas, where data is available, that have potential for impacts on biodiversity and are likely to be relevant to local planning decisions. Hotspot areas indicate a detected presence of sensitive biodiversity that could potentially be affected by development.

1.64 The Site falls across each of the hotspot categories, as identified in Figure 1.2. The southern tip of the Site falls within an area identified with a score of 3, the western side of the Site falls within an area identified with a score of 2, the eastern side of the Site in an area identified with a score of 1 and the northern tip of the Site within an area with no known impact categories present. Whilst this does not confirm the presence of biodiversity within the Site, it provides context as to the biodiversity potential of the Site.

[32] *Greenspace Information for Greater London (2019) Biodiversity Hotspots for Planning. November 2019.*

Figure 1.2 **Biodiversity Hotspots for Planning around the Application Site** (Map displays GiGL data (November 2019) and contains map data from OpenStreetMap)



Designated Sites

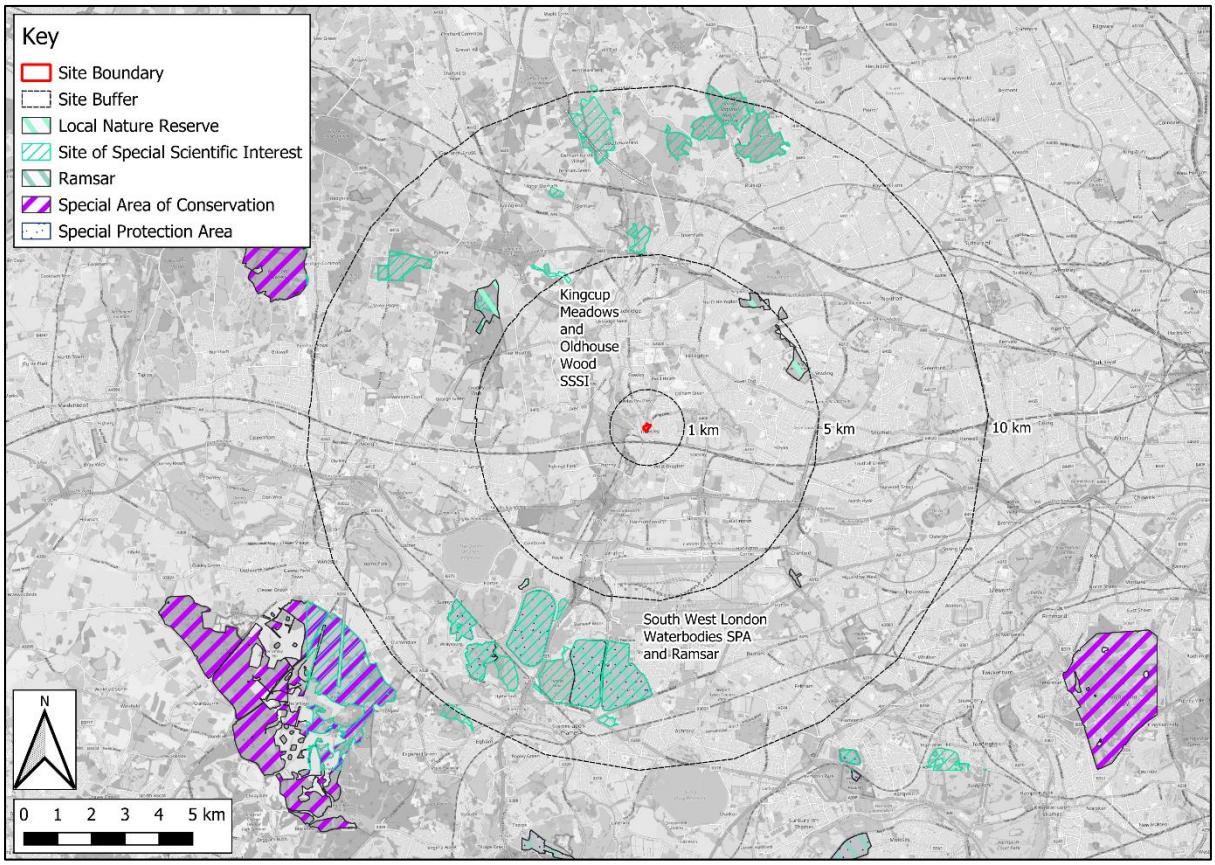
1.65 The study area includes three statutory designated sites, the South West London Waterbodies SPA and Ramsar and Kingcup Meadows and Oldhouse Wood SSSI, with five non-statutory designated sites also present. The designated sites present, and their proximity to the Proposed Development, are identified in Table 1.3 with the location of the designated sites identified in Figure 1.3. Those sites present in Figure 1.3 but not labelled do not fall within the relevant study area for that site.

Table 1.3 **Designated Sites in the Study Area**

Site	Area (ha)	Proximity to Site
Special Protection Area		
South West London Waterbodies	825.10	5.6 km south-west
Ramsar		
South West London Waterbodies	828.14	5.6 km south-west
Site of Special Scientific Interest		
Kingcup Meadows and Oldhouse Wood	12.90	4.7 km north
Site of Metropolitan Importance for Nature Conservation		
London's Canals	187.50	5 m west
Lower Colne	140.69	165 m west
Little Britain	87.72	235 m west

Site	Area (ha)	Proximity to Site
Site of Borough Importance for Nature Conservation		
River Pinn and Manor Farm Pastures	33.42	90 m north
Stockley Park Country Park	17.78	970 m east

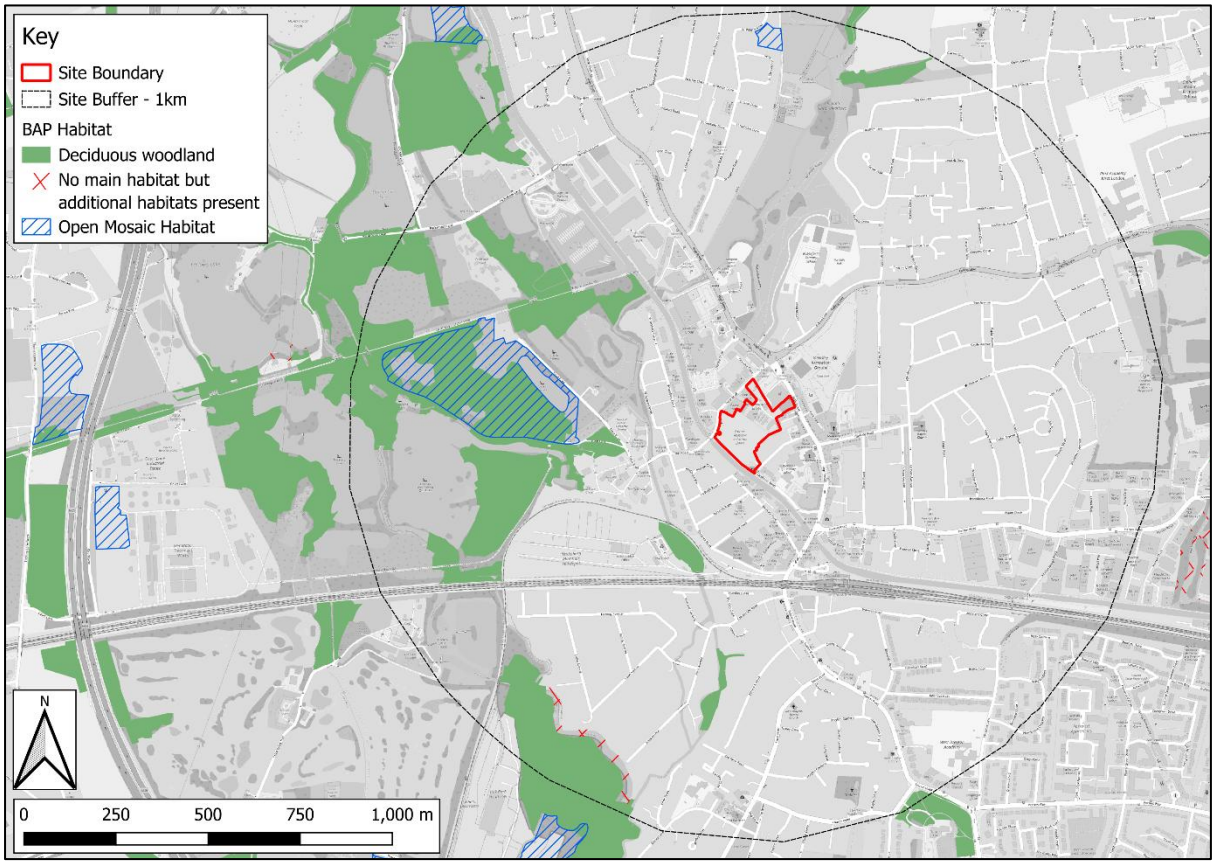
Figure 1.3 **Statutory Designated Sites within the Study Area** (Contains public sector information licensed under the Open Government Licence v3.0 and map data from OpenStreetMap)



Notable Habitats

1.66 The study area does not include any areas of ancient woodland, however it does include two UK BAP Priority habitats, which are deciduous woodland and open mosaic habitats present as identified in Figure 1.4.

Figure 1.4 **Notable Habitats present within Study Area** (Contains public sector information licensed under the Open Government Licence v3.0 and map data from OpenStreetMap)



1.67 The Site does not support any priority habitats. Deciduous woodland has the greatest extent within the study area, principally located to the west along the Colne Valley with additional areas to the south at West Drayton hall and to the north at Philpot's Farm Meadows. The closest area of deciduous woodland BAP priority habitat is approximately 240m to the west alongside Trout Lane. Open mosaic habitat is present int two locations of the study area, with the closest being approximately 370m to the west at Yiewsley Moor.

1.68 A review of map information up to 500m from the Site boundary identified a number of waterbodies. The Grand Union Canal is the principal waterbody of relevance to the Site, as this runs alongside the western side of the Site, and the River Pinn approximately 300m to the north. These two waterbodies provide a severance to terrestrial movement of species associated with ponds, such as great crested newt (*Triturus cristatus*). Several waterbodies are present further to the west, including a series of ponds that form part of Lizard Fisheries, that are stocked with large fish species, and Frays River. There are no waterbodies identified on the eastern side of the canal.

Legally Protected and Ecologically Significant Species

Greenspace Information for Greater London

1.69 The desk study information returned by GiGL identified the presence of a number of ecologically significant and legally protected species within the study area. However, as the study area includes a wide variety of habitat types, including riverine, floodplain grassland, standing water, woodland, parks and gardens and densely urbanised areas, the information has been reviewed to identify the species that have potential to be present within the Site and surrounding area to help focus the background context to the Site.

1.70 The information identified a total of 51 species of bird that are identified as specially protected or ecologically significant, either as being of conservation concern (Red or Amber listed), local species of conservation concern or identified as a BAP priority species. The species of potential note for the Proposed Development, based on proximity to the Site, most recent record and typical habitat requirements, are identified in Table 1.4.

Table 1.4 Bird Species Identified in the Study Area Potentially Relevant to the Site

Species		Most Recent Record	Closest Record
Kingfisher	*Alcedo atthis*	2019	540m east
Swift	*Apus apus*	2020	145m south
Barnacle goose	*Branta leucopsis*	2018	215m south-east
House martin	*Delichon urbicum*	2019	538m east
Herring gull	*Larus argentatus*	2019	540m east
Baltic gull	*Larus fuscus fuscus*	2019	540m east
Red kite	*Milvus milvus*	2021	495m north
Grey wagtail	*Motacilla cinerea*	2019	150m west
House sparrow	*Passer domesticus*	2019	130m south-west
Peregrine	*Falco peregrinus*	2018	-
Dunnock	*Prunella modularis*	2019	390m north
Starling	*Sturnus vulgaris*	2021	540m east
Redwing	*Turdus iliacus*	2019	390m north
Song thrush	*Turdus philomelos*	2019	390m north
Fieldfare	*Turdus pilaris*	2015	845m south-west
Mistle thrush	*Turdus viscivorus*	2019	540m east
Lapwing	*Vanellus vanellus*	2010	-

1.71 The information identified a total of 8 species of mammal that are identified as specially protected or ecologically significant, which are identified in Table 1.5.

Table 1.5 Mammal Species Identified in the Study Area Potentially Relevant to the Site

Species		Most Recent Record	Closest Record
Hedgehog	*Erinaceus europaeus*	2022	110m west
Otter	*Lutra lutra*	2022	-
Daubenton's bat	*Myotis daubentonii*	2019	845m west
Natterer's bat	*Myotis nattereri*	2019	845m west
Nathusius' pipistrelle	*Pipistrellus nathusii*	2019	845m west
Common pipistrelle	*Pipistrellus pipistrellus*	2019	845m west
Soprano pipistrelle	*Pipistrellus pygmaeus*	2019	650m south-west
Brown long-eared bat	*Plecotus auritus*	2019	845m west

1.72 In addition, the reptile, amphibian, higher plant and invertebrate species included in Table 1.6 were identified within the desk study information.

Table 1.6 Other Species Identified in the Study Area Potentially Relevant to the Site

Species		Most Recent Record	Closest Record
Slow worm	*Anguis fragilis*	2015	495m south-east
Grass snake	*Natrix helvetica*	2018	635m north-west
Great crested newt	*Triturus cristatus*	2018	-
Large-leaved lime	*Tilia platyphyllos*	2020	505m south-east
Wild cabbage	*Brassica oleracea*	2014	-
Kale	*Brassica oleracea* var. *viridis*	2018	-
Touch-me-not Balsam	*Impatiens noli-tangere*	2019	-
Fringed water-lily	*Nymphoides peltata*	2010	-
Tubular water-dropwort	*Oenanthe fistulosa*	2005	-
Great water-parsnip	*Sium latifolium*	2005	-
Common darter	*Sympetrum striolatum*	2020	175m west
Stag beetle	*Lucanus cervus*	2021	75m south
Small copper	*Lycaena phlaeas*	2021	290m north
Large skipper	*Ochlodes sylvanus*	2020	290m north
Essex skipper	*Thymelicus lineola*	2004	290m north
Knot grass	*Acronicta rumicis*	2012	160m south
Goat moth	*Cossus cossus*	2019	-
White ermine	*Spilosoma lubricipeda*	2011	70m south
Buff ermine	*Spilosoma lutea*	2021	635m north-west
Cinnabar	*Tyria jacobaeae*	2007	-
Brown-banded carder bee	*Bombus humilis*	2021	875m south

1.73 In addition to the legally protected and ecologically significant species identified in the GiGL data, the desk study identifies the presence of a number of species identified as invasive through national legislation or locally by the London Invasive Species Initiative (LISI). A total of 27 invasive species were identified, with those of potential relevance to the Site identified in Table 1.7.

Table 1.7 Invasive Species Identified in the Study Area Potentially Relevant to the Site

Species		Most Recent Record	LISI Category[33]
Ring-necked parakeet	*Psittacula krameri*	2019	4
Tree-of-heaven	*Ailanthus altissima*	2020	3
Water fern	*Azolla filiculoides*	2005	2
Butterfly bush	*Buddleja davidii*	2018	3
Cotoneaster	*Cotoneaster sp*	2020	2
Franchet's cotoneaster	*Cotoneaster franchetii*	2018	2
Wall cotoneaster	*Cotoneaster horizontalis*	2018	2
New Zealand Pigmyweed	*Crassula helmsii*	2005	3
Canadian waterweed	*Elodea canadensis*	2004	4
Nuttall's waterweed	*Elodea nuttallii*	2018	4
Japanese knotweed	*Fallopia japonica*	2019	3
Shaggy soldier	*Galinsoga quadriradiata*	2019	3
Floating pennywort	*Hydrocotyle ranunculoides*	2018	3
Himalayan balsam	*Impatiens glandulifera*	2018	3
Least duckweed	*Lemna minuta*	2019	4
Green alkanet	*Pentaglottis sempervirens*	2018	6
Cherry laurel	*Prunus laurocerasus*	2004	3
Turkey oak	*Quercus cerris*	2018	5
Evergreen oak	*Quercus ilex*	2019	5
False acacia	*Robinia pseudoacacia*	2020	4
Snowberry	*Symphoricarpos albus*	2019	2

National Biodiversity Network

1.74 A review of the commercially available records within the National Biodiversity Network identified several additional species not within the GiGL records. Whilst there are a large number of species records, those legally protected or of ecological significance include mallard (*Anas platyrhynchos*), black headed gull (*Chroicocephalus ridibundus*), lesser black-backed gull (*Larus fuscus*) and spotted flycatcher (*Muscicapa striata*); European eel (*Anguilla anguilla*), bullhead (*Cottus gobio*), banded demoiselle (*Calopteryx splendens*), emperor dragonfly (*Anax imperator*), blue-tailed damselfly (*Ischnura elegans*), western honey bee (*Apis mellifera*), buff-tailed bumblebee (*Bombus terrestris*), Gooden's nomad bee (*Nomada goodeniana*) and black-tailed skimmer (*Orthetrum cancellatum*).

1.75 The invasive species Turkish crayfish (*Astacus leptodactylus*) was also identified to be present.

Previous Survey of the Site

1.76 Whilst previous survey of the Site, carried out in 2010 as part of planning application 38058/APP/2012/1203, are beyond their period of validity, the results do provide some context to the Site in respect to the presence of faunal species.

[33] *LISI 2 - species of high impact or concern present at specific sites; LISI 3 - species of high impact or concern which are widespread in London, LISI 4 - Species which are widespread and eradication is not feasible; LISI 5 - species with insufficient data or evidence; LISI 6 - Species that were not currently considered to pose a threat or have the potential to cause problems in London.*

1.77 A bat emergence/re-entry survey was carried out that covered several of the buildings present on site along with additional buildings since demolished. The survey did not identify any bats emerging from or entering into any of the buildings on site, with no bats observed utilising the Site for commuting. The canal was observed to be important foraging habitat for common pipistrelle (*Pipistrellus pipistrellus*) and soprano pipistrelle (*Pipistrellus pygmaeus*), with limited movement into the Site associated with foraging activity along the canal.

Field Survey

Habitats

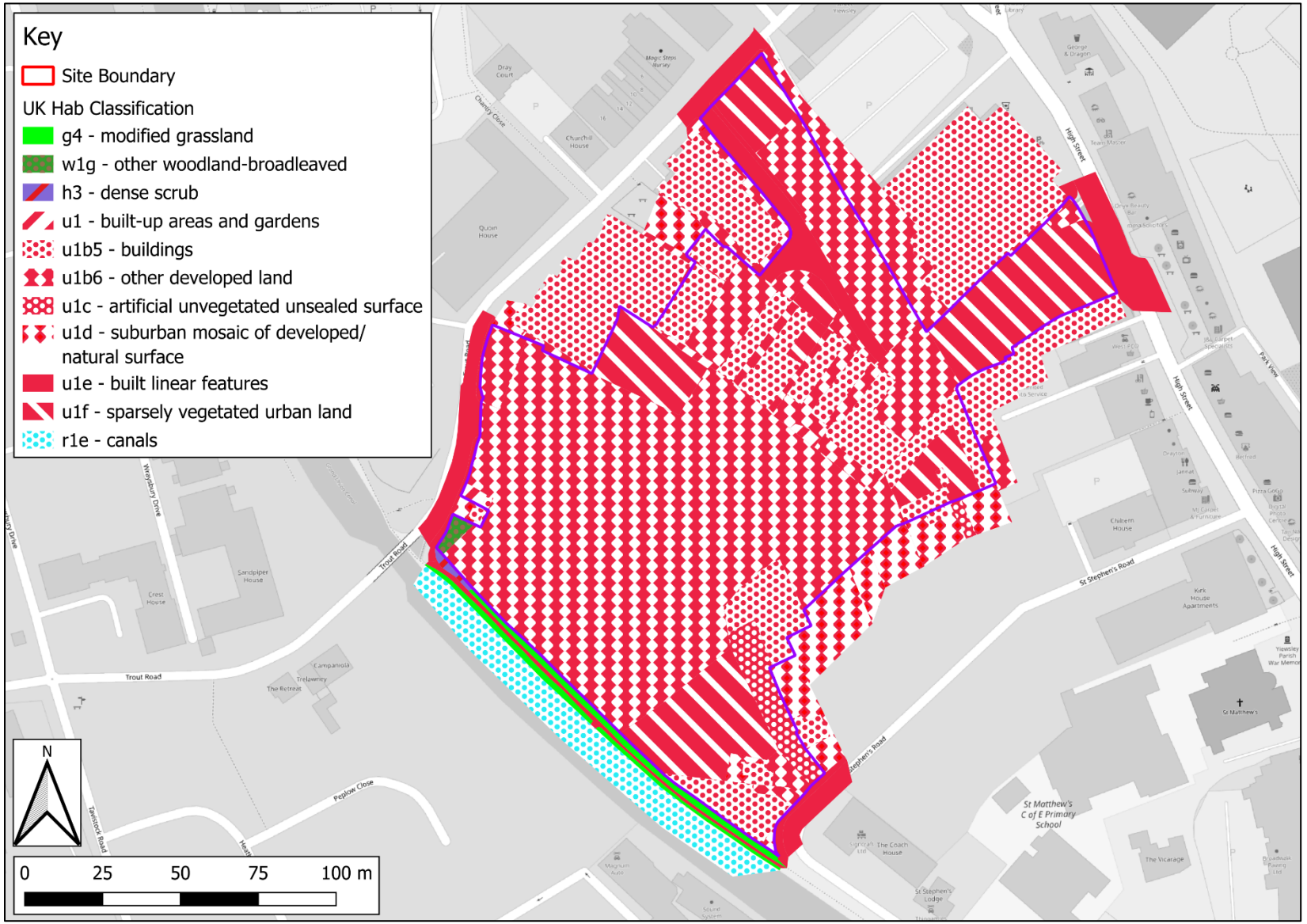
1.78 The following sections describe the habitat conditions that were identified in the field survey area according to the primary habitat type in line with the UK Habitat Classification definitions and following CIEEM best practice guidance. The habitat descriptions should be read in conjunction with the UK Habitat Classification survey map, see Figure 1.5, and site photographs, see Appendix E.

U1 Built-up Areas and Gardens

1.79 The Site includes three areas of habitat where introduced shrub (Secondary Code 847) has established in peripheral areas where the land is largely unmanaged or vacant and species that are largely considered invasive in the urban environment have established. Each of the areas are dominated by butterfly bush (*Buddleja davidii*), with some ruderals present including dandelion (*Taraxacum officinale* agg.), cleavers (*Gallium aparine*), common nettle (*Urtica dioica*), hedge bindweed (*Calystegia sepum*), broadleaved dock (*Rumex obtusifolius*).

1.80 The habitat, which does not require a habitat condition to be identified, is generally of limited biodiversity value, providing some foraging opportunities but generally lacking structure to provide sheltering opportunities. As a result, the habitat is considered to hold biodiversity value **within the immediate survey area only**.

Figure 1.5 **UK Habitat Classification Map** (Contains map data from OpenStreetMap)



U1b5 Buildings

1.81 The Site supports a number of buildings of a variety of types and uses and in varying condition, which are principally located along Kirby Estate industrial area, off Trout Road, and along St Stephens Road. There are additionally a number of temporary buildings or storage areas present on the Site which are discussed below but have not been included in the mapping as the habitat identifies those within the classification as 'relatively permanent enclosed construction'.

1.82 The permanent buildings present on the Site comprise the following:

- Unit 2, Kirby Estate: vacant warehouse style building in two parts, the front a single-storey building of brick façade to the front with roller shutters, and a mansard style roof of corrugated sheet material with sky lights extending from the gable wall with a shallow brick wall. To the rear, the warehouse has been extended with a single storey building of brick facade with metal framed glazing and flat roof;
- Unit 3, Kirby Estate: vacant warehouse style building with two floors with office accommodation at the front and single-storey warehouse to the rear, with extension to the rear across the back of the property. The main building has a brick façade across the gable end and to the 1st floor along the side with upvc glazing and roller shutters providing access to the rear workshop and a mansard style corrugated sheet material roof. To the rear, the extension is of brick construction with a flat roof of corrugated sheet materials, with the windows blocked up from the inside;
- Unit 4, Kirby Estate: occupied warehouse style building with two floors with office accommodation at the front and a single-storey warehouse to the rear, with a brick façade and metal framed glazing and mansard style roof;
- Unit 5, Kirby Estate: occupied warehouse style building in two parts, the front a two-storey building for office accommodation of brick façade with metal framed glazing and flat roof, to the rear the building is a single storey has a brick façade with metal framed glazing and mansard style roof of corrugated sheet material;
- Unit 6, Kirby Estate: comprises several buildings, the first a warehouse style building with two floors with office accommodation at the front and single-storey warehouse to the rear of brick façade with metal framed glazing and a mansard style corrugated sheet material roof. Alongside this is a warehouse building of 1 storey with brick façade and corrugated sheet material roof with unofficial opening in façade to facilitate car access. To the rear was a two-storey brick building of brick construction, which has been part demolished following fire damage with the adjoining wall to the warehouse and adjacent properties only remaining with no roof present;
- Unit 8, Kirby Estate: vacant oversize one-storey industrial warehouse unit of brick façade with roller shutters and pitched roof of corrugated sheet material. No access was possible, but the skylights in the corrugated roof material indicates it is open to the roof;
- Fairfield House, Kirby Estate: a two-storey former office building, now vacant, occupied to the roof. The building is of brick construction with upvc glazing and a flat roof of felt construction;
- 6B St Stephens Road: a series of single-storey buildings that are vacant/derelict, previously in commercial use, but have stood on the Site for more than 10 years. The buildings have a brick wall to the rear, which is bowing in places to the rear, with sheet material roof that is flat or pitched in places and left open. One part of the building to the rear includes wooden sheet material with wooden glazing providing light into the property. One of the buildings is of brick construction with corrugated sheet material roof and upvc windows;
- 20A St Stephens Road: a single-storey building, providing commercial premises, that has been constructed in parts using sheet materials, incorporating the boundary wall of breeze blocks in part and comprising a mix of wooden boarding and other sheet materials with a wooden frame internally. The walls have some upvc windows in places and includes a shipping container. The building is more enclosed and of bigger size than those in the industrial road not mapped and listed as temporary buildings;

- 22 St Stephens Road: single-storey bungalow property in residential use. The building principally has a brick façade with upvc windows, but has but wooden paneling in places and wooden frames around the windows. The building has a pitched tiled roof with wooden soffits and fascia, and an internal roof void;
- Al Falah Masjid: split-storey building in Islamic community use. The front part of the building comprises a two-storey building of brick façade with metal framed glazing and concrete capping. Behind this the building is single-storey with a brick façade and pitched roof of corrugated sheet material and flat sheet material which wraps over the wall. Behind this is an area of flat roof with the remainder of the Site to the rear and side supports corrugated sheet material to create an internal area with wooden sheeting creating a façade visible from the canal tow path.

1.83 A number of temporary buildings are present on the Site, largely present within the main central area but also along the north-eastern side of the industrial road. Many of the buildings comprise portacabins or modified shipping containers that have been moved onto the Site to support the commercial functions as office accommodation. These are present supporting the various businesses present across the Site, with single storey and two-storey units present and have been established on the Site in the last 3 years and can easily be relocated elsewhere.

1.84 Additionally, temporary buildings are present along the industrial road in the form of porta-cabins and structures that have been built in the last 5 years with sheet materials and do not provide an enclosed area but sheltered area with some façades in which car mechanic works are undertaken.

1.85 Buildings are a common habitat locally and nationally and are generally of limited biodiversity potential. Whilst a number of these, including temporary and 'permanent' are not sealed and facilitate access for faunal species, opportunities within the buildings are relatively limited. As a result, the habitat is considered to be of **negligible** biodiversity potential.

U1b6 Other developed land

1.86 Hardstanding occupies an extensive area of the Site, supporting the industrial and commercial activities undertaken and as a result is maintained to be largely free of vegetation with the exception of some opportunistic establishment. The principal area of the habitat is present to the western side, with hardstanding of compacted made ground/concrete providing the base for a variety of compounds supporting operations including a roofing and timber merchant, concrete supplier and construction compound. Similarly, the majority of the Site along Kirby Estate industrial area supports hardstanding which provides storage and works areas for the mechanic based operations.

1.87 Vegetation was sparsely present across the hardstanding habitat within the other developed land category, primarily located at the periphery or within small areas that hadn't been disturbed recently, and included butterfly bush, common nettle, great willowherb (*Epilobium hirsutum*), hedge bindweed, broadleaved dock, doves-foot cranesbill (*Geranium molle*), redleg (*Persicaria maculosa*), creeping bent (*Agrostis stolonifera*), Oxford ragwort (*Senecio squalidus*), wall lettuce (*Lactuca muralis*), Darwin's barberry (*Berberis darwinii*), clematis (*Clematis* sp.), shaggy soldier (*Galinsoga quadriradiata*), herb robert (*Geranium robertianum*), cleavers and saplings for sycamore (*Acer pseudoplatanus*), goat willow (*Salix caprea*) and ash (*Fraxinus excelsior*).

1.88 Hardstanding habitat, which does not require a condition to be identified, is common locally and nationally and generally offers very limited supporting potential for faunal species. As a result, the habitat is considered to hold **negligible** biodiversity value.

U1c Artificial unvegetated unsealed surface

1.89 The Site supports one area categorised as artificial unvegetated unsealed surface habitat, comprising predominantly gravel/pebble substrate providing a driveway to the commercial premises at 20A St Stephens Road. Additional habitat is present in the wider area, providing access to redundant commercial premises from St Stephens Road between 4a and 6a St Stephens Road. Both habitats are used for the storage of cars as part of a commercial operation locally.

1.90 The habitats support some plant species, although this is not thought to be above 10% of the habitat area, including bristly oxtongue (*Picris echioides*), herb robert, wall lettuce, hogweed (*Heracleum sphondylium*), spear thistle (*Cirsium vulgare*), cleavers, smooth sow-thistle (*Sonchus oleraceus*), dandelion, yellow corydalis (*Pseudofumaria lutea*), white deadnettle (*Lamium album*), poppy (*Papaver* sp), Oxford ragwort and common nettle. The driveway at 20A St Stephens Road also includes a single sycamore tree, whilst the driveway between 4A and 6A St Stephens Road includes a green wall habitat on the eastern side comprising ivy growth on the boundary fence for a length of approximately 10m and height of 1.8m.

1.91 A condition assessment is not required for this habitat, however condition assessments are required for the tree and green wall habitats. The results of the condition assessment for the tree is provided in Table 1.n. With respect to the green wall habitat, the habitat does not contain any diversity in species or structure (Criteria A and B), but does have no invasive species (Criterion C) and therefore with 1 criterion passed is of *poor* condition.

Table 1.8 Tree Habitat Condition Assessment for individual trees within Suburban Mosaic of Developed/Natural Surface Habitat

Ref	Species	Size	Habitat Condition Criteria						
			A - Native	B – Canopy	C – Mature	D – No Adverse Impact	E – Natural Niches	F – Oversailing Vegetation	Condition
1	Sycamore (*Acer pseudoplatanus*)	Small	No	Yes	No	No	No	No	Poor

1.92 This habitat type is not considered to provide supporting habitat for faunal species, and as a result is considered to hold **negligible** biodiversity value. However, the tree and green wall habitats provide some biodiversity value, although limited as a result of maintenance to them, and therefore are of biodiversity value **within the immediate survey area only**.

U1d Suburban mosaic of developed/natural surface

1.93 The garden habitat associated with the residential property at 22 St Stephen's Road comprises a mix of suburban mosaic of developed/natural surfaces.

1.94 The garden habitat to the rear of 22 St Stephens Road is predominantly concrete hardstanding with a small area of bare earth providing a planting area approximately 1 metre from the northern wall which is largely bare (Secondary Code 829 – unvegetated garden). Plant species present are predominantly ruderal/ephemeral species otherwise encountered within the wider Site including creeping bent, common nettle, wall lettuce, spurge, oxford ragwort, cleavers, hedge bindweed and common mouse-ear (*Cerastium fontanum*). The garden is enclosed to the north and east by wooden fencing and the west by the boundary wall with the Al Falah Community Centre.

1.95 A condition assessment is not required for the garden habitat.

1.96 The area surrounding the Site includes a number of gardens associated with the properties along St Stephens Road, the majority of which appear to be vegetated on review of aerial photography. Several of these properties include the presence of trees within their gardens, and whilst these fall outside of the Site, and therefore do not require a condition to be identified, consideration will be required to ensure the development proposals do not have adverse impacts upon these.

1.97 Garden habitat is relatively common locally and nationally, however collectively it can provide an important habitat within the urban environment with supporting opportunities for faunal species in respect to foraging and sheltering and can assist with the movement of species between 'stepping stone' habitats. However, individually the habitat is or limited significance and as a result the habitat is considered to be of biodiversity value **within the immediate survey area only**.

U1e Built linear feature

1.98 Habitat classified as built linear feature, comprising linear roads and associated pavements, are of limited extent within the Site but are extensively present in the surrounding area. Within the Site, the unnamed road providing access between Trout Road and the industrial units comprises a tarmac road with a tarmac pavement and concrete 'verge' lining the road part of the way.

1.99 The road is largely free of vegetation as a result of the regular access, however ruderal/ephemeral vegetation has established at the edges, with species present including oxford ragwort, Canadian fleabane (*Erigeron canadensis*), cleavers, redleg, wall lettuce, great willowherb, broadleaved dock, lesser celandine (*Ranunculus ficaria*), butterfly bush and shaggy soldier.

1.100 Surrounding the Site is a series of roads and pavements that are largely free of vegetation with higher levels of vehicular and pedestrian traffic.

1.101 Built linear feature is a common habitat locally and nationally and generally does not provide supporting habitat for faunal species, and despite the presence of some vegetation within the Site the influence of this is limited. As a result the habitat is considered to hold **negligible** biodiversity value.

U1f Sparsely vegetated urban land

1.102 Sparsely vegetated urban land is present across a number of discrete areas of the Site, largely comprising areas of vacant or derelict land (Secondary Code 82) where maintenance activities or general use has ceased and vegetation has been able to establish across the area.

1.103 The parcel of land to the south of Aldi, whilst inaccessible was viewable from the periphery, with the hardstanding now supporting vegetation across a notable proportion of area with stands of butterfly bush throughout with evidence of this having been cut back. The habitat at the entrance to the Kirby Estate industrial area exhibits a similar habitat, and whilst in current use as a car sales forecourt ephemeral/ruderal vegetation is established on the habitat area principally around the periphery but with some across the centre part of the Site.

1.104 Within the main part of the Site, a small yard is set out for a storage facility with a series of storage containers set around the edge of the habitat. The hardstanding in this location is similar to that above, with ruderal/ephemeral vegetation established within the habitat around the periphery of the Site and in front of the storage containers.

1.105 At the southern end of the main Site, alongside the Al Falah Community Centre, 22 St Stephens Road and 20A St Stephens Road, is an area that is not subject to the same amount of disturbance/use and, as a result, vegetation has established in patches across the area to create a mosaic of ruderal/ephemeral and bare ground habitat, principally around the periphery of the area but extending into the central part.

1.106 The hardstanding around Unit 3 on the Kirby Estate comprises concrete, however as a result of a lack of activity plants have established in the gaps between the concrete to create a coverage over 10% with ruderal and ephemeral species dominating with grass also present.

1.107 The last area of the habitat is present within the industrial area behind 4 to 8 St Stephens Road. The area of habitat has been vacant for a period of 3 years, and as a result of the cessation of activities on this part of the Site the gravel hardstanding has been colonised by introduced shrub (Secondary Code 847) in the form of butterfly bush and ruderal habitats in the form of Oxford ragwort. The habitat is about 50 % vegetated with stands of butterfly bush dominating but not creating a dense habitat.

1.108 The main vegetation present within the habitat includes Canadian fleabane, herb robert, oxford ragwort, spear thistle, wall lettuce, dove's-foot cranesbill, broadleaved dock, smooth sow-thistle, cleavers, common nettle, creeping bent, common chickweed (*Stellaria media*), greater plantain (*Plantago major*), hedge bindweed, shaggy soldier, bristly oxtongue, bramble (*Rubus fruticosus* agg), broadleaved dock, great willowherb, butterfly bush, redleg, white sweet clover (*Melilotus albus*), hogweed, ribwort plantain (*Plantago lanceolata*), lesser trefoil (*Trifolium dubium*), mugwort (*Artemisia vulgaris*) and wall barley (*Hordeum murinum*).

1.109 The condition of the habitat is assessed against the criteria within the urban habitat type under the Defra metric methodology. Each of the habitat areas are not considered to provide diversity in the habitat structure or species (Criteria A and B), but are free of invasive non-native species (Criterion C). As a result, each of the habitat areas are of *poor* condition.

1.110 The sparsely vegetated urban land is relatively common within the Site, however is less common locally and nationally, and provides some supporting habitat for biodiversity where plant species have been allowed to grow and provide foraging resources. However, the majority of the areas have limited foraging opportunities as a result of the immaturity of the habitat present. As a result, the habitats are considered to be of biodiversity value **within the immediate survey area only**.

W1 Broadleaved, Mixed and Yew Woodland

W1g Other woodland - broadleaved

1.111 A small stand of sycamore is present on the western corner of the Site, alongside the access path between the Grand Union Canal and Trout Road, which forms a woodland habitat on the bank. The woodland is likely to comprise secondary woodland, with the sycamore trees all of a similar age with no diversity in the age classes present, and an absence of structure in the understory which is entirely comprised of ivy, which has also established upon a couple of the trees with a light coverage.

1.112 The condition of the woodland habitat has been assessed in line with the Defra Biodiversity Metric, included in Appendix F, which concludes the habitat to be of *poor* condition.

1.113 Woodland habitat is relatively uncommon in the urban environment, however the habitat is of limited extent and a number of areas similar habitat are present in the wider area. Whilst the location of the habitat in close proximity to the canal increases its potential to support faunal species, overall the limited extent, structure and diversity leads to it being considered to be of biodiversity value **within the immediate survey area only**.

H3 Dense Scrub

1.114 A small patch of dense scrub adjoins the Site in the western corner and forms part of the habitat along the Grand Union Canal. The scrub is predominantly garden privet (*Ligustrum ovalifolium*) with ivy also present along with ash saplings and some ruderal species including hemlock (*Conium maculatum*), broadleaved dock, cleavers and common nettle.

1.115 The scrub habitat is relatively common locally and nationally, and whilst it provides some supporting value to the canal habitat it does not fall within the designated area and is of limited extent with habitat of greater naturalness on the far side and, as a result, is of limited value. Therefore, the scrub habitat is considered to be of biodiversity value **within the immediate survey area only**.

G4 Modified Grassland

1.116 Modified grassland habitat forms a verge alongside the canal towpath for the majority of the stretch alongside the Site, and is regularly managed to a short sward for amenity and access purposes. The habitat does include a small section of scrub habitat, below the minimum mappable area, with blackthorn (*Prunus spinosa*), hawthorn, bramble and Darwin's barberry present, but most notable is the presence of several trees along the canalside, including a number that are mature. The tree species along this section included sycamore, lime (*Tilia* sp.) and ash, with several of the mature lime tress likely to be subject to Tree Preservation Orders.

1.117 As the habitats fall outside of the Site, they are not included within the BNG assessment and, therefore, do not require a condition assessment. However, the trees will require consideration in relation to potential impacts as works would be in close proximity to them.

1.118 Modified grassland habitat is common locally and nationally and not of sufficient diversity to comprise a BAP habitat, and as a result of the regular maintenance of the habitat has limited supporting potential As a result, the habitat is considered to be of biodiversity value **within the immediate survey area only.** However, the trees present provide a significant feature in the urban environment, particularly the mature species present, and provide an important supporting role to the adjacent canal habitat. As a result, the presence of these trees are considered to be of biodiversity value at the **Local** scale.

R1 Standing Open Water and Canals

<u>R1e Canals</u>

1.119 The Grand Union Canal is located approximately 5m to the west of the Site, falling entirely outside of the Site but within the zone of influence for Biodiversity Net Gain which extends to 10m from the bank top. The Grand Union Canal is an artificial waterbody for navigation purposes, with the banks on the Site side entirely artificial with a grass verge.

1.120 The MoRPh survey identifies a preliminary condition score of -0.652 for the length of the Grand Union Canal within the scope of the assessment, which equates to a poor condition for a large river or canal. The canal is, as a navigable watercourse, classed as overdeep thereby confirming the final condition as being of poor ecological condition.

1.121 Riparian encroachment, comprising the extent to which features or interventions that reduce the quantity, quality or ecological function of the riparian habitat are present, is identified within the assessment as being moderate in respect to the riparian zone on the left bank and minor in respect to the riparian zone on the right bank. Watercourse encroachment, comprising the extent to which any feature or action which adversely affects the natural function of the watercourse or results in localised changes in habitat, species and migratory pathways is present, is identified in the assessment as major as a result of the extensive reinforcement of the bank faces.

1.122 The canal forms part of a Metropolitan SINC, reflecting its value as a green corridor through the urban environment and supporting potential for a wide range of faunal species. As a result, it is considered to be of biodiversity value at up to the **Metropolitan** scale.

Species

Flora

1.123 The presence of floral species on the Site is significantly affected by the presence of artificial habitats and the operations they support, with plants largely establishing in areas of low activity.

1.124 No plant species identified on Schedule 8 (protected plant species) or Schedule 9 (invasive plant species) of the Wildlife and Countryside Act 1981 (as amended) were identified within the field survey area however two species present is listed by LISI as locally invasive. Butterfly bush and shaggy soldier are both identified by LISI as being species of high impactor concern which are widespread in London and require concerted, coordinated and extensive action to control/eradicate.

1.125 As a result, the floral species present are considered to be of biodiversity value **within the immediate survey area only**.

Breeding Birds

1.126 Whilst the Site is largely active and dominated by artificial habitats, the Site provides a range of potential opportunities for breeding birds and, in particular, those that utilise urban fabric for nesting. A number of bird species were encountered during the survey, including carrion crow (*Corvus corone*), feral pigeon (*Columbia livia domestica*), starling (*Sturnus vulgaris*), magpie (*Pica pica*), wren (*Troglodytes troglodytes*), ring-necked parakeet (*Psittacula krameri*) and cormorant (*Phalacrocorax carbo*).

1.127 The trees, including individual trees and those associated with the woodland habitat, have potential supporting value for breeding birds, in particular along the canal and residential gardens where additional opportunities in the form of access to water and foraging resources, including supplementary feeding in gardens, are available.

1.128 In addition to the natural habitats, the buildings present around the Site can provide some opportunities for breeding birds, in particular where these are unoccupied or have spaces that are less disturbed with many of the buildings within the Kirby Estate industrial area of the Site accessible to birds as a result of open/broken windows, open shutters or dilapidated parts of the structures. In addition to this, the numerous car chassis that are present across the Site and left in place for some time with open windows or missing wheels/bonnets/doors etc could provide opportunities where these are undisturbed or where vegetation has established over the vehicle.

1.129 The bird species identified in the field survey are relatively common urban species, and as a result the species and abundance present are unlikely to be significant and of biodiversity value **within the immediate survey area only**. Nevertheless, the presence of breeding birds would comprise a legal constraint to the development that requires mitigation.

1.130 Ring necked parakeet are, however, a locally invasive species and identified by LISI as a species which is widespread for which eradication is not feasible but where avoiding spread to other sites may be required.

Bats

1.131 The Site itself provides limited opportunities for bats, and whilst it is located alongside the Grand Union Canal, which will provide a notable foraging and commuting resource, the Site offers very little in the way of foraging or commuting opportunities. As a result, the Site is considered to be of *negligible* value for foraging and commuting bats.

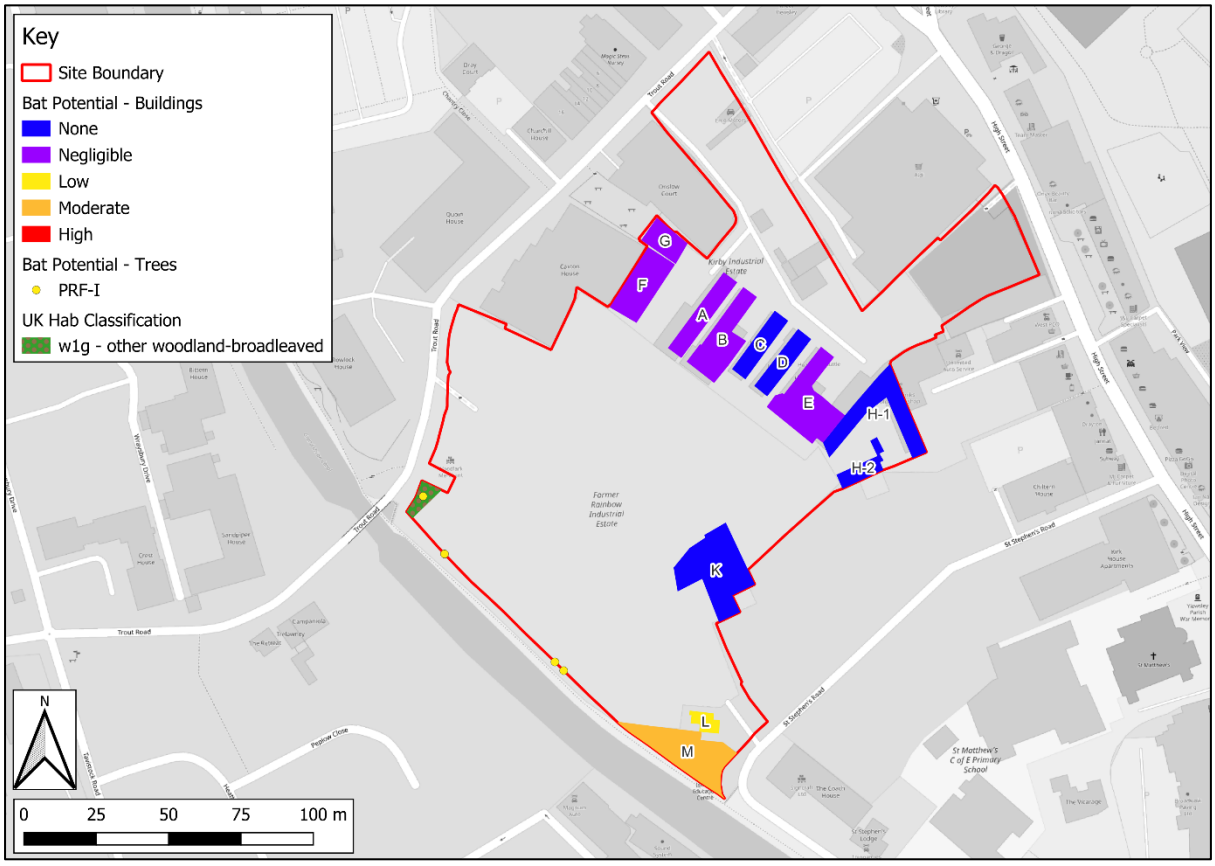
1.132 The Site does, however, provide features that could be potentially suitable for roosting bats associated with some of buildings present on site. Following on from the initial assessment completed in the Daytime Bat Walkover, the buildings with potential were subject to a Preliminary Roost Assessment (PRA) to further consider the extent of opportunities through a detailed inspection. The outcome of these assessments are summarised in Table 1.10 with buildings identified in Figure 1.6.

Table 1.9 Potential Suitability of Buildings on and adjacent to the Site for Roosting Bats

Ref	Building	Potential	Comments
On-site			
A	Unit 2, Kirby Estate	Negligible	The building is not of a type that is typically suitable for bats, and occupied internally to the roof with no voids present. No crevices or cracks were visible for the accessible/viewable parts of the building, and the sheet roof materials are unlikely to provide suitable opportunities. Internally, the building is not likely to provide appropriate conditions in respect to temperature and humidity, and the building is also relatively isolated from suitable features around the Site, however as no access was possible a negligible condition has been attributed.
B	Unit 3, Kirby Estate	Negligible	The building is not of a type that is typically suitable for bats, and occupied internally to the roof with no voids present. No crevices or cracks were visible for the accessible/viewable parts of the building, and the sheet roof materials are unlikely to provide suitable opportunities. Despite open shutters allowing access internally, the building is not likely to provide appropriate conditions in respect to temperature and humidity, and the building is also relatively isolated from suitable features around the Site, however as no access was possible a negligible condition has been attributed.
C	Unit 4, Kirby Estate	None	The building is not of a type that is typically suitable for bats, and occupied internally to the roof with no voids present. No crevices or cracks were visible for the accessible/viewable parts of the building, and the sheet roof materials are unlikely to provide suitable opportunities. The building is not likely to provide appropriate conditions in respect to temperature and humidity and with significant disturbance in the form of noise and air quality (as a result of paint respraying activities) in the workshop part will further reduce the building suitability. The building is relatively isolated from suitable features around the Site.
D	Unit 5, Kirby Estate	None	The building is not of a type that is typically suitable for bats, and occupied internally to the roof with no voids present. No crevices or cracks were visible for the accessible/viewable parts of the building, and the sheet roof materials are unlikely to provide suitable opportunities. The building is not likely to provide appropriate conditions in respect to temperature and humidity and with significant disturbance in the form of noise and air quality (as a result of paint respraying activities) in the workshop part will further reduce the building suitability. The building is relatively isolated from suitable features around the Site.
E	Unit 6, Kirby Estate	Negligible	The building is not of a type that is typically suitable for bats, and occupied internally to the roof with no voids present. The sheet roof materials are unlikely to provide suitable opportunities, and whilst there were some cracks and crevices associated with the rear of the building where it has been fire damaged and around the roof on the front of the building, these are not expected to provide sufficient stability in terms of conditions to provide suitable opportunities for roosting bats. Internally, the buildings will not provide appropriate conditions in respect to temperature and humidity and with significant disturbance in the form of noise and air quality (as a result of paint respraying activities) in the workshop part will further reduce the building suitability. The building is relatively isolated from suitable features around the Site.
F	Unit 8, Kirby Estate	Negligible	The building is not of a type that is typically suitable for bats, and occupied internally to the roof with no voids present. The sheet roof materials are unlikely to provide suitable opportunities and the internal space is unlikely to provide suitable conditions in respect to temperature and humidity. However, as the building was not accessible, a negligible potential is considered appropriate.
G	Fairfield House, Kirby Estate	Negligible	The building appears to be in good condition, with no cracks or crevices visible from viewable areas and the building is well sealed with no access to internal areas. The building has a flat roof with no roof void space likely to be present, plus no soffits/ fascia. However, as access was not possible, a negligible potential is considered appropriate.
H	6B St Stephens Road	None	The buildings are in a state of disrepair, having been abandoned for the last 3 years. However, they are of part brick and part sheet material construction with sheet material roofs and all open and unsealed. As a result, the buildings hold little opportunity for bat roosting as there are no suitable voids and the conditions present in respect to temperature and humidity are unlikely to be suitable. Although there is some loose brickwork and wood panelling to the rear of the garages overlooking Unit 6 of the Kirby Estate, these are exposed to weather conditions and isolated from other suitable habitat.

Ref	Building	Potential	Comments
K	20A St Stephens Road	None	The buildings have been constructed using various sheet materials across the façade and roof, with the internal space occupied to the ceiling. The buildings on the southern side of the courtyard have a brick façade but retain a sheet material roof with no fascia or soffits. The conditions created are not suitable for bats, with no stability in relation to temperature or humidity within the building.
L	22 St Stephens Road	Low	The residential bungalow has a pitched tiled roof with internal roof void, brick façade and upvc windows and a series of wooden soffits/fascia and wooden panelling to the pitched roof. The roof has a number of missing and lifted tiles that have potential to provide access into the roof void present. Two areas of the roof structure are showing signs of rotting timber, which may also provide access into the roof void. Internal inspection of the roof void did not identify evidence of use by bats. Several of the upvc windows are inset into wooden frames, which have gaps around them on the external facades, however these were not considered to provide suitable gaps for bats. However, the wooden fascia above the main windows was lifting in places and could provide potential roosting opportunities for bats. However, given the nature of the opportunities the roosting potential is likely to be restricted to individual or small numbers of bats opportunistically as part of wider network of roosting resources.
M	Al Falah Masjid	Moderate	The building has a brick façade with a series of roofs, including two flat roofs, a pitched sheet material roof and series of shallow sheet material roofs. The building includes soffits that provide a gap between the brick walls and sheet material that would be suitable for opportunistic roosting on the north and south aspects. Additionally, on the canal side there were several cracks between 1m and 1.8m height that leads to several potential crevices that could be suitable for bats, in particular given its proximity to the canal. Internally, the building has a single roof void beneath the pitched material sheeting, located above the prayer room and separated by a false ceiling. Whilst the void did not appear suitable, access was not possible to allow for a full inspection. Where accessible, no evidence of bats was identified. As a result, the Masjid has multiple features that could support low number of roosting bats and access was not possible to the entire roof void. As a result, a precautionary approach has been taken and a moderate potential for roosting bats assigned.

Figure 1.6 **Bat Potential Figure** (Contains map data from OpenStreetMap)



1.133 The emergence surveys found no bats to emerge from Al Falah Masjid or 22 St. Stephens Road, with very low bat activity levels on both surveys with no interest shown in the buildings. As a result, it is concluded that bats are likely absent from the buildings. Bat activity recorded in the surveys comprised low numbers of passes of common pipistrelle (*Pipistrellus pipistrellus*) and soprano pipistrelle (*Pipistrellus pygmaeus*) with a single pass of a noctule (*Nyctalus noctula*).

1.134 There are various trees present around the Site, however the majority of these hold no potential for roosting bats as a result of an absence of suitable features for roosting. However, within the Site the trees within the woodland block hold a low potential for roosting bats (PRF-I) as a result of the presence of relatively established ivy on the trunks of the trees. In addition to the trees on the Site, several of the trees alongside the canal include a thick ivy cover and/or peeling bark that provides opportunities for individual bats (PRF-I).

1.135 Considering the potential of the Site and subsequent findings of the targeted surveys, the presence of bats is limited to individual or very low numbers of common bat species and principally associated with the adjacent canal. Therefore, the Site does not comprise a significant part of a bats territory, and a likely absence of roosting bats concluded for buildings. As a result, the Site is considered to be of biodiversity value **within the immediate survey area only**.

Hedgehog

1.136 The semi-natural habitats associated with the adjacent residential gardens, notably along St Stephens Road, have some potential to provide supporting habitat for hedgehog with the shrub habitat offering sheltering opportunities and the grassland providing foraging opportunities. However, the presence of hedgehog is unlikely to be in significant number, given the relative isolation of the garden habitats along St Stephens Road, with limited suitable habitat within the Site. Therefore, hedgehog are unlikely to be of biodiversity value greater than **within the immediate survey area only**.

Other Species

1.137 A number of species were identified to be present in the wider area through the desk study, however conditions within the Site, either as a result of the habitat present or level of connectivity with suitable habitats, mean the species are unlikely to be present.

1.138 Whilst the canal habitat provides opportunities for otter to move through the urban environment, the bankside habitat along the western side of the Site does not provide supporting habitat for sheltering opportunities. The habitat present is limited in extent and cover, with significant activity along the western boundary from within the Site causing a high level of disturbance. As a result, the presence of sheltering otter within or immediately adjacent to the Site is unlikely and any individuals present are likely to comprise individuals moving through the urban environment.

1.139 Two reptile species, slow worm (*Anguis fragilis*) and grass snake (*Natrix helvetica*), were identified in the wider environment and appear likely to be associated with semi-natural habitat beyond the urban environment to the north-west and semi-natural habitats alongside the railway line to the south-east. Both records are significantly isolated from the Site by the Grand Union Canal, and semi-natural habitats with potential supporting value, such as the adjoining garden habitats, are small in extent isolated from suitable habitats in the wider area. The grassland habitat along the canal is of limited suitability, with the sward maintained to a short sward and therefore unsuitable for reptiles. Furthermore, regular maintenance of these habitats reduces their suitability and, as a result, are considered unlikely to be present within the Site.

1.140 Similarly, whilst great crested newts (*Triturus cristatus*) are confirmed to be present within the wider area through the desk study, no waterbodies were identified to be present within 500 m of the Site and not precluded by significant barriers based on review of mapping. Considering the limited connectivity of habitats within the Site, the presence of great crested newt is considered unlikely.

1.141 The Site does not include any suitable habitats for stag beetle, with no dead or decaying wood, on which the species relies, identified to be present. As a result, the species is unlikely to be present.

1.142 Considering the habitats present within the Site and, for the semi-natural habitats present a lack of connectivity with habitats in the wider area, no other protected species are considered likely to be present and represent a constraint to the redevelopment of the Site.

Site Management and Activities

Recent and Historic Site Condition

1.143 Since the clearance of the main Site area on the western side and plot of land alongside Aldi in 2012 to 2013, the areas have been left undeveloped and at different times left fallow, cleared or used to support local businesses including car storage and supporting local businesses. The developed areas of the Site have remained largely as present, albeit with activity at 6b St Stephens Road evident up to 2020.

1.144 The Site is largely unchanged since January 2020, with the Kirby Industrial estate largely as current, albeit with Units 2, 3 and 8 active, and the main Site clear of vegetation following use for car storage. The residential properties and Masjid on St. Stephens Road are unchanged along with the commercial premise at 20A St. Stephens Road, although the commercial premise at 6b has since been vacated and the land increased in biodiversity value as a result of dereliction. Similarly, the land alongside Aldi has seen a change in the level of use, with the establishment of vegetation as a result of dereliction.

1.145 More specifically, whilst the sycamore tree in 20A St Stephens Road (T8) has been cut back to 1.8m height and historical photography identifies this to have been undertaken since the BNG reference date of January 2020, this is not considered to have had a notable impact on the condition of the tree. Whilst the canopy would have been more natural, adverse impacts associated with damage to the trunk from the adjacent use would remain and the canopy did not oversail vegetation. Therefore, the habitat condition would remain poor despite the alteration.

Baseline Ecological Value

1.146 Several of the baseline habitats within the Site require a condition assessment to be provided, which is discussed in the habitat descriptions above and provided in Appendix F. The strategic significance for the baseline is also discussed in Paragraph 1.45, with the majority of the Site comprising a low strategic significance as it does not provide habitat that is significant or that provides notable connectivity. The only exceptions to this are the canal, which provides a significant habitat in the urban environment and notable connectivity and thus is of high significance, and the woodland habitat, which provides an important habitat alongside the canal and is considered to be of medium significance.

1.147 The Proposed Development is assessed as having a baseline biodiversity value of 0.96 habitat units and 0.31 watercourse units, as identified in Tables 1.10 and 1.11. With an absence of hedgerow habitat within the Site, this is excluded from the assessment. The full detail is provided in the Statutory Biodiversity Metric calculation which will accompany the planning application.

Table 1.10 Summary of the Baseline Habitat Value

Habitat	Area (ha)	Distinctiveness	Condition	Strategic Significance	Required Action	Baseline Unit Value
Area-Based Habitats						
Developed land; sealed surface	1.6261	Very Low	N/A	Low	Compensation Not Required	0.00
Artificial unvegetated; unsealed surface	0.0457	Very Low	N/A			0.00
Unvegetated garden	0.0060	Very Low	N/A			0.00
Built linear feature	0.0673	Very Low	N/A			0.00
Introduced shrub	0.0104	Low	N/A		Same distinctiveness or better habitat required ≥	0.02
Vacant or derelict land	0.2169	Low	Poor			0.43
Sparsely vegetated land – ruderal/ ephemeral	0.2300	Low	Poor			0.46
Other woodland; broadleaved	0.0063	Medium	Poor	Medium	Same broad habitat or a higher distinctiveness habitat required (≥)	0.03
Individual trees	0.0041	Medium	Poor	Low		0.02
Watercourse Habitats						
Canal	0.15	Medium	Poor	High	Same habitat required =	0.31

Table 1.11 Summary of the Post-Development Habitats and their Habitat Value

Habitat	Area (ha)	Distinctiveness	Condition	Strategic Significance	Watercourse Encroachment	Riparian Encroachment	Unit Value
Watercourse Habitats							
Canal	0.15	Medium	Poor	High	Major	Moderate/Minor	0.31

1.148 Irreplaceable habitat is defined in BS 8683:2021 as "*habitat that cannot be recreated within a specified time frame because it would be technically very difficult or impossible to recreate taking into account their age, uniqueness, species diversity, rarity and environmental or historical context*", with Schedule 1 of the Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024 identifying those relevant. None of these habitats were identified to be present within the Proposed Development Site.

1.149 Degradation of the biodiversity value of the Site has not occurred in respect to reducing the biodiversity value of the Site. The current conditions are representative of the Site since the 30th January 2020, representing the reference date for BNG when the Environment Bill was introduced to parliament, with habitats on the Site either remaining in current use and clear of vegetation (e.g. Kirby Estate and the main Site area) or having established vegetation since the cessation of activities on part of the Site and associated management (e.g. 6B St Stephens Road and the land next to Aldi).

1.150 One aspect that has changed since the reference date is the sycamore tree that has been cut back significantly as part of management of the Site at 20A St Stephens Road. However, as discussed in Paragraph 1.135, this has not resulted in a deterioration in the condition of the tree as this was considered poor irrespective, and therefore not led to degradation of the habitat in respect to BNG.

1.151 The current conditions on the Site are, therefore, considered to comprise an accurate representation of the habitat value since the 30th January 2020.

ECOLOGICAL IMPACTS AND MITIGATION

1.152 The following provides a summary of the Ecological Features present within the zone of influence of the Proposed Development, an assessment of their importance, or potential importance, based on the findings described above and their requirement for further consideration of impacts and mitigation.

Table 1.12 Summary of Ecological Features Present

Feature	Likely Biodiversity Importance	Discussion
Designated Sites		
South West London Waterbodies SPA and Ramsar	International	The Proposed Development will not result in any direct impacts on the SPA and Ramsar. There is no ecological connectivity between the development site and the designated sites, with impacts not considered likely to occur over the distances involved and in the context of the urban environment. Whilst the SPA and Ramsar are considered to be sensitive to recreational disturbance, the majority of the sites within the network forming the SPA and Ramsar are either restricted access or in private ownership with no public access. Furthermore, considering the proximity of the Site to alternate green space in the local vicinity, including the Colne Valley with local policy encouraging connectivity, recreational impacts upon the designated sites are not considered likely. Therefore, further consideration of these receptors is not required.
Kingcup Meadows and Oldhouse Wood SSSI	National	The Proposed Development will not result in any direct impacts on the SSSI. The Proposed Development is not of a type identified in the relevant SSSI Impact Risk Zone as likely to pose a risk to SSSIs in this location. The SSSI is beyond the area of influence for construction related impacts and given the distance between the Site and the SSSI indirect effects are unlikely. Therefore, further consideration of this receptor is not required.
London's Canals Metropolitan SINC	Metropolitan	The Proposed Development will not result in any direct impacts on the SINC. Indirect impacts could, however, occur as a result of the construction of the Proposed Development, with the Site falling within the zone of influence for impacts associated with dust generation, noise and surface water discharge. The habitat is managed for recreation as an operational canal and associated towpath, and therefore impacts in operation as a result of recreation are not likely to be significant. As a result, further consideration is given to the impacts and mitigation required.
River Pinn and Manor Farm Pastures Borough SINC	Borough	The Proposed Development will not result in any direct impacts on the SINC. Indirect impacts could, however, occur as a result of the construction of the Proposed Development, with the Site falling within the zone of influence for impacts associated with dust generation from vehicle trackout and noise impacts. The Site is managed for recreation, and therefore impacts in operation are not likely to be significant. As a result, further consideration is given to the impacts and mitigation required.
Metropolitan SINCs	Metropolitan	The remaining SINCs, at various scales, are not considered likely to be adversely affected by the Proposed Development. There will be no direct impacts upon the SINCs and there is limited connectivity across which indirect impacts will occur. As a result, further consideration of these receptors is not required.
Borough SINCs	Borough	
Habitats		
UK BAP Priority Habitats	Up to Borough	The UK BAP priority habitats are all distanced from the Proposed Development, with limited ecological connectivity across the urban environment and, given the urban context of the surrounding environment, limited potential for indirect impacts. As a result, the feature is not within the zone of influence of the project and further consideration not required.
Canal	Metropolitan	The canal habitat is in close proximity to the Proposed Development, and whilst direct impacts are not likely to occur indirect impacts during construction are likely in the absence of mitigation. As a result, further consideration is required for the receptor.
Urban Trees	Up to Local	The Proposed Development will require the removal of at least some of the trees present within the Site to facilitate the development, which cannot be avoided. However, the trees present within the Site were considered to be of lower biodiversity value. A number of trees are present around the Site boundary, including along the western boundary of the Site alongside the canal and adjoining residential gardens. Whilst direct impacts upon these are unlikely, as they fall outside of the Site, indirect impacts could occur during the completion of construction activities. As a result, further consideration is required for the receptor.
Species		

Feature	Likely Biodiversity Importance	Discussion
Flora	Within the immediate survey area	Whilst the presence of floral species is affected by the presence of artificial habitats and maintenance thereof, plants have established in peripheral areas of the Site and areas that are currently vacant/derelict. The flora present is relatively common and not notable or specifically protected, with no species identified on Schedule 8 (protected) of the Wildlife and Countryside Act 1981 (as amended). As a result, further consideration of the receptor is not required.
Breeding Birds	Within the immediate survey area	The Site offers some foraging opportunities for bird species as a result of the supplementary feeding provided in the adjacent garden habitats, whilst nesting opportunities are associated with the woody vegetation on site and alongside the Site as well as associated with some of the buildings, where vacant, for species that utilise built fabric for nesting (i.e. feral pigeon). The abandoned vehicles around the Site also provide some secluded/inaccessible nesting opportunities for smaller birds. As a result, further consideration is required for the receptor.
Bats	Within the immediate survey area	The habitats within the Site offer limited opportunities for bats, with negligible potential for foraging and commuting bats. Whilst, several of the trees and buildings have low potential for roosting bats, emergence surveys concluded a likely absence of roosting bats associated with the buildings and further survey is not required in respect to the trees. Nevertheless, as bats are transient in nature, there remains potential for direct and indirect impacts upon bats that require mitigation. The canal habitat to the west provides a potentially important commuting corridor for the species through the urban environment, with indirect impacts upon the habitat possible in construction and operation, particularly as a result of lighting. However, the emergence surveys concluded low levels of activity of common species. Nevertheless, further consideration of the receptor in respect to mitigation is required.
Hedgehog	Within the immediate survey area	The potential for the presence of hedgehog was identified in the desk study, with the vegetated garden habitat on-site and adjacent to the Site potentially providing foraging and sheltering opportunities for the species. As a result, further consideration of this receptor is required to ensure adverse effects can be avoided.
Reptiles	Likely Absent	Whilst the desk study identified the presence of slow worm and grass snake in the wider area, the Site is significantly isolated from such records and habitats on site are limited in extent and of very low suitability. As a result, the species is unlikely to be present within the Site, and whilst further consideration of this receptor is not required precautionary mitigation can ensure that, in the unlikely event the species is encountered on site, appropriate mitigation is implemented.
Great crested newt	Likely Absent	Whilst the desk study identified the presence of great crested newt in the wider area, the Site is significantly isolated from waterbodies that form a significant part of the species habitat requirements. The potentially suitable habitats on site are significantly isolated from suitable habitat in the wider environment, and thus the species is unlikely to be present within the Site. Further consideration of this receptor is not required, although precautionary mitigation can ensure that, in the unlikely event the species is encountered on site, appropriate mitigation is implemented.
Otter	Likely Absent	Whilst the desk study identified the presence of otter in the study area, the habitats within and immediately adjacent to the Site are not considered to provide suitable sheltering opportunities for the species. As a result, otter are unlikely to comprise a constraint to the development and further consideration of the receptor is not required.
Invertebrates	Within the immediate survey area	Whilst notable invertebrate species were identified in the desk study, the habitats present in the Site are of limited extent, maturity and connectivity with the wider environment. Consequently, whilst foraging habitat is present its value is relatively limited. Suitable habitat for stag beetle is not present. As a result, further consideration of this receptor is not required.
Invasive Species	Negligible	No invasive species identified through the Wildlife and Countryside 1981 (as amended) were identified as present, however the locally invasive species of butterfly bush and shaggy soldier were identified to be present. Removal of these is recommended, in line with the guidance provided by LISI, however does not need to follow a particular process or disposal requirements, and therefore further consideration is not required.

Design Implications and Damaging Activities

Design

1.153 Due to the dominance of artificial habitats within the Site, the design of the Proposed Development has relatively limited potential implications to the Site's existing biodiversity value. However, consideration should be given in the design process to the retention of significant trees outside of the Site and the woodland habitat in the western corner of the Site, as retention of these will minimise impacts on biodiversity and implications for the trading rules associated with the BNG metric. Where possible, the existing trees present in the rear garden of 10 St Stephens Road should be considered for retention where possible as well, as this will minimise compensation requirements for BNG.

1.154 Consideration in the design phase should also be given to the lighting design, avoiding significant illumination of landscaping areas that hold potential to support nocturnal species as a result of foraging, commuting or roosting opportunities. Appropriate measures, in line with best practice guidance provided by the Institute of Lighting Professionals should be considered to minimise light spill whilst ensuring a safe and accessible environment, both in the construction phase and from the final developed site.

1.155 One of the greatest implications for the design is the inclusion of urban green infrastructure within the building fabric with the potential to maximise biodiversity enhancement on the Site. Opportunities within the proposed design include the provision of green roofs, terrace/balcony planting, façade planting and public realm planting including biodiverse planting and potentially the provision of vegetated SuDS.

1.156 In addition, as the canal is present within the zone of influence of the scheme and forms part of the BNG baseline, consideration should be given in the design to the potential for inclusion of enhancement measures along the western boundary to deliver the required enhancement of the watercourse environment.

1.157 As a result, the design has the potential to deliver meaningful enhancement that also delivers an improvement on the amenity spaces within and surrounding the Site.

Construction

1.158 The construction phase generally holds the greatest potential for adverse impacts on biodiversity features within a project, particularly as a result of the demolition of existing structures and the throughout the construction phase.

1.159 The demolition of existing buildings on the Site may have some potential for adverse impacts on breeding birds that may utilise the building fabric for nesting, as well as potentially bats for those buildings with features that could support roosting bats. The removal of trees and shrub within the Site also has potential for adverse impacts on breeding birds, although these have negligible potential for bats. The removal of semi-natural habitat within the Site, particularly associated with the vegetated garden, has potential for impacts upon hedgehog as well as other species such as reptiles in the unlikely event that they are present.

1.160 The construction phase has potential for impacts on surrounding habitats as a result of the encroachment of works and sediment or pollutant laden run-off from the Site, particularly associated with the canal and habitats along the western boundary. The construction works could also have adverse impacts on trees along the boundary of the Site, in particular by the canal and residential gardens, which could have implications to the health of the tree or breeding birds and bats associated with the trees.

1.161 Construction activities, including demolition, earthworks, construction and associated machinery and vehicular movements have the potential to generate indirect effects associated with noise and dust. The Institute of Air Quality Management (IAQM) guidelines identify an area of influence of dust effects on ecological receptors as 50m from the generation source. The London's Canals Metropolitan SINC is the only designated site present within this zone of influence, however the habitats present are not considered to be particularly sensitive to dust deposition and impacts are not considered likely to be significant. Furthermore, given the urban nature of the Site, mitigation measures proposed to protect local residential receptors and human health will deliver mitigation that reduces the impact of air quality on the SINC.

1.162 In addition, the River Pinn and Manor Farm Pastures Borough SINC is located within 50m of roads up to 500 m from the Site boundary that could potentially be used by construction vehicles and, therefore, is in the area of influence from dust from trackout activities. However, as above, mitigation measures proposed to protect local residential receptors and human health will reduce the impact of this.

1.163 The faunal species associated with the Site and surrounding area are not considered to be vulnerable to dust deposition and therefore impacts are unlikely to be significant.

1.164 The generation of noise during the construction phase is not considered likely to give rise to adverse effects, being in an urban context the faunal species present will be habituated to a certain level of noise and impacts will be temporary as a result. Consequently, adverse effects are unlikely to be significant.

Operation

1.165 Given the urban nature of the Site and level of activity in the surrounding area, adverse impacts on biodiversity during the operation of the Site are considered unlikely. Enhancements delivered through the development will be appropriate to the nature of the scheme, with appropriate management of the enhancements provided through a long-term management plan which will ensure they continue to provide a biodiversity benefit in the long-term.

1.166 The increase in residential properties on the Site as a result of the development will have potential to influence recreational impacts upon sites within the area of influence. Whilst the South West London Waterbodies SPA and Ramsar are noted to be sensitive to recreational disturbance, the majority of the sites within the network forming the SPA and Ramsar have either restricted access or are in private ownership with no public access, some of which is as a result of their water storage function. Considering the proximity of the Site to the SPA and Ramsar and availability of alternate green space in the local vicinity, recreational impacts from the Proposed Development upon the SPA and Ramsar are considered very unlikely and therefore are not likely to be significant.

1.167 Given the urban location of the Grand Union Canal and it's management to provide access along the waterway, an increase in residential numbers alongside the canal is not considered likely to have adverse impacts.

Mitigation

1.168 The application of mitigation measures is required to minimise or negate adverse effects on biodiversity features discussed above and/or deliver enhancement measures, complying with legislative and policy requirements.

1.169 The consideration of mitigation measures required has also taken into account the potential for the biodiversity value of the Site to alter between the survey on which the identification of features is based and the commencement of construction activities, ensuring any change in circumstance is appropriately addressed.

Habitats

Trees

1.170 Trees within or alongside the Site that are confirmed by an arboriculturist as being suitable for retention should be protected through the construction phase in line with British Standard 5837 – 'Trees in relation to design, demolition and construction'[34] and as instructed by the arboriculturist. The measures implemented should include the establishment of an appropriate Root Protection Area (RPA) for each tree, ensuring the roots are protected from irreversible damage as a result of sustained machinery movements. BS 5837 recommends an appropriate RPA is based on the stem diameter of each individual tree, although local conditions may need to be considered based on the urban nature of the Site and subsequent influences on root spread. The establishment of protection of the RPA will afford some protection to the main trunk and canopy, although in some cases it may be appropriate to extend this to the edge of the canopy to provide full protection to the tree.

1.171 If the development requires incursion into a RPA, the effects of such incursion should be considered by an arboriculturist to ensure the trees are not significantly affected. Similarly, any damage to trees during the construction phase should be reviewed by an arboriculturist and any remedial actions recommended should be carried out as instructed.

Runoff

1.172 A Construction Environmental Management Plan (CEMP) should be completed for the construction phase that includes measures designed for pollution prevention and incident response. Consideration should be given to the following measures along with any further measures considered necessary:

- Any earthworks at or above the canal level should include sediment control barriers to intercept silty water and reduce/prevent sediment discharging into the canal. The barriers could take the form of straw bales, which should be periodically checked to ensure they retain correct working function with the suspension of works during the replacement of sections;
- Run-off potentially contaminated with silt or other pollutants should be collected and treated before disposal, following an appropriate disposal methodology in compliance with relevant consent requirements;
- Works compounds should be carefully located, avoiding sensitive areas where possible, with refueling locations for plant located on an impenetrable base away from waterbodies, appropriately maintained and with drip trays and spill kits present;
- Storage areas for fuels, oils and chemicals should be appropriately located on an impermeable surface and with appropriate bunding of sufficient size, where required. The storage location should be more than 10 m from a waterbody to minimise the potential for spills entering the water environment, and should be securely stored;
- Spill kits should be located in appropriate locations of the Site and with vehicles, with staff trained in how to use emergency response equipment;
- Development of a contingency plan regarding the contamination of a watercourse and strict adherence to this in such an event.

[34] *BSI (2012) British Standard (BS) 5837:2012 – Trees in relation to design, demolition and construction. British Standards Institute.*

Breeding Birds

1.173 Depending on the construction programme, the potential for the Site to support breeding birds, either within woody vegetation (trees and shrubs) or artificial opportunities (buildings, structures and any remaining abandoned vehicles), could comprise a constraint. The development programme should give due consideration to the nesting season (typically March to August inclusive), avoiding the sensitive period if possible. Otherwise, a search of the natural habitat and artificial opportunities should be carried out prior to the commencement of works on site by a suitably qualified ecologist to ensure that no active nests are present.

1.174 In the event that an active nest is discovered during a search of the building or adjacent vegetation prior to commencement or during the completion of construction works, the structure surrounding and supporting the nest should be retained without alteration until the young have fledged the nest. It may be appropriate to establish a buffer from the nest, with no plant or personnel entering this area until the young have fledged, and the nest should be monitored. In the event the nesting birds are agitated by the works, it may be appropriate to extend the buffer zone. By following this approach, the Proposed Development will not have a detrimental impact on nesting birds on the Site and the contractor/ developer will remain compliant with wildlife legislation.

1.175 Whilst the redevelopment of the Site will result in some loss of foraging opportunities for birds, associated with the residential garden at 10 St Stephens Road, the provision of appropriate landscape habitat across the Site will ensure there is no net loss of habitat for birds as a result.

Bats

1.176 Where any pruning or tree removal works are required to trees identified as being of low potential for roosting bats, works should be preceded by a check by a licenced bat ecologist to confirm no bats are present. This should be carried out through a close inspection of potential features during a climbing survey, where a climbing survey cannot be carried out safely an emergence survey is required to confirm if bats are present or likely absent. If evidence of roosting bats is identified in these surveys, works must cease until an appropriate licence has been sought. Where no evidence of presence is found, appropriate compensation must be provided for any suitable features removed (for example tree mounted bat boxes).

1.177 Due to the transient nature of the use of potential roost features and as the presence and/or suitability of such features can alter over time, it is recommended that a walkover survey is carried out prior to commencement of construction activities on site to ensure any significant changes are identified and addressed. The check should ensure the condition remains as described in this appraisal, with any new features associated with the Site or immediately adjacent buildings/trees are picked up. The check should be carried out at an appropriate time, in line with best practice guidelines and with sufficient time for mitigation (e.g. a European Protected Species Development Licence Application) to be incorporated prior to commencement should it be required.

Small Mammals, Reptiles and Amphibians

1.178 Vegetation clearance on the Site, in particular areas of shrub, should be completed in sections, reducing the heigh of vegetation by hand to c. 300mm height in the first instance to allow the habitat to be checked for the presence of small mammals, reptiles or amphibians. Depending on the time of year, consideration should also be given to the potential presence of hibernating hedgehog. The vegetation should be checked by an experienced ecologist, and once confirmed the habitat is clear of species can be cut to ground level.

Best Practice Measures

Encroachment of Activities

1.179 There is potential for construction activities to encroach upon habitats and features in the wider environment as a result of their completion, which can have adverse effects on their condition. The establishment of a site boundary will reduce any potential encroachment of on-site activities and site personnel should be informed of the importance of the surrounding habitats through the site induction and toolbox talks.

Lighting

1.180 The following best practice measures provided by the Institute of Lighting Professionals[35] should be adopted in the lighting design for the construction and operational phases, including:

- All luminaires should lack UV elements when manufactured. Metal halide, compact fluorescent sources should not be used;
- LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability;
- A warm white light source (2700Kelvin or lower) should be adopted to reduce blue light component;
- Light sources should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats;
- Internal luminaires can be recessed (as opposed to using a pendant fitting) where installed in proximity to windows to reduce glare and light spill;
- Waymarking inground markers (low output with cowls or similar to minimise upward light spill) to delineate path edges;
- Column heights should be carefully considered to minimise light spill and glare visibility. This should be balanced with the potential for increased numbers of columns and upward light reflectance as with bollards;
- Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered;
- Luminaires should always be mounted horizontally, with no light output above 90° and/or no upward tilt;
- Where appropriate, external security lighting should be set on motion sensors and set to as short as possible a timer as the risk assessment will allow;
- Use of a Central Management System (CMS) with additional web-enabled devices to light on demand;
- The use of bollard or low-level downward-directional luminaires is strongly discouraged. This is due to a considerable range of issues, such as unacceptable glare, poor illumination efficiency, unacceptable upward light output, increased upward light scatter from surfaces and poor facial recognition which makes them unsuitable for most sites. Therefore, they should only be considered in specific cases where the lighting professional and project manager are able to resolve these issues; and

[35] *ILP (2023) Bats and Artificial Lighting at Night. Guidance Note 08/23. Institute of Lighting Professionals, Rugby.*

- Only if all other options have been explored, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed. However, due to the lensing and fine cut-off control of the beam inherent in modern LED luminaires, the effect of cowls and baffles is often far less than anticipated and so should not be relied upon solely.

Staff Awareness

1.181 The principal contractor should appoint a 'Biodiversity Champion', or similar, with responsibility for ensuring mitigation requirements are fully adopted, monitored and to raise awareness of ecological issues on the Site. The Biodiversity Champion role should:

- be familiar with the biodiversity features resent on the Site and with potential to establish on the Site during construction, including their legal protection and mitigation requirements;
- have sufficient authority to change site practices and take the required action necessary to avoid harm to species present/establishing during construction, and may include the need to temporarily halt works whilst further ecological advice is sought and remedial action taken to avoid harm and/or a legal offence;
- undertake regular inspection of the construction site, including consideration of mitigation measure implementation to ensure they are effective and appropriate, and give considering to the potential for species (e.g. breeding birds) to establish on the Site during construction;
- raise awareness of ecological issues associated with the Site and the mitigation requirements through targeted staff training, allowing site personnel to understand the ecological sensitivities of the Site (or potentially on the Site) and associated mitigation measures required. This will highlight that all site personnel need to comply with the legal requirements for protecting plants and animals, which could be delivered through the site induction and topic specific toolbox talks as required;
- input into the design programme, to ensure ecological enhancement measures are implemented at an appropriate time of year and an appropriate time in the construction programme, to ensure they do not become a constraint to further works;
- oversee the installation of ecological enhancement measures in line with manufacturer recommendations and landscape/ecological guidelines, and maintenance of the features (habitats or artificial species boxes) following installation and up to handover;
- keep a log of all actions taken for biodiversity, including inspection findings, remedial measures and training undertaken.

Best Practice Measures

1.182 Best environment practice measures incorporated into the construction phase, such as those controlling the emission of dust or noise and subsequent effects on sensitive receptors, will ensure potential adverse effects on biodiversity features are reduced.

Change in Ecological Value

1.183 The development proposals allow for the retention of the boundary trees along the southern-western boundary to the canal and within the residential gardens to the south-east along St. Stephen's Road, all of which fall outside of the development site. Within the development site, the trees associated with the woodland habitat in the western side of the Site along the canal will be retained, and whilst the understorey of the habitat may alter through landscaping the habitat condition will remain poor and not affect the classification with the canopy extent unaffected and therefore remaining classified as woodland habitat. As a result, this will retain all 63 m^2 of other broadleaved woodland habitat within the Site, equating to a retained biodiversity value of 0.03 habitat units.

1.184 Whilst the canal habitat is retained, with no direct impacts upon the canal itself, the proposed development does have implications to the habitat as a result of the opening up of the canal front with new footpaths linking the canal with the Site and the High Street and through the introduction of soft landscaping. However, with the introduction of new footpaths linking to the tow path, whilst delivering improved connectivity and associated socio-economic benefits, the development will result in an increase in the level of encroachment on the riparian habitat of the left bank as a result of the increase in encroachment within 0 to 4 m of the canal bank. As a result, whilst the habitat is retained, alteration to the level of encroachment on the left bank from moderate to major results in a reduction in the value of the habitat with a retained value of 0.29 watercourse units and representing a loss of 0.02 watercourse units. However, considering the wider socio-economic and environmental benefits associated with linking the Site to the canal, the impact is considered likely to be acceptable provided appropriate compensation is provided. Further detail is provided in the River Condition Assessment in Appendix C.

1.185 The remaining habitats cannot be retained through the redevelopment, and do not warrant strict protection. However, through the delivery of landscaping on the Site within the design and landscape strategy, the development will be able to more than compensate for the loss of habitat associated with the introduced shrub, vacant/derelict land, sparsely vegetated urban land and individual tree habitats, and deliver an enhancement to the biodiversity value of the development site overall.

ENHANCEMENT STRATEGY

Enhancements Adopted

1.186 The Proposed Development has incorporated the following habitats within the building design to deliver on the compensation of baseline habitats lost within the construction. Areas of planting have been taken from the landscape strategy and landscape drawings, providing an overview of the habitats proposed and the associated requirements/principles that should be followed in the detailed design stage.

Green Roofs

1.187 The Landscape Strategy and architectural design allows for the provision of green roof habitat across a large number of the buildings. The extent of green roof habitat is identified in Figure 1.7, with proposals including biodiverse green roofs (identified in dark green) and biosolar green roofs (identified in light green), covering an area of approximately 1,190 m^2 and 3,158 m^2 respectively.

1.188 Whilst detail on the biodiverse and biosolar green roofs is not currently specified, and subject to further detailed design for confirmation, both biodiverse and biosolar green roof habitats could be designed to meet the classification criteria for biodiverse green roofs under the UK Habitat classification, comprising an extensive green roof area specifically designed for biodiversity that:

- has a depth of substrate (not including blanket or turf) that varies between 80 and 150 mm, with at least 30 % of the roof at 150 mm depth (ideally at least 50 % to meet a good condition);
- is planted and seeded with a wide range of dry grassland wildflowers and sedum species; and,
- incorporates habitat features (e.g. stone or log piles).

1.189 Consideration will be required in the detailed design to meeting these criteria and maximising the biodiversity potential of the habitat, otherwise the habitat will be classified as 'other green roof' through the BNG assessment. Through good design, the habitat will be able to meet the condition criteria for the habitat associated with diversity in structure (Criterion A), species (Criterion B), absence of invasive species (Criterion C) and the additional criterion associated with greater extent of the maximum substrate depth (at least 50% at 150 mm) and presence of artificial habitat features. As a result, a good ecological condition is considered to be achievable.

Figure 1.7 **Extent of Green Roof Habitat within Development Proposals** (from Drawing 458-PTA-ZZ-11-DR-A-1111 Rev PL2)

Public Realm

Modified Grassland

1.190 The Landscape Strategy includes the provision of modified grassland along the central spine of the Site between Buildings B1 to B3 and D1 to D3 to provide an amenity resource and support opportunities for play space. The modified grassland habitat will include some border planting to frame the habitat, however these areas are classified separately as ground level planters and discussed further below. The modified grassland habitat, identified in yellow in Figure 1.8, covers an area of approximately 1,158 m^2.

1.191 The modified grassland is expected to be regularly maintained to a short sward and comprise common species that are tolerant of trampling and regular mowing and, as a result, will support a low diversity with less than 6 species per m^2 typically present in such habitats. As a result, the habitat will comprise a grassland of low distinctiveness and, with a low diversity in species expected is considered to unlikely to meet the essential criterion required to meet a moderate or high ecological condition. Therefore, a poor ecological condition is considered appropriate for the modified grassland habitat.

Figure 1.8 Extent of Modified Grassland Habitat within Development Proposals (from Drawing 458-PTA-LA-00-DR-A-2000 Rev PL2)

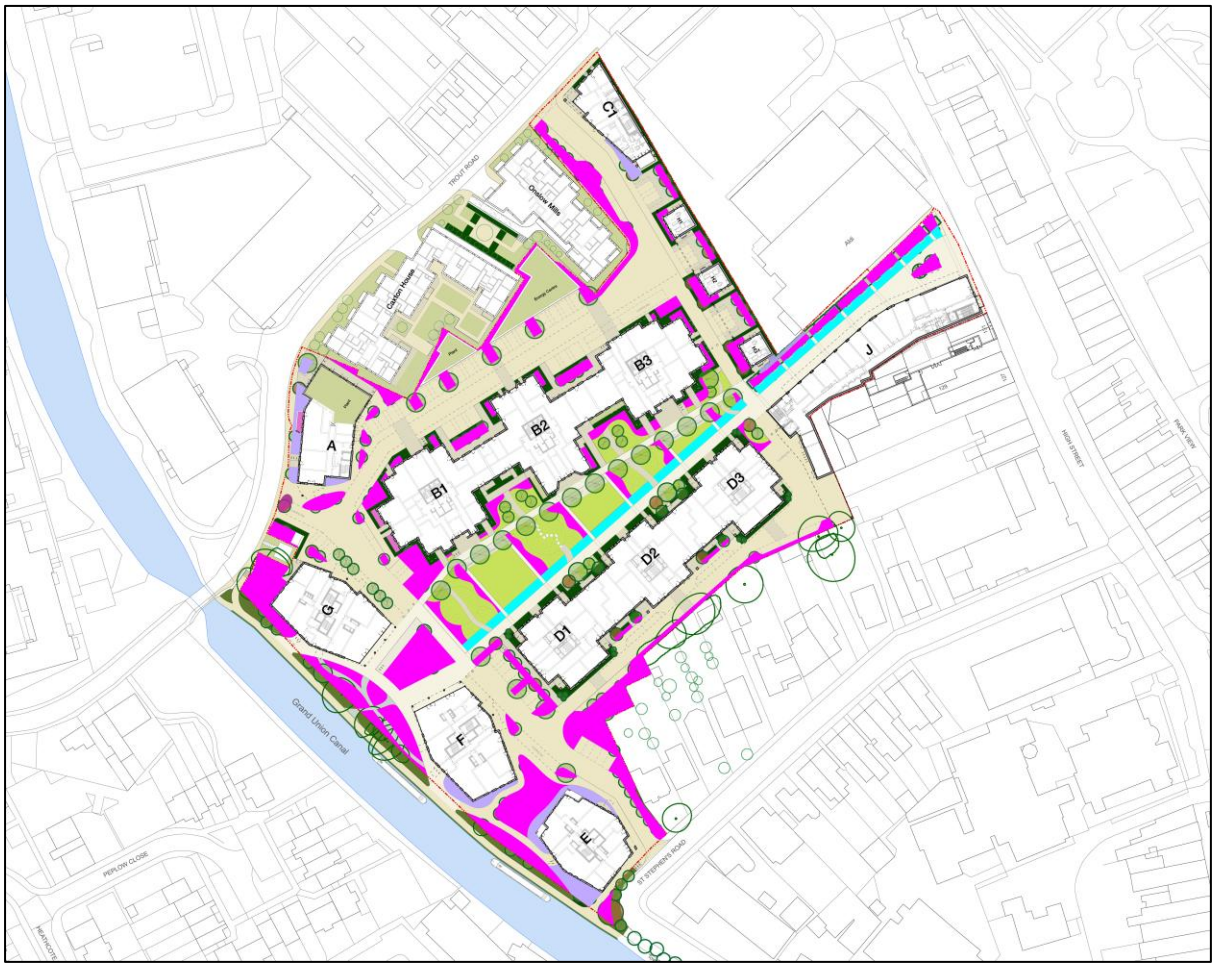
Ground Level Planters

1.192 The Landscape Strategy includes the provision of a range of landscaping types across the public realm, which are split into three main categories which are all categorised as ground level planters under the UK Habitat classification:

- ground cover, grasses and perennials comprising a mix of plant species that provide seasonal flowering interest, with areas along the canal and peripheral areas supporting wildflower and native groundcover. The habitat covers an area of approximately 2,892 m^2 and is identified in pink in Figure 1.9;

- introduced shrub, comprising shrub species that do not fall within the hedgerow category within the UK Habitat classification as they comprise greater extents of planting. The habitat covers an area of approximately 327 m^2 and is identified in purple in Figure 1.9; and,
- SuDS water tolerant planting, comprising naturalised SuDS gardens that will collect rainwater and direct it towards planting where it can be recycled and stored in the soil. Whilst identified as SuDS planting, the habitat does not meet categorisation as rain gardens and therefore is included in the ground level planter category. The habitat covers an area of approximately 396 m^2 and is identified in blue in Figure 1.9.

Figure 1.9 **Extent of Ground Level Planter Habitat within Development Proposals** (from Drawing 458-PTA-LA-00-DR-A-2000 Rev PL2)



1.193 The Landscape Strategy identifies indicative plant species, including:

- Central Canal Gardens border planting: creeping blue blossom (*Ceanothus thrysiflorus*), myrtle spurge (*Euphorbia myrsinites*), small globe thistle (*Echinops ritro*), shrubby honeysuckle (*Lonicera nitida*), Japanese holly (*Ilex crenata*), common broom (*Cytisus scoparius*), perennial phlox (*Phlox paniculata*), black-eyed Susan (*Rudbeckia fulgida*), rosemary (*Salvia rosmarinus*), Dutch garlic (*Allium hollandicum*), iris (*Iris* sp.), wild privet (*Ligustrum vulgare*), betony (*Betonica officinalis*), English lavender (*Lavandula angustifolia*), common sage (*Salvia officinalis*), hebe (*Hebe* sp.), Japanese forest grass (*Hakonechloa macra*), sweet box (*Sarcococca confusa*), Portuguese laurel (*Prunus lusitanica*), dwarf mountain pine (*Pinus mugo*), blue fescue (*Festuca glauca*), wild thyme (*Thymus serpyllum*), blue wood aster (*Symphyotrichum cordifolium*), shrubby cinquefoil (*Potentilla fruticosa*), Mexican feathergrass (*Stipa tenuissima*), fountain grass (*Pennisetum* sp.), Japanese pachysandra (*Pachysandra terminalis*), catmint (*Nepeta* sp.) and ivy (*Hedera helix*);

- Semi-natural and native planting: bird's-foot trefoil (*Lotus corniculatus*), gypsywort (*Lycopus europaeus*), guelder rose (*Viburnum opulus*), wild privet, purple loosestrife (*Lythrum salicaria*), pendulous sedge (*Carex pendula*), buckthorn (*Rhamnus cathartica*), spindle (*Euonymus europaeus*), meadowsweet (*Filipendula ulmaria*), common knapweed (*Centaurea nigra*), holly (*Ilex aquifolium*), wayfaring tree (*Viburnum lantana*), yellow rattle (*Rhianthus minor*), red campion (*Silene dioica*), creeping willow (*Salix repens*), elder (*Sambucus nigra*), teasel (*Dipsacus fullonum*), yellow iris (*Iris pseudacorus*), ivy and bramble (*Rubus fruticosus* agg.);
- Introduced shrub: field maple (*Acer campestre*), dogwood (*Cornus sanguinea*), hawthorn (*Crataegus monogyna*), (*Lonicera periclymenum*), hornbeam (*Carpinus betulus*), hazel (*Corylus avellana*), crab apple (*Malus sylvestris*), blackthorn (*Prunus spinosa*), dog rose (*Rosa canina*) and spindle;
- Shade tolerant planting: shrubby honeysuckle, cherry laurel (*Prunus laurocerasus*), Portuguese laurel (*Prunus lusitanica*), hornbeam, dwarf mountain pine, mountain laurel (*Kalmia latifolia*), Japanese maple (*Acer palmatum*), rhododendron (*Rhododendron* sp.), oakleaf hydrangea (*Hydrangea quercifolia*), smooth hydrangea (*Hydrangea arborescens*), hortensia (*Hydrangea macrophylla*), astilbe (*Astilbe x arendsii*), Chinese silver grass (*Miscanthus sinensis*), tufted hairgrass (*Deschampsia cespitosa*), leatherleaf sedge (*Carex buchananii*), bigroot geranium (*Geranium macrorrhizum*), Shasta daisy (*Leucanthemum x superbum*), Oregon grape (*Mahonia media*), laurustinus (*Viburnum tinus*), David viburnum (*Viburnum davidii*), cohosh bugbane (*Actaea racemosa*), Culver's root (*Veronicastrum virginicum*), wild blue phlox (*Phlox divaricata*), wood cranesbill (*Geranium sylvaticum*), Eric Smith's hellebore (*Helleborus ericsmithii*), hellebore sp. (*Helleborus nobilis*), hybrid Lenten rose (*Helleborus x hybridus*), Lenten rose (*Helleborus orientalis*), asphodel cranesbill (*Geranium asphodeloides*), spotted deadnettle (*Lamium maculatum*), bugle (*Ajuga reptans*), winter windflower (*Anemone blanda*), rue anemone (*Thalictrum thalictroides*), Japanese anemone (*Anemone hupehensis*), dusky cranesbill (*Geranium phaeum*), wood anemone (*Anemone nemorosa*), blue wood aster, Chinese witch hazel (*Hamamelis mollis*), Siberian bugloss (*Brunnera* sp.), Japanese skimmia (*Skimmia japoinica*), coral bells (*Heuchera* sp.), big blue lilyturf (*Liriope muscari*), greater periwinkle (*Vinca major*), topiarist's hebe (*Hebe topiaria*), and Allegheny mountain spurge (*Pachysandra procumbens*);
- Canal SuDS Garde: quaking grass (*Briza media*), wavy hair grass (*Deschampsia flexuosa*), great burnet (*Sanguisorba officinalis*), yarrow (*Achillea millefolium*), white gaura (*Gaura lindheimeri*), common knapweed, sea thrift (*Armeria maritima*), soft shield fern (*Polystichum setiferum*), spotted cranesbill (*Geranium maculatum*), scaly male fern (*Dryopteris affinis*), wood anemone, lady's mantle (*Alchemilla mollis*), snowy barrenwort (*Epimedium x youngianum*) and Hart's-tongue fern (*Asplenium scolopendrium*).

1.194 The species mix proposed for the landscaping includes a variety of native and non-native species with benefit to pollinators. The inclusion of cherry laurel should be reconsidered as the landscape detail is further developed, whilst it is not listed in Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) as an invasive species it is identified as locally invasive by the London Invasive Species Initiative.

1.195 Ground level planters do not require a habitat condition to be identified for the BNG assessment.

Individual Trees

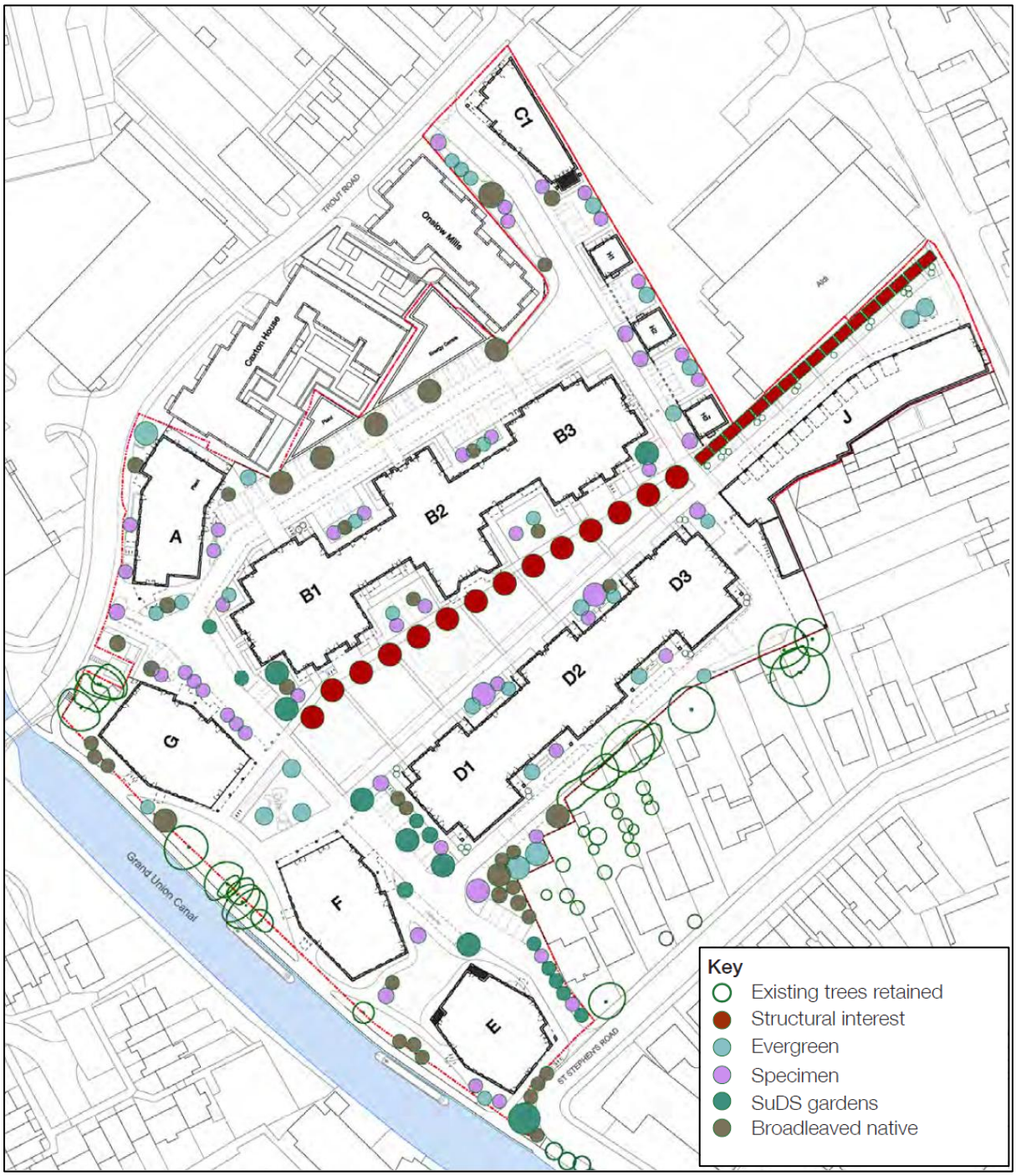
1.196 The Landscape Strategy includes the provision of 151 individual trees across the public realm amongst the different planting areas, which are identified in the strategy to be split into 5 categories which are identified in Figure 1.10:

- Broadleaved native: 35 trees selected for their ecology and parkland value with seasonal colour variation, with species including field maple, sycamore, alder (*Alnus glutinosa*), hazel, beech (*Fagus sylvatica*), pedunculate oak (*Quercus robur*) and small-leaved lime (*Tilia cordata*);
- Structural interest: 14 trees with structural interest and form are proposed along the central spine of the Site to frame views from the High Street to the canal, with species including hornbeam, dawn redwood (*Metasequoia glyptostroboides*), white poplar (*Populus alba*), black poplar (*Populus nigra*) and columnar pedunculate oak (*Quercus robur* 'Fastigiata');
- Evergreen: 33 trees that provide year-round structure across the public realm, with species including Scot's pine (*Pinus sylvestris*), walter pine (*Pinus sylvestris* 'Watereri'); dwarf mountain pine, stone pine (*Pinus pinea*) and black pine (*Pinus nigra*);
- Specimen: 51 trees of ornamental species with bright leaves and blossom across the public realm, with species including katsura tree (*Cercidiphyllym japonicum*), Judas tree (*Cercis siliquastrum*), giant dogwood (*Cornus controversa*), sweet gum (*Liquidambar styraciflua*), magnolia (*Magnolia x soulangeana*), crab apple (*Malus rudolph*), wild cherry (*Prunus avium*), myrobalan plum (*Prunus cerasifera*), Yoshino cherry (*Prunus x yeodensis*), Japanese cherry (*Prunus serrulata*) and rowan (*Sorbus aucuparia*);
- SuDS garden: 18 trees tolerant of wet conditions are proposed across the public realm, with species including alder, snowy mespilus (*Amelanchier lamarckii*), silver birch (*Betula pendula*), downy birch (*Betula pubescens*), black birch (*Betula nigra*), Himalayan birch (*Betula utilis*), giant dogwood, dogwood, hazel and common osier (*Salix viminalis*).

1.197 All trees proposed are classified as small in line with the sizes specified in the BNG guidance, and require a condition to be identified for the BNG assessment. A number of the broadleaved native (all with the exception of sycamore, which is naturalised), structural interest (hornbeam, black poplar and pedunculate oak), evergreen (Scot's pine), specimen (crab apple, wild cherry and rowan) and SuDS garden (alder, silver birch, downy birch, dogwood and hazel) trees are of a native species. However, as the number of individual tree species is not identified, based on the number of trees and native species it is assumed representative but precautionary to include 35 trees (representing the broadleaved native) species as native (Criterion A) with the native species in the other categories likely to match the quantum of sycamore trees within the broadleaved native category.

1.198 All trees will pass the criteria associated with tree canopy by default (Criterion B) and 140 of the trees oversail vegetation Criterion G), whilst all of the trees are expected to be in a location or type in which they will be able to retain more than 75% of their expected canopy and with no impacts on tree health (Criterion D). However the trees will not be native (Criterion C), contain natural ecological niches (Criterion D). As a result, all of the trees are considered to meet 3 or 4 condition criteria and are considered to be of moderate ecological condition.

Figure 1.10 **Extent and Type of Tree Planting within the Proposed Development** (from 468-PTA-MP-ZZ-RP-A-0001_CH08_Landscape)



Hedgerow

1.199 The Landscape Strategy includes the provision of hedgerow habitat across the public realm, with approximately 640 linear metres of hedgerow habitat identified in orange in Figure 1.11. The Landscape Strategy identifies the species comprising the hedgerow habitat to include field maple, dogwood, hawthorn, common honeysuckle, hornbeam, hazel, crab apple, blackthorn, dog rose and spindle.

Figure 1.11 **Extent of Hedgerow Habitat within the Proposed Development** (from Drawing 458-PTA-LA-00-DR-A-2000 Rev PL2)

1.200 The hedgerow habitat will qualify as native hedgerow, however a precautionary approach has been taken in the absence of detail and following a precautionary approach it has not been classified as species-rich native hedgerow. The hedgerow habitat is expected to be managed as an amenity resource, maintaining relatively short height and a tidy appearance, which will have an impact upon the habitat condition, required to inform the BNG assessment.

1.201 The hedgerow habitat is not expected to be of more than 1.5 m height or width (Criteria A1 and A2), support undisturbed ground and perennial vegetation given its location (Criterion C1) or be free of current damage (including evidence of pollution) (Criterion D2). The habitat is expected to meet the requirements associated with gaps in continuity and at the base (Criterion B1 and B2), as a result of the absence of nutrient-enriched perennial vegetation (Criterion C2) and an absence of invasive species (Criterion D1). As a result, as the habitat fails only 4 criterion and two within only one group, the habitat is considered to be of moderate condition.

Riparian Habitat

1.202 The Landscape Strategy identifies additional provision of landscape planting across the associated area between 6m and 10m from the canal bank, altering the encroachment in this area to approximately 750 m^2 of semi-natural habitat across the 900 m^2 area, representing an area of approximately 83 % semi-natural planting. However, as discussed in Paragraph 1.184, as the development encroaches on the riparian habitat through opening up the southern boundary the development results in an increase in encroachment on the riparian habitat between 0m and 4m that increases the encroachment result to major for the left bank.

Species Enhancement

1.203 In addition to habitat enhancements, it is recommended that appropriate artificial habitat aids are incorporated into the development to aid species presence within the Site and support enhancement to the ecological functioning of the Site. The inclusion of artificial habitat aids are identified in CIRIA guidance[36] as having potential to make an important contribution to providing alternative wildlife refuges, enhancing the biodiversity value of developments cheaply and easily.

1.204 Additional value to the species enhancement can be provided by identifying appropriate nest boxes that target species of conservation concern locally or nationally. With this in mind, it is recommended that the following boxes are included in the design, the location of which should be considered as the development design evolves but should be achievable at a suitable location at roof level or the boundary wall and green wall habitat.

Bird Nesting Boxes

1.205 In general, bird nesting boxes should be fixed at least 2 m above floor level and located on a façade that provides an aspect that faces between a north-east and south-east direction, however swift boxes should be affixed at 4-5 m above ground level. The recommended boxes are made of 'woodcrete' or 'woodstone', a breathable material that is durable and rot-proof with the lifespan of boxes typically in the region of 25 years.

1.206 The following nest boxes are recommended to provide enhancement for species that are locally of conservation concern and to support opportunities for urban species locally:

- 6x House Sparrow Terrace, e.g. 1SP Schwegler Sparrow Terrace or similar;
- 5x Triple Cavity Swift Nest, e.g. No. 17A Schwegler Swift Nest Box or similar;
- 10x generic species nest box, e.g. 1MR Schwegler Avianex for the terraces or 1B Schwegler bird box, or similar.

Bat Boxes

1.207 The provision of green roof habitats and biodiverse planting across the public realm will enhance the potential value of the Site for foraging bats, and therefore the provision of bat roost boxes to complement this will further enhance habitat opportunities for the species as a result of the development. Unlike birds, artificial roosting habitat for bats is not species specific and differences in boxes are often related to requirements for installation.

1.208 All bat boxes should be affixed at a height of at least 3m, ideally at roof level, with unobstructed access to the bottom of the box. As bats are legally protected from disturbance, the roost box should be located somewhere away from regularly used areas or building plant that may require regular maintenance. It is recommended that a total of 5x bat boxes are provided across the Site. The box installed should be suitable for crevice dwelling bats, with the box implemented depending on the installation requirements and could comprise the Vivara Pro Build-in Woodstone Bat Tube, 1WQ Schwegler Summer and Winter Bat Roost or similar.

[36] *CIRIA (2007) BUILDING GREENer. Guidance on the use of green roofs, green walls and complementary features on buildings. CIRIA Report C644. Construction Industry Research and Information Association, London.*

Invertebrate Habitat Aids

1.209 Invertebrates are an integral component of our environment, providing a number of vital ecosystem services including the pollination of flowers, recycling of organic material and as a valuable foraging resource. Habitat aids for invertebrates are relatively simple to provide, and can be incorporated within landscaping in sheltered locations that receive direct sunlight. Habitat aids are not generally species specific, instead providing suitable sheltering opportunities for a range of species.

1.210 A number of features, including substrate piles and log piles, should be incorporated within the design of green roofs across the Site to provide supporting habitat for faunal species in the undisturbed environment of the green roofs. In addition to this, 10x artificial invertebrate boxes, such as the Schwegler Clay and Reed Insect Nest or Schwegler Hardwood Insect Nesting Aid, are recommended for inclusion across the Site amongst landscaping to provide appropriate sheltering habitat for invertebrates.

Biodiversity Value of the Developed Site

1.211 As part of the assessment, it is important to establish the definitions of two terms to ensure the calculation is appropriate and avoids confusion in terms between the calculation methodology and project discussions. Therefore, for the purpose of the calculation, the following terms have been followed:

- Habitat Enhancement – the improvement of the condition of an existing habitat, thereby increasing the biodiversity value of a habitat type. Enhancement is achieved through measures that improve habitat biodiversity capacity and/or remove factors that detract from its value;
- Habitat Creation – the removal or loss of the present habitat in the action of creating the new one or creating habitat where none was previously present (including bare earth).

1.212 As a result, the proposals to include habitats as enhancements to the design are considered to be habitat creation in the calculation methodology. The planting types within the design have been assigned appropriate categories in line with the UK Habitat Classification and, where relevant, discussion on the habitat condition is included in the descriptions above.

1.213 The strategic significance for the Site is discussed as part of the methodology, with the canal habitat comprising a high strategic significance, the semi-natural habitats supporting the establishment of a green corridor between the town centre and canal, including diverse public realm planting, green roof habitat and individual trees of medium significance, and a low strategic significance attributed to the artificial or highly managed habitat created. The temporal risk factor, comprising the time between clearance of the Site and the commencement of landscape planting, has been included as 4 years, with development expected to commence in late 2026/2027 and finish in 2030/2031, thereby representing the maximum anticipated timeframe between commencement on site and completion of the development and providing a precautionary approach across the Site. As hedgerow habitat is not present in the baseline there is no additional delay in delivery of the habitat.

1.214 The assessment of the proposed habitats and associated biodiversity units are presented in Table 1.12, which identifies the total biodiversity value of the habitats created to be 4.92 habitat units and 2.36 hedgerow units.

Table 1.13 Summary of the Post-Development Habitats and their Habitat Value

Habitat	Area (ha)	Distinctiveness	Condition	Strategic Significance	Delivery Risk	Final Time to Condition (Years)	Unit Value
Area-Based Habitats							
Developed land; sealed surface	1.2979	Very Low	N/A	Low	Low	4	0.00
Biodiverse green roof	0.1190	Medium	Good	Medium	Medium	14	0.64
Biodiverse green roof	0.3158	Medium	Good	Medium	Medium	14	1.70
Modified grassland	0.1158	Low	Poor	Low	Low	5	0.19
Ground level planters	0.0327	Low	N/A	Medium	Low	5	0.06
	0.2892	Low	N/A			5	0.53
	0.0396	Low	N/A			5	0.07
Individual trees	0.6148	Medium	Moderate	Medium	Low	30+	1.73
Hedgerow Habitats							
Native hedgerow	0.64	Low	Moderate	Medium	Low	5	2.36

1.215 The alteration to the encroachment of the riparian habitat on the left bank from moderate to major, as a result of the encroachment within 0 to 4 m of the bank associated with the provision of new footpaths, results in a reduction in the habitat value of the canal from 0.31 watercourse units in the baseline to a post-development value of 0.29 watercourse units.

Table 1.14 Summary of the Post-Development Habitats and their Habitat Value

Habitat	Area (ha)	Distinctiveness	Condition	Strategic Significance	Watercourse Encroachment	Riparian Encroachment	Unit Value
Watercourse Habitats							
Canal	0.15	Medium	Poor	High	Major	Major/Minor	0.29

Predicted Change in Biodiversity Value

1.216 The predicted change in biodiversity value as a result of the Proposed Development identifies that, based on the landscape proposals presented, the development can deliver a biodiversity net gain that complies with policy and legislative requirements. The proposals deliver a net gain of 416.57 % for area-habitats and an increase of 2.36 hedgerow units, as identified in Table 1.13, which satisfy the Trading Rules associated with the methodology.

Table 1.15 Change in Biodiversity Value as a Result of the Proposed Development

	Area Habitat Units	Hedgerow Units	Watercourse Units
Baseline Habitat Value	0.96	0.00	0.31
Value of Habitat Lost	0.93	0.00	0.02
Value of Habitat Retained	0.03	0.00	0.29
Value of Habitat Enhanced	0.00	0.00	0.00
Value of Habitat Created	4.92	2.36	0.00
Total Post-Development Habitat Value	4.95	2.36	0.29
Net Change (Biodiversity Units)	+3.99	+2.36	-0.02
Percentage Net Change	**416.57%**	N/A	**-6.45 %**

1.217 However, there is a deficit of 0.02 watercourse units associated with the encroachment of the development within 0 to 4 m of the bank which results in a net loss of 6.45% in watercourse units that requires offsetting before the development can be considered to meet the legislative and policy requirements for BNG.

Offsetting

1.218 To comply with the mandatory 10% BNG requirement and Trading Rules associated with the metric, the development will need to offset the losses associated with the watercourse habitat. The development requires delivery of 0.02 watercourse units to compensate for the loss on site and an additional 0.03 watercourse units to deliver a 10% enhancement over the baseline, therefore requiring an offset of 0.05 watercourse units.

1.219 The delivery of offset units will be identified and secured through the Biodiversity Gain Plan, as a condition to planning approval. However, in respect to the planning application it is important to demonstrate that delivery of this offset is achievable. The offset requirement is relatively small, with three options that have been considered to date that will be further explored as part of the Biodiversity Gain Plan:

- Local offsetting with the Canal and Rivers Trust – consultation with the Canal and Rivers Trust (CRT) as part of the application included discussion regarding the potential to secure offset credits with them, delivering bespoke enhancement of watercourse habitats that will directly offset the loss identified;
- Offsetting through a local offsetting scheme – a credit purchase could be made through a registered credit provider, with six biodiversity gain sites on the register currently offering watercourse credits; or,
- Statutory credit purchase – a payment for statutory credits could be made to offset the minor loss in units, for this the credits required is doubled with 0.1 watercourse units currently estimated to cost £23,000, excluding VAT.

1.220 Before an offset can be made, the development needs to demonstrate that it has applied the mitigation hierarchy and opportunities to avoid or reduce the impact have been made. Whilst in isolation the additional encroachment into the riparian habitat could be avoided, opening up the access between the Site and the canal brings wider benefits associated with access and pedestrian and habitat linkages that are recognised in local planning policy and initiatives. The encroachment is relatively limited, with extensive landscape planting provided in the riparian habitat that will enhance the presence of semi-natural habitat, and associated benefits to wildlife around sheltering and foraging opportunities. As a result, whilst the proposals result in a minor loss of ecological value associated with the canal habitat, it delivers wider strategic benefits and has minimised the impact as much as possible.

1.221 The delivery of offsetting is considered to be feasible, with the three opportunities identified to be considered as part of the Biodiversity Gain Plan deliverable without significant constraint to the proposals. The opportunities will be explored in turn as identified, considering

1.222 Once the loss associated with the watercourse habitat is compensated and delivers 10% enhancement, combined with the scale of enhancement associated with area-based habitats the proposed development would meet both legal and policy requirements associated with BNG.

SUMMARY AND CONCLUSION

Baseline

- The Site is not subject to any statutory or non-statutory designation, although the canal approximately 5m to the west of the Site falls within the London's Canals Site of Metropolitan Importance for Nature Conservation designation;
- The Site does not support any notably or priority habitats, although the study area supports a number of areas of deciduous woodland and open mosaic habitat within the Colne Valley with the with the closest being an area of deciduous woodland approximately 240 m to the west;
- The Site is characteristic of its urban context, being dominated by urban habitats under the UK Habitat Classification that are either artificial habitats or currently clear of vegetation. The Site includes a small area of woodland alongside the canal with areas of sparsely vegetated urban land present in places as a result of the cessation of management on these parcels of land allowing some vegetation to establish;
- The buildings on site include a single residential bungalow, a masjid, a number of industrial buildings and several temporary buildings and structures across the Site. The majority of the buildings are not of a type that is typically suitable for roosting bats, on account of their use, materials or suitability of opportunities, however three buildings were assessed to hold low to moderate potential suitability for roosting bats: 22 St Stephens Road (low) and the Al Falah Masjid (moderate);
- Further survey of the buildings with bat roost potential concluded a likely absence of bats, with no emergences from the buildings during emergence surveys and in consideration of the low levels of activity with no interest shown in the roost features;
- The Site has limited additional supporting potential for faunal species, largely restricted to breeding birds associated with the trees, woody vegetation and building fabric. The Site is of negligible suitability for foraging and commuting bats with other species considered unlikely as a result of the lack of connectivity with wider habitats;
- A River Condition Assessment concluded the canal habitat to be of poor ecological condition with major watercourse encroachment and moderate/minor riparian encroachment.

Impacts and Mitigation

- The development has relatively limited potential for adverse effects on local biodiversity as a result of the dominance of artificial habitats within the survey area;
- The redevelopment of the Site will inevitably result in the loss of semi-natural habitats on the Site, however care is required in the design to consider the presence of notable habitats including the woodland habitat and semi-mature and mature trees present on site. The loss of habitats will require compensation in line with policy requirements and the requirements associated with the delivery of a net gain for biodiversity;
- The redevelopment has potential for adverse effects on the adjacent canal habitat, with appropriate mitigation proposed to mitigate construction impacts on the designated site;
- Whilst the introduction of new footpaths between the Site and the Proposed Development delivers improvements on the permeability of the Site along with strategic socio-economic and environmental benefits, the delivery of these will introduce new encroachment to the riparian habitat between 0 to 4 m from the bank that constitutes a major encroachment. As a result, whilst delivering strategic benefits the provision of these results in a reduction in habitat value of 0.02 watercourse units;

- Retained trees within the Site and those adjacent to the Site, where suitable for retention, should be protected through the construction phase through the implementation of appropriate mitigation in line with British Standard 5837;
- Consideration will be required for sensitive timings in relation to breeding birds in the programme, otherwise works should be preceded by a check by a suitably qualified ecologist for nesting activity;
- Due to the transient nature of bats, an update survey should be carried out prior to the commencement of construction to ensure bat roosting opportunities remain as reported and to provide an update survey in respect to bat roosting associated with the buildings identified with roosting potential;
- Best practice measures are recommended for the design and construction, including minimising light spill through the design, adoption of relevant mitigation measures to reduce dust generation through trackout activities, avoidance of the encroachment of works and the identification of a responsible person through construction.

Enhancement

- Landscaping incorporated within the current proposals include areas of biodiverse green roof and public realm plating in the form of modified grassland, ground level planting of shrubs and herbaceous species and individual urban trees;
- The Proposed Development does not meet any of the exemption criteria set out within the Biodiversity Gain Requirements (Exemptions) Regulations 2024, and therefore it is considered to be subject to the mandatory biodiversity net gain requirement as a condition of planning;
- The Landscape Strategy delivers a significant net gain for biodiversity in respect to area-based habitats with an increase of 3.99 habitat units equating to a net gain of 416.57 % over the baseline value of 0.96 habitat units comprising a significant net gain in respect to these units;
- The Landscape Strategy introduces hedgerow habitat with a total increase of 2.36 hedgerow units, comprising a significant net gain in respect to these units;
- Whilst the Landscape Strategy increases the extent of semi-natural habitats within the riparian habitat for the canal, as the development includes encroachment into the area of 0 to 4 m associated with new footpaths linking to the tow path the impact remains an increase in encroachment on the left bank to major with a decrease in habitat value of 0.02 watercourse units that require offsetting;
- Recommendations have been made for the inclusion of species enhancements within the Proposed Development, adding further value to the biodiversity value of the final Site, although not contributing to the change in biodiversity habitat value score.

Offsetting

- Opportunities to deliver offsetting of the minor loss of watercourse units is considered to be achievable and will be explored further and secured as part of the Biodiversity Gain Plan to discharge the associated BNG condition to approval;
- Once the deficit in watercourse units has been offset, the Proposed Development will deliver a significant net gain that exceeds the requirements associated with mandatory biodiversity net gain and policy requirements associated with biodiversity net gain.

APPENDIX A – Legislative and Policy Context

Legislation

Statutory Designated Sites

Statutory designation of sites for nature conservation derives from a number of international conventions, European Directives and national legislation, establishing the following framework of designations:

- Special Area of Conservation (SAC) – designated under the European Council Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna, transposed by the Conservation of Habitats and Species Regulations 2017 (as amended), for the conservation of particular habitats (listed on Annex I) and/or species (listed on Annex II) that are identified as being of European Importance;
- Special Protection Area (SPA) – designated under the European Council Directive on the Conservation of Wild Birds, transposed by the Conservation of Habitats and Species Regulations 2017 (as amended), for the protection of wild birds and their habitats (including particularly rare and vulnerable species listed in Annex I of the Directive and migratory species);
- Ramsar – listed under the Convention on Wetlands or International Importance for the protection of internationally important wetland habitat, especially as waterfowl habitat. Whilst the sites are not directly legislated, the NPPF expects these to be given the same level of protection as SACs and SPAs;
- Site of Special Scientific Interest (SSSI) – designated under the Wildlife and Countryside Act 1981 (as amended) or the National Parks and Access to the Countryside Act 1914, on account of the sites being of special nature conservation interest for its plant/animal communities, habitats, geology or landform features;
- National Nature Reserve (NNR) – designated under the Wildlife and Countryside Act 1981 (as amended) as nationally important on account of its habitat, flora or fauna interest;
- Local Nature Reserve (LNR) – established under Section 24 of the National Parks and Access to the Countryside Act 1914 as locally important on account of its habitat, flora or fauna interest.

European Protected Species

The Conservation of Habitats and Species Regulations 2017 (as amended) affords protection to all European Protected Species (EPS) in England and Wales. Under this legislation it is an offence to deliberately capture, injure or kill individuals of any native EPS, a strict liability offence to damage or destroy sites or places which EPS use as a breeding site or resting place and an offence to deliberately disturb an EPS whereby the disturbance is likely to:

a) impair its ability;

   i. to survive, breed or reproduce, or to rear or nurture their young; or,

   ii. in the case of animals of a hibernating or migratory species to hibernate or migrate; or,

b) to affect significantly the local distribution or abundance of the species to which they belong.

Development licences are available from Natural England, under certain circumstances, that would allow activities that would otherwise be an offence under these Regulations. However, compliance with the licence methodology and conditions is important, with it being an offence to breach any condition imposed by any such licence.

EPS also receive partial protection through Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), through which it is an offence to intentionally or recklessly disturb an EPS whilst it is using a place of rest or shelter.

Flora

Section 13 of the Wildlife and Countryside Act 1981 (as amended) provides protection for all wild plants, which establishes an offence to uproot a plant without the permission from the land owner or occupier. Uprooting is defined in the Act as to '*dig up or otherwise remove the plant from the land on which it is growing*'.

Section 13 also establishes an offence to intentionally pick, uproot, destroy or trade in the higher and low plants plant species listed in Schedule 8 of the Act.

Section 14 of the Wildlife and Countryside Act 1981 (as amended) makes it an offence to plant or otherwise cause to grow in the wild the species identified in Schedule 9 of the Act. The protection was strengthened through Section 23 of the Infrastructure Act 2015, which enables environmental authorities to require works to be undertaken to remove or prevent their establishment.

The Environmental Protection Act 1990 establishes the requirement for licensed disposal of material containing Japanese knotweed (*Fallopia japonica*) and giant hogweed (*Heracleum mantegazzianum*), identifying such material as 'controlled waste' and requiring appropriate disposal.

Birds

Part 1 of the Wildlife and Countryside Act 1981 (as amended) provides legislative protection to all wild birds in England and Wales, making it an offence to intentionally kill, injure or take any wild bird, or take, damage or destroy the nest (whilst being built or in use) or its eggs. The Act also provides additional protection to those species listed in Schedule 1 from disturbance whilst it is building a nest, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

Section 10, Part 1 of the Conservation of Habitats and Species Regulations 2017 (as amended) places a requirement on local planning authorities in the exercising of their functions to have regard to '*the preservation, maintenance and re-establishment of a sufficient diversity and area of habitat for wild birds in the UK*'. As a result, it is important to consider any habitat loss as a result of development and opportunities for the provision of habitats.

Biodiversity Net Gain

The statutory requirement for biodiversity net gain comes from Schedule 7A of the Town and Country Planning Act 1990 (as amended), inserted by Schedule 14 of the Environment Act 2021 and enacted by The Environment Act 2021 (Commencement No. 8 and Transitional Provisions) Regulations 2024. Through this, unless exempt through the Biodiversity Gain Requirements (Exemptions) Regulations 2024, all developments are required to deliver a minimum 10 % net gain for biodiversity as a condition of planning approval.

Planning Policy

National

Planning policy at the national level is provided by the National Planning Policy Framework (NPPF)[37], which sets out the Government's economic, environmental and social planning policies for England and articulates the Government's vision for sustainable development.

Protection and enhancement of the natural environment is a key component of the environmental objective of the NPPF, including improving biodiversity, with planning policy relating to biodiversity contained within Chapter 15 on conserving and enhancing the natural environment. Paragraph 180 states that "*planning policies and decisions should contribute to and enhance the natural and local environment by:*

- protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- recognizing the intrinsic character and beauty of the countryside, and the wider benefits from natural capita and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
- minimizing impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures".

Paragraph 186 of the NPPF relates specifically to biodiversity principles local planning authorities should apply when determining planning applications, which comprise:

- "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;
- development on land within or outside a site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweighs both its likely impact on the features of the site that make it of species scientific interest, and any broader impacts on the national network of sites of Special Scientific Interest;
- development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate".

The NPPF is supported by Planning Practice Guidance[38], provided by the Department for Levelling Up, Housing and Communities, which provides further guidance on biodiversity, green infrastructure and biodiversity net gain. Of particular note, Paragraph 018 (Reference ID: 8-018-20240214) identifies that biodiversity information should inform all stages of development, with applications informed by an ecological survey where the type or location of development could have a significant impact on biodiversity. Additionally, Paragraph 018 identifies that detailed species surveys should only be required by local planning authorities where clearly justified, with assessments proportionate to the nature and scale of development proposals and their impact on biodiversity.

[37] *Department for Levelling Up, Housing and Communities (2023) National Planning Policy Framework. December 2023.*
[38] *Department for Levelling Up, Housing and Communities (2016) Planning Practice Guidance. Last updated February 2024.*

Within the Biodiversity Net Gain information, Paragraph 011 (Reference ID 74-011-20240214) identifies the minimum information required to be submitted as part of a planning application where the biodiversity net gain condition is likely to apply to the development.

Regional

The London Plan[39] provides strategic planning policy for Greater London, setting out an integrated economic, environmental, transport and social framework for the development of London over 20 – 25 years.

The principal policy for biodiversity is provided by Policy G6, Biodiversity and Access to Nature, which requires the protection of Sites of Importance for Nature Conservation (SINCs) or, where this is unavoidable and the benefits of the development clearly outweigh the impacts on biodiversity, minimise impacts through the application of the mitigation hierarchy (avoid, minimise and mitigate, compensate). The policy also requires development proposals to manage impacts on biodiversity and secure net biodiversity gain, informed by the best available ecological information and addressed from the start of the development process, with those reducing deficiencies in access to nature considered positively.

Additional policies of potential relevance include:

- Policy D7, Public Realm, encourages the creation of new public realm and incorporation of green infrastructure such as street trees and other vegetation that supports rainwater management through sustainable drainage, reduce exposure to air pollution, moderate surface and air temperature and increase biodiversity;
- Policy G1, Green Infrastructure, requires the protection of London's network of green and open spaces and green features in the built environment, with development proposals expected to incorporate appropriate elements of green infrastructure that integrate into London's wider green infrastructure network;
- Policy G5, Urban Greening, establishes the requirement for major development proposals to contribute to the greening of London through the adoption of measures as a fundamental element of design and demonstrated through an Urban Greening Factor appraisal; and,
- Policy G7, Trees and Woodland, requires development proposals to ensure, wherever possible, existing trees of value are retained and, where removal is necessary, adequate replacement is made.

Local

Local planning policy is currently derived from the Hillingdon Local Plan, which sets out the Borough's vision, strategy, objectives and policies for planning development within Hillingdon and includes policies for deciding development management decisions. The Local Plan is formed of two parts: Part 1[40] covers the Strategic Policies and was adopted in November 2012; and, Part 2[41] covers the Development Management Policies and was adopted in January 2020.

The Strategic Objective in relation to biodiversity is to '*protect and enhance biodiversity to support the necessary changes to adapt to climate change*' and '*where possible, encourage the development of wildlife corridors*'. In support of this objective, Policy EM7 on Biodiversity and Geological Conservation identifies that attention will be given to the protection and enhancement of Sites of Importance for Nature Conservation, protected and priority species and habitats, provision of biodiversity

[39] *Greater London Authority (2021) The London Plan. The Spatial Development Strategy for Greater London, March 2021.*
[40] *London Borough of Hillingdon (2012) Hillingdon Local Plan: Part 1 – Strategic Policies. Adopted November 2012.*
[41] *London Borough of Hillingdon (2020) Hillingdon Local Plan: Part 2 – Development Management Policies. Adopted January 2020.*

enhancement through development, inclusion of green roofs and living walls and the use of sustainable drainage systems that promote ecological connectivity and natural habitats.

In addition, Strategic Objective SO3 identifies the intention to '*improve the quality of, and accessibility to, the heritage value of the borough's open spaces, including rivers and canals as areas for sports, recreation, visual interest, biodiversity, education, health and well being*'.

The Development Management Policies include the following of relevance to biodiversity and nature conservation:

- DMEI 1 – Living Walls and Roofs and on-site Vegetation: all development proposals are required to comply with the following:
  - all major development should incorporate living roofs and/or walls into the development. Suitable justification should be provided where living walls and roofs cannot be provided; and
  - major development in Air Quality Management Areas must provide onsite provision of living roofs and/or walls. A suitable offsite contribution may be required where onsite provision is not appropriate;
- DMEI 5 – Development in Green Chains:
  - development in Green Chains will only be supported if it conserves and enhances the visual amenity and nature conservation value of the landscaping, having regard to: the need to maintain a visual and physical break in the built-up area; the potential to improve biodiversity in and around the area; and , the provision and improvement of suitable recreational facilities;
  - any new development that meets the above criteria, particularly in areas deficient in Green Chains, will be required to provide new areas of habitat and amenity space, linking into existing Green Chains.
- DMEI 7 – Biodiversity Protection and Enhancement
  - the design and layout of new development should retain and enhance any existing features of biodiversity or geological value within the site. Where loss of a significant existing feature of biodiversity is unavoidable, replacement features of equivalent biodiversity value should be provided on-site. Where development is constrained and cannot provide high quality biodiversity enhancements on-site, then appropriate contributions will be sought to deliver off-site improvements through a legal agreement;
  - if development is proposed on or near to a site considered to have features of ecological or geological value, applicants must submit the appropriate surveys and assessments to demonstrate that the proposed development will not have unacceptable effects. The development must provide a positive contribution to the protection and enhancement of the site or feature of ecological value;
  - all development alongside, or that benefits from a from a frontage on to a main river or the Grand Union Canal will be expected to contribute to additional biodiversity improvements;
  - Proposals that result in significant harm to biodiversity which cannot be avoided, mitigated or, as a last resort, compensated for, will normally be refused.
- DMEI 8 – Waterside Development
  - Development on sites that adjoin or include a watercourse should: have regard to the relevant provisions of the Thames River Basin Management Plan and any other relevant Catchment Management Plans; not extend within 8 metres of the top of the bank of a main river or 5 metres either side of an ordinary watercourse or an appropriate width as may be agreed by the Council; where feasible, secure the implementation of environmental enhancements to open sections of river or watercourse; and where feasible, implement a scheme for restoring culverted sections of river or watercourses which must include an adequate buffer for flooding and maintenance purposes;

- Where on-site environmental enhancements or deculverting are financially viable but not feasible, the Council will seek a financial contribution towards relevant projects for the enhancement or deculverting of other sections of rivers or watercourses;
- Existing wharves and their access will be protected for continued use;
- Proposals that would adversely affect the infrastructure of main rivers and ordinary watercourses, or which fail to secure feasible enhancements or deculverting, will be resisted;
- Development located in or adjacent to watercourses should enhance the waterside environment and biodiversity by demonstrating a high design quality which respects the historic significance of the canal and character of the waterway and provides access and improved amenity to the waterfront; and,
- All development alongside or that benefits from a frontage on the Grand Union Canal will be expected to contribute to the improvement of the Canal.

Local Ecological Initiatives

Biodiversity Frameworks and Action Plans

National

The UK Biodiversity Framework[42], which supersedes the Post-2010 Biodiversity Framework[43], establishes four key objectives for cross-UK work relating to biodiversity policy and supporting evidence. As with the Post-2010 Biodiversity Framework, it is assumed that the priority habitats and species, reported under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006, remain conservation priorities for the UK.

Each component country in the UK is responsible under the Biodiversity Framework for developing their own policy towards meeting international biodiversity commitments, with those for England communicated through the Environmental Improvement Plan 2023[44]. The overarching aim of this plan in relation to biodiversity is to 'achieve a growing and resilient network of land, water and sea that is richer in plants and wildlife' with the targets to halt the decline and increase species abundance, restore or create wildlife rich-habitat and increase tree canopy and woodland cover.

Regional

The London BAP[45], prepared by the London Biodiversity Partnership, aimed protect and enhance London's biodiversity, ensuring rare species are maintained and common species remain common thereby contributing to the maintenance of national and global biodiversity. Whilst the partnership has disbanded, the aims of the plan remain relevant with the priority habitats and species continuing to be considered conservation priorities for London. The habitats and species of potential relevant to the site include:

- Habitats: parks and urban greenspaces; tidal Thames; built structures.
- Species: bats; house sparrow (*Passer domesticus*); black redstart (*Phoenicurus ochruros*); dunnock (*Prunella modularis*), peregrine (*Falco peregrinus*), song thrush (*Turdus philomelos*), spotted flycatcher (*Muscicapa striata*), starling (*Sturnus vulgaris*) and hedgehog (*Erinaceus europeaus*).

[42] *JNCC on behalf of the Four Countries' Biodiversity Group (4CBG) (2024) UK Biodiversity Framework. JNCC, Peterborough.*
[43] *JNCC and Defra (on behalf of the Four Countries' Biodiversity Group) (2012) UK Post-2010 Biodiversity Framework. July 2012.*
[44] *Department for Environment, Food and Rural Affairs (2023) Environmental Improvement Plan 2023. First Revision of the 25 Year Environment Plan.*
[45] *London Biodiversity Partnership (2007) London Biodiversity Action Plan. Access through www.gigl.org.uk*

Local Nature Recovery Strategy

The Local Nature Recovery Strategy (LNRS) for London, a new system of spatial biodiversity strategies in England, is currently being prepared by the Greater London Authority with the aim for London's ecological network to be bigger, better and more joined up. The LNRS is not currently available, with the GLA aiming to complete the strategy by 2025. However, in the absence of the LNRS the GLA identify that the current London and Local Plans should be referenced to inform decision making.

All London Green Grid Strategy

The ALGG Supplementary Planning Guidance (SPG)[46] sets out the vision for the ALGG, which is to '*create a well-designed green infrastructure network of interlinked, multi-purpose open and green spaces with good connections to the places where people live and work, public transport, the Green Belt and the Blue Ribbon Network*'. The SPG sets out the establishment of the eleven Green Grid Area (GGA) frameworks and identifies that they should 'identify objectives and projects, taking into account cross boundary integration and promoting opportunities for improving the provision, quality, functions, linkages, accessibility, design, planning and management of the green infrastructure network'.

The site falls within the River Colne and Crane Green Grid (Green Grid Area (GGA) 10), which covers the borough town centres of Uxbridge, in Hillingdon in the west, and Hounslow, in the south, along with the urban centres of Twickenham, Feltham, Yiewsley & West Drayton, Hillingdon and Hayes. The framework identifies that the area is fully within Green Belt jurisdiction and green open space is highly valued yet forms an even but fragmented mosaic with scattered ancient woodland, farmland and open water more dominant in the north and in the Colne Valley Park and urban development and Heathrow Airport more dominant in the south and east. The vision for the framework identifies it's opportunity to reveal, maintain and enhance a landscape scale network of high quality biodiverse and green open spaces with the objective to promote and enable access to the huge and rich biodiversity resource of the area, protected and enhance existing designated sites, address issues of invasive species and protect and enhance wild landscapes within urban areas.

The GGA 10 framework identifies the site to tall alongside an urban green corridor, comprising the Grand Union Canal, with local projects identified to include upgrades to the Grand Union Canal towpath and the improvement to links to the Colne Valley Park from Yiewsley and access and landscaping improvements to Trout Lane as a gateway to the network of footpaths and bridleways in the Colne Valley Park.

Local Strategies

<u>London's Living Landscape</u>

London's Living Landscape initiative[47] has been set up by the London Wildlife Trust as a '*recovery plan for nature*' that seeks to protect, conserve and enhance London's wildlife and draws on five key principles:

- Protect and conserve biodiversity, and where possible deliver net wildlife gain;
- Connect Londoners to their local natural greenspace;
- Connect local greenspaces to the wider landscape of London;

[46] *Greater London Authority (2012) Green Infrastructure and Open Environments: The All London Green Grid. March 2012. Greater London Authority, London.*
[47] *London Wildlife Trust (2014) London's Living Landscapes. A recovery plan for nature. London Wildlife Trust, London.*

- Connect nature conservation and greenspaces to the wider sustainability agenda;
- Work in partnership to deliver these objectives.

Securing the protection of existing ecological assets is a key aim for the initiative, however establishing green links across London's fragmented landscape is a particular challenge for nature conservation. The initiative looks to establish strong connectivity between greenspaces, which will enhance the delivery of ecosystem services such as improved air quality, temperature amelioration and enhancement of wildlife populations.

APPENDIX B – Bat Survey Report

Trout Road
Bat Survey
Trium Environmental Consulting LLP
22 September 2025

davidson-watts ecology ltd

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CONTENTS

	Project information
File reference	DWE 1033
Document title	Trout Road Bat Survey
Client	Trium Environmental Consulting LLP
Date	22 September 2025
Status	Final
Survey by	David Kent ACIEEM
Prepared by	Diane Davidson-Watts MCIEEM
Reviewed by	Dr Ian Davidson-Watts MCIEEM

1 Introduction

1.1.1 This report presents the findings of a bat survey for the proposed development of an area of land south of Trout Road, West Drayton UB7 7FX (the site). The site is centred on ordnance survey grid reference TQ05868050 and a location plan is included in Figure 1. The desk study and survey work were carried out by Davidson-Watts Ecology Ltd on behalf of Trium Environmental LLP.

1.1.2 The site consists of a 23 hectare area of industrial workshops, residential properties and the Al Falah Masjid Islamic Community Centre with vacant land and a construction compound. An aerial of the site is shown in Figure 2. The Grand Union Canal borders the site to the east and this links to an area of woodland and lakes (including Cowley Lake, Farlows Lake, Little Britain Lake), Colne Brook and Fray's River from 250m north-west of the site. Frays River continues south and is 200m to the west. These areas would provide good local connectivity to foraging habitat for bats.

1.1.3 A previous bat survey carried out in 2010 as part of planning application 38058/APP/2012/1203 covered several buildings on site as well as several that have since been demolished. No bats roosts were identified, and the canal was confirmed as important foraging habitat for common pipistrelle *Pipistrellus pipistrellus* and soprano pipistrelle *Pipistrellus pygmaeus* with limited movement into the site associated with foraging activity along the canal.

1.1.4 An Ecological Appraisal was undertaken by Trium Environmental LLP in December 2024. The report identified that there are records within 1km for Daubenton's bat *Myotis daubentonii*, Natterer's bat *Myotis nattereri*, Nathusius pipistrelle *Pipistrellus nathusii*, common pipistrelle, soprano pipistrelle and brown long-eared bat *Plecotus auritus*. Two buildings were identified as having potential bat roosting features. 22 St Stephens Road and Al Falah Masjid. These buildings are located on Figure 3.

1.1.5 The proposed development is for residential, light industrial space, commercial space and public realm.

1.2 LEGISLATION

1.2.1 In England and Wales all bat species, their breeding sites and resting places are fully protected under the Wildlife and Countryside Act 1981 (WCA) (as amended) through inclusion in Schedule 5. This Act has been further amended by the Countryside and Rights of Way Act 2000 (CRoW).

1.2.2 All bats are also included under The Conservation of Habitats and Species Regulations 2017, as amended, which defines 'European protected species (EPS) of animals. These various pieces of legislation almost parallel each other, with a few small differences in wording. The legal significance of these differences has not yet been fully established and so the following account attempts to combine them to provide a simplified summary of the relevant provisions. Taken together, the Act and Regulations make it illegal to:

- deliberately kill, injure or capture (or take) a bat,

- deliberately disturb a bat so as to impair their ability to survive, breed or reproduce, rear or nurture their young, to hibernate or migrate or to significantly affect the local distribution or abundance,
- intentionally or recklessly obstruct access to breeding site or place of shelter, and
- damage or destroy 'any structure or place which a bat uses for breeding or resting (including accidentally under the Habitat Regulations 1994).

1.3 AIMS AND OBJECTIVES

1.3.1 A PRA is a detailed inspection of the exterior and interior of a structure to look for features that bats could use for entry/exit and roosting and to search for signs of bats. The aim of this survey is to determine the actual or potential presence of bats at 22 St Stephens Road and Al Falah Masjid and the need for mitigation as necessary. In many situations it may not be possible to inspect all locations where bats may be present and therefore an absence of bat evidence does not equate to evidence of bat absence (Collins, 2023).

1.3.2 The aim of this report is to identify habitats of ecological value or with the potential to support bats which may be affected by the proposed development. This report will make further recommendations where appropriate to enable the determination of the full ecological value of the building on site.

2 Methodology

2.1 BUILDING DESCRIPTION

2.1.1 A description of the building was recorded including features present that were suitable for roosting bats.

2.2 EXTERNAL INSPECTION

2.2.1 A systemic external search was undertaken of the two buildings on 31 January 2025, using binoculars, torches, mirrors or endoscopes as necessary to identify potential or actual resting places or bat access points (for example, loose or missing tiles; missing mortar at gable ends; hanging tiles or wooden cladding; raised lead flashing; gaps beneath the eaves; broken windows; damaged air vents and recesses in stonework). Characteristic field signs of bat presence, for example live or dead specimens, accumulations of droppings or obvious scratch/wear marks were also identified where possible. It should be noted that sometimes bats leave no visible signs of their presence and eternal signs can be washed away.

2.3 INTERNAL SURVEY

2.3.1 A systemic search was undertaken of the interior to the structures (where safely accessible) to identify the potential or actual bat access points and roosting places and to locate evidence of bats. Evidence of bats could include including droppings, urine staining, fur-oil staining, feeding remains (for example, large accumulations of moth wings), and individual bats including squeaking. An endoscope, torch, mirror or close-focussing camera were used when required to enable closer inspection of potentially important features. It should be noted that sometimes bats leave no visible sign of their presence even on the inside of the building, particularly when

hidden in cracks, crevices and voids. All torches were turned off to enable identification of potential roost access points through light spill.

2.3.2 Any droppings present were collected for eDNA analysis and locations of collections clearly noted on a plan along with details of dropping numbers, size (measured in mm) and age class.

2.3.3 Detail was recorded including the size of the roost including the presence and location of timber joists and other features supporting roosts, internal dimensions (width, length, height), location of internal roosting points/opportunities and location of access points.

2.3.4 Any vegetation adjacent to the structure that could be used by emerging bats was also noted.

2.3.5 The survey was undertaken by a licensed ecologist David Kent class registration number CL20 2016-22805-CLS-CLS with 8 years' experience in bat surveying.

2.3.6 An assessment of the potential of the building to support roosts was then made in line with BCT guidelines (2023) shown in Table 1 below.

Table 1: Criteria for categorising buildings for their potential to support a bat roost (taken from Table 4.1 Collins, 2023)

Suitability	Description of building
None	No habitat features on site likely to be used by any roosting bats at any time of the year. No habitat features likely to be used for commuting or foraging at any time of the year.
Negligible	No obvious habitat features on site likely to be used by roosting bats, however a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
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 a larger number 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). Habitats that could be used by a small number of bats as flight paths but not well connected to the wider landscape, or suitable, isolated habitat.
Moderate	A structure with one or more potential roost features that may be used by bats due to their size, shelter, protection, condition and surrounding habitat. Unlikely to support a roost of high conservation value (roost type only – hibernation or maternity). Continuous habitat connected to the wider landscape e.g. tree lines, linked back gardens, trees, scrub, grassland or water that could be used as flight lines or for foraging.
High	A structure with one or more potential roost features that are suitable for use by a large number of bats on a regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat. Continuous high-quality habitat that is well connected to the wider landscape. Site close to and connected to known roosts.
Confirmed	Confirmed bat roost where bats are recorded as present or where evidence of use by bats has been recorded. Where there are multiple roost features present, a building may be confirmed as a confirmed roost but also still have further suitability.

2.3.7 Consideration will also be given to the potential of the structure to provide a hibernation roost in line with Figure 4.1 (Collins, 2023).

2.4 DUSK EMERGENCE SURVEY

2.4.1 Where the possibility that bats are present cannot be eliminated or evidence of bats is found during a PRA, further surveys such as presence absence, roost characterisation or hibernation surveys are required (Collins, 2023).

2.4.2 Where internal access was not possible and the buildings have potential roosting features, given the high value of the surrounding habitats and the confirmed presence of bats in the adjacent buildings, a precautionary moderate value has been assigned to these buildings.

- Low roost suitability – one survey in May to August,
- Moderate roost suitability – two surveys between May and September with at least one survey between May and August, at least three weeks apart, preferably more.

2.4.3 To help determine whether bats are roosting within suitable features of the building, dusk emergence surveys were undertaken on:

- 23 May 2025 (both buildings), and
- 29 June 2025 (Al Falah Masjid only).

2.4.4 The surveys were suitably spaced and undertaken during the maternity and transitional periods for bats to maximise the possibility of detecting maternity and transitional roosts. A suitably experienced ecologist supplemented by a night vision camera and IR lighting monitored all potential roost features of each confirmed roost and suitable structure within the site boundary. Surveyors were equipped with professional full spectrum bat detectors with inbuilt SD cards to enable calls to be recorded and analysed post survey. Information was collected on species, numbers, access points, roosting locations and flight paths. All PRFs were monitored during the survey and surveyors/NVAs appropriately spaced to cover all potential exit/entry locations. All bat call recordings were reviewed post survey by an experienced ecologist using appropriate bat software. All video footage was reviewed using Cyberlink Power Director software which enables full screen, frame by frame playback.

2.4.5 Dusk emergence surveys commenced fifteen minutes before dusk and finished 90 to 120 minutes after local sunset. All surveys were undertaken in appropriate weather conditions which were recorded at the start and end of the survey. Any additional commuting or foraging activity recorded during the protected species surveys was noted to enable an understanding of local habitat use by bats to be formulated. The bat survey followed guidance as set out in the Bat Conservation Trust (BCT) Survey Guidelines (Collins 2023) with explanations of any deviations from this where necessary.

2.4.6 Where bat roosts have been confirmed, surveys were sufficient to characterise the roost including determining roost location, species and numbers of bats, use of the internal void and access points into the roost. This is required to be able to effectively design appropriate mitigation that ensures that the favourable conservation status of the species is retained and enhanced post development.

2.5 ECOLOGICAL EVALUATION

2.5.1 Ecological features and resources have been evaluated based on the approach described in 'Guidelines for Ecological Impact Assessment in the United Kingdom' published by the Institute of Ecology and Environmental Management (2019) whereby the value of an ecological feature or resource is determined within a defined geographical context using the following criteria:

- International,
- National (England),
- Regional (Southeast),
- County (or Metropolitan) (London),
- District (or Unitary Authority, City or Borough) (Hillingdon),
- Local (or Parish) (West Drayton),
- At the site level only, or
- Negligible.

3 Results

3.1 SURVEY CONDITIONS

3.1.1 The survey conditions during the survey were a temperature of 11ºC, Beaufort Scale 1 with 100% cloud cover and no rain.

3.2 22 ST STEPHENS ROAD

External

3.2.1 The residential bungalow had a pitched tiled roof with internal roof void, brick facade, UPVC windows and a series of wooden soffits, fascia and wooden panelling to the pitched roof (Plate 1).

Plate 1: External of 22 St Stephens Road

3.2.2 The roof void could be accessed by bats through missing or lifted tiles (Plate 2) or through two areas of rotten timbers (Plate 3).

Plate 2: Raised and missing tiles

Plate 3: Gaps in timbers

3.2.3 Several of the UPVC windows were inset into wooden frames with gaps around them on the external facades. These did not provide suitable gaps for bats. The wooden fascia above the main windows was lifting in places and could providing potential roosting opportunities for bats.

Internal

3.2.4 The building had shallow dual offset pitched roof with joists resting on purlins and the top of the brick wall, there were king posts resting on the trusses supporting the ridge beam. The roof had a gable end at the north and the east and west aspect had a hip roof. The gable at the north aspect had a single glass pane (Plate 4) allowing light into that part of the roof. There were no other ambient light sources into the roof void and the southern area was dark due to then design of the offset roof.

3.2.5 The pitch is 1.5m high and 11m long (offset) and 5m wide, with bitumen felt between the roof slates and the joists (Plate 5). Some of the bitumen felt was torn and there was aging, poor quality thermal insulation on the floor which was not boarded. The roof space had not been recently cleaned and had evidence of mouse and rat droppings. There were a number of empty set rat traps in the roof voids.

3.2.6 No evidence of use by bats or the presence of bats themselves was discovered in the roof void.

Plate 4: Single glass pane in gable end.

Plate 5: Bitumastic felt under tiles

3.3 AL FALAH MASJID

External

3.3.1 The building had a brick facade with a series of roofs, including two flat roofs, a pitched sheet material roof (asbestos) and series of shallow sheet material roofs (Plate 6). The windows were wooden with a concrete lintel. The southern wall was the boundary wall for the Grand Union Canal.

3.3.2 There were soffits that provides a gap between the brick walls and sheet material that would be suitable for opportunistic roosting on the north and the south aspects (Plate 7). Additionally on the canal side there were several cracks between 1m and 1.8m height that lead to potential crevices that could be suitable for bats, due to its proximity to the canal side.

Plate 6: Al Falah Masjid building

Plate 7: Soffits

Internal

3.3.3 The only roof void was under the single pitch material sheeting, above the male prayer room which was separated by a false tiled ceiling (Plate 8). Although the roof void did not seem suitable, it could not be fully inspected. The roof void was approximately 2m high, 12m long and 9m wide.

Plate 8: False ceiling

3.3.4 No evidence of use by bats or the presence of bats themselves was discovered in the roof void.

3.4 POTENTIAL BAT ROOST FEATURES

3.4.1 The potential bat roost features for both buildings are shown in Figure 4. These features were all then covered by a dusk emergence survey.

3.4.2 Bat records are present within 1km of the site including species that use crevices in buildings and pipistrelle bats are known to forage on the adjacent Grand Union Canal. The surrounding habitat has good connectivity for foraging and commuting bats.

3.4.3 22 St Stephens Road has features which could support individuals or small numbers of opportunistic bats as part of a wider network of roosting resources and the building is therefore of low potential for roosting bats.

3.4.4 Al Falah Masjid has multiple features that could support low numbers of roosting bats and access was not available to the entire roof void. Therefore, the building has a precautionary moderate potential for roosting bats.

3.5 DUSK EMERGENCE SURVEY

3.5.1 The full survey results are detailed in Appendix A. To summarise,

3.5.2 23 May 2025 – no bats were recorded to emerge from 22 St Stephens Road or from Al Falah Masjid. Low numbers of passes for common pipistrelle and soprano pipistrelle were recorded during the survey with one pass from a noctule predominantly along the canal.

3.5.3 29 June 2025 – No bats were recorded to emerge from Al Falah Masjid. Only a single common pipistrelle pass was recorded at 22.01 along the far bank of the canal.

3.6 SURVEY CONSTRAINTS

Access was not available to inspect the concealed void above the male prayer room in the mosque as this was sealed by a suspended ceiling. The external features and potential access points were covered during the dusk emergence survey to negate this constraint.

4 Planning Policy

4.1 NATIONAL PLANNING POLICY

4.1.1 The National Planning Policy Framework (NPPF) (12 December 2025) Chapter 15 outlines out how the planning system should contribute to and enhance the natural and local environment by protecting sites of biodiversity value, recognising wide benefits from natural capital, minimising impacts on and providing net gains for biodiversity. If a proposed development would result in significant harm to the natural environment, Site of Special Scientific Interest or irreplaceable habitats which cannot be avoided (through the use of an alternative site with less harmful impacts), mitigated or compensated for (as a last resort) then planning permission should be refused. Development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

4.1.2 To minimise impacts on biodiversity and geodiversity, planning policies should identify and map components of the local ecological networks, including the hierarchy of sites of importance for biodiversity, wildlife corridors and stepping stones that connect them and areas identified by local partnerships for habitat management, enhancement, restoration or creation, promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species and identify and pursue opportunities for securing measurable net gains for (Paragraph 192).

4.1.3 The NPPF retains protection for Local Wildlife Sites which are clearly recognised in the framework as locally designated sites of importance for biodiversity (Paragraph 188). The policy provides the direction for local authorities to identify, map and protect these sites through local plans. The new policy also requires protection of Local Wildlife Sites to recognise the importance and the contribution that they make to wider ecological networks, as stated in the Government's own Natural Environment White Paper.

4.1.4 Planning principles to be applied include planning refusal if significant hard to biodiversity as a result of a development cannot be avoided, development can only take place where there are adverse effects on a Site of Scientific Interest where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest, development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and development whose primary objective is to conserve or enhance biodiversity should be supported especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate (Paragraph 193).

4.1.5 The Natural Environment and Rural Communities (NERC) Act came into force on 1st Oct 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the Natural Environment and Rural Communities Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions. Fifty-six habitats of principal importance and 943 species of principal importance are included on the S41 list. These are all the habitats and species in England that were identified as requiring action in the UK Biodiversity Action Plan (UK BAP) and continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework. Bats are listed as priority species under the NERC Act 2006.

4.2 LOCAL PLANNING POLICIES

4.2.1 London Borough of Hillingdon (2012) Hillingdon Local Plan: Part 1 – Strategic Policies. Adopted November 2012.

4.2.2 London Borough of Hillingdon (2020) Hillingdon Local Plan: Part 2 – Development Management Policies. Adopted January 2020.

4.3 LOCAL BIODIVERSITY ACTION PLAN

4.3.1 London Biodiversity Action Plan London Biodiversity Partnership (2007) London Biodiversity Action Plan. Access through www.gigl.org.uk

5 Evaluation

5.1.1 The report identified that there are records within 1km for Daubenton's bat, Natterer's bat, Nathusius pipistrelle, common pipistrelle, soprano pipistrelle and brown long-eared bat.

5.1.2 22 St Stephens Road has features which could support individuals or small numbers of opportunistic bats. Al Falah Masjid has multiple features that could support low numbers of roosting bats but no signs of use by bats were recorded.

5.1.3 Dusk emergence surveys found no bats to emerge from 22 St Stephens Road or Al Falah Masjid. Activity levels of bats were very low on both surveys with no interest shown in the buildings. It is therefore considered that roosting bats are likely absent from the buildings.

5.1.4 Where the survey data is 18 months or older, it is likely that update surveys and reporting will be required for planning purposes as bats are highly mobile species (CIEEM 2019).

6 References

CIEEM (2019) Advice Note on the Lifespan of Ecological Reports and Surveys.

CIEEM (2019) Guidelines for Ecological Impact Assessment in the United Kingdom

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

HMSO The Conservation of Habitats and Species Regulations 2017

HMSO The Countryside and Rights of Way Act 2000.

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Institute of Lighting Professionals (2023) Guidance Note GN08/23 Bats and Artificial Lighting at Night

Ministry of Housing, Communities and Local Government (20 December 2023). National Planning Policy Framework.

Figure 1 Site Location Plan

Figure 2 Aerial with Red Line

Figure 3 Buildings

Figure 4 Potential Bat Roost Features

Slipped lifted slates

Soffit gapping and gap at ridge

Gaps in external brick wall

Survey Locations

Appendix A Dusk Emergence

Surveyor Locations

1

1C

2C

2

Survey Results 23 May 2025

Slipped lifted slates

Soffit gapping and gap at ridge

Survey Locations

1c Camera Survey Point

1 Surveyor point

Flight line

Survey Equipment

Date	Canon XA	Batlogger
Survey Position 1 (DK)	XA60	1612-2419
Survey Position 2 [GB]	XA62	2012-3956
Survey Position 1c	XA61	1736-3027
Survey Position 2c	XA63	2115-4301

Weather and Survey Details

	Time	Sunset	Temp (C)	Wind	Cloud	Rain
Start	20:43	20:58	15	BF1	60%	Dry
End	22:28	:	13	BF1	60%	Dry

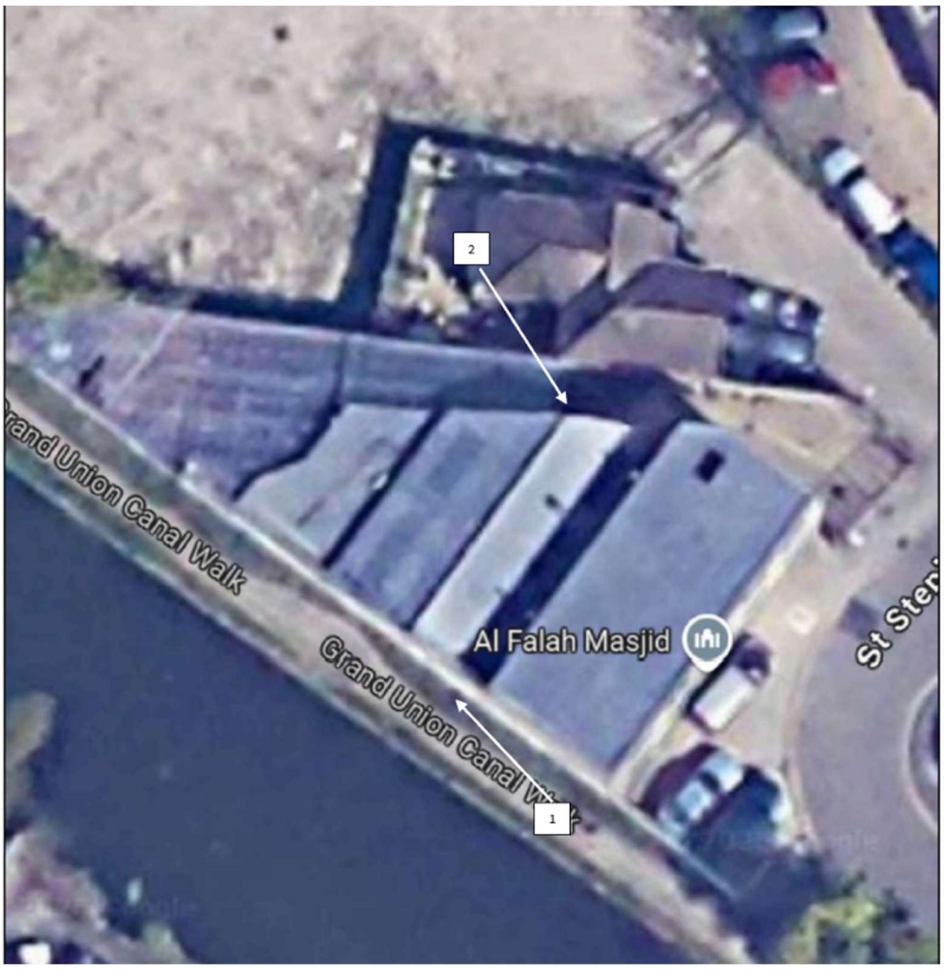
Survey Statistics

Surveyor Location	Number of Passes by Species				Total Number
	P45	P55	P spp.	Other sp.	
1	1	2	1		4
2	15	2	0	1 Nnoc 1 Myo	20
1c		1	1		2
2c		1	1		2

Survey Summaries

Surveyor Location	Surveyor Summary
1	No emergence from the building. Negligible activity, two passes observed the first originated from the northeast behind the surveyor with a flight line towards the Canalside area. The second was in the back garden, spiralling back towards the Canalside area. No interest was displayed in the building. First pass was at 21.21 by a p55
2	No emergence from the building. Negligible activity, Low number of passes mainly unseen as they were along the canal, rather than by the building. The majority of the small number of passes were foraging offsite. No interest was displayed in the building. First pass was at 21.23 by a p55
1c	No emergence from the building. Bat passes were not observed in the replayed camera footage. First pass was at 21.21 by a p55, the same as from position 1.
2c	No emergence from the building. Bat passes were not observed in the replayed camera footage. First pass was at 21.21 by a p55, the same as from position 1.

Survey Results 29 June 2025



1 Surveyor point

Survey Equipment

Date	Canon XA	Batlogger
Survey Position 1 (DK)	XA60	1612-2419
Survey Position 2 (GT)	XA62	2012-3956

Weather and Survey Details

	Time	Sunset	Temp (C)	Wind	Cloud	Rain
Start	21:08	21:23	15	BF1	60%	Dry
End	22:53	:	13	BF1	60%	Dry

Survey Statistics

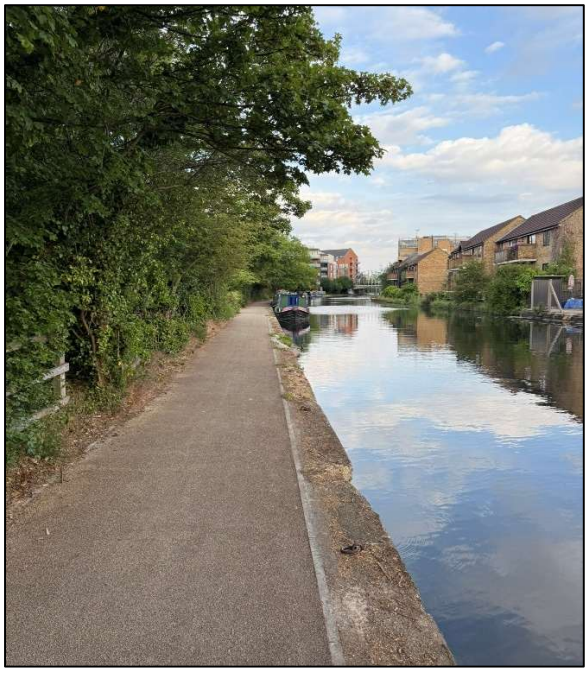
Surveyor Location	Number of Passes by Species				Total Number
	P45	P55	P spp.	Other sp.	
1	1	0	0	0	1
2	0	0	0	0	0

Survey Summaries

Surveyor Location	Surveyor Summary
1	No emergence Negligible activity, single pass of P45 recorded at 22.01 along far side of canal.
2	No emergence. No activity, no bat passes observed or call recordings made.

APPENDIX C – River Condition Assessment Report

Trout Road, West Drayton
River Condition Assessment Report



Contents

1.0 Summary

A Modular River Physical (MoRPh) survey has been undertaken of the Grand Union Canal at Trout Road, West Drayton (the Site), to inform a River Condition Assessment. The canal that falls within the Site has been assessed as being in Poor condition for 150m of its Site length.

The development is forecast to reduce the total watercourse units for the Grand Union Canal at the Site from 0.31 to 0.29 as a result of the increased level of impact on the riparian zone from moderate to major. It is understood that compensatory watercourse units and the requirement to deliver a 10% gain in watercourse units will be met through offsetting and that this will be addressed in the projects Net Gain Plan.

Note: the left bank is defined as the bank on the left hand side of the watercourse when looking down river, in this case the east bank.

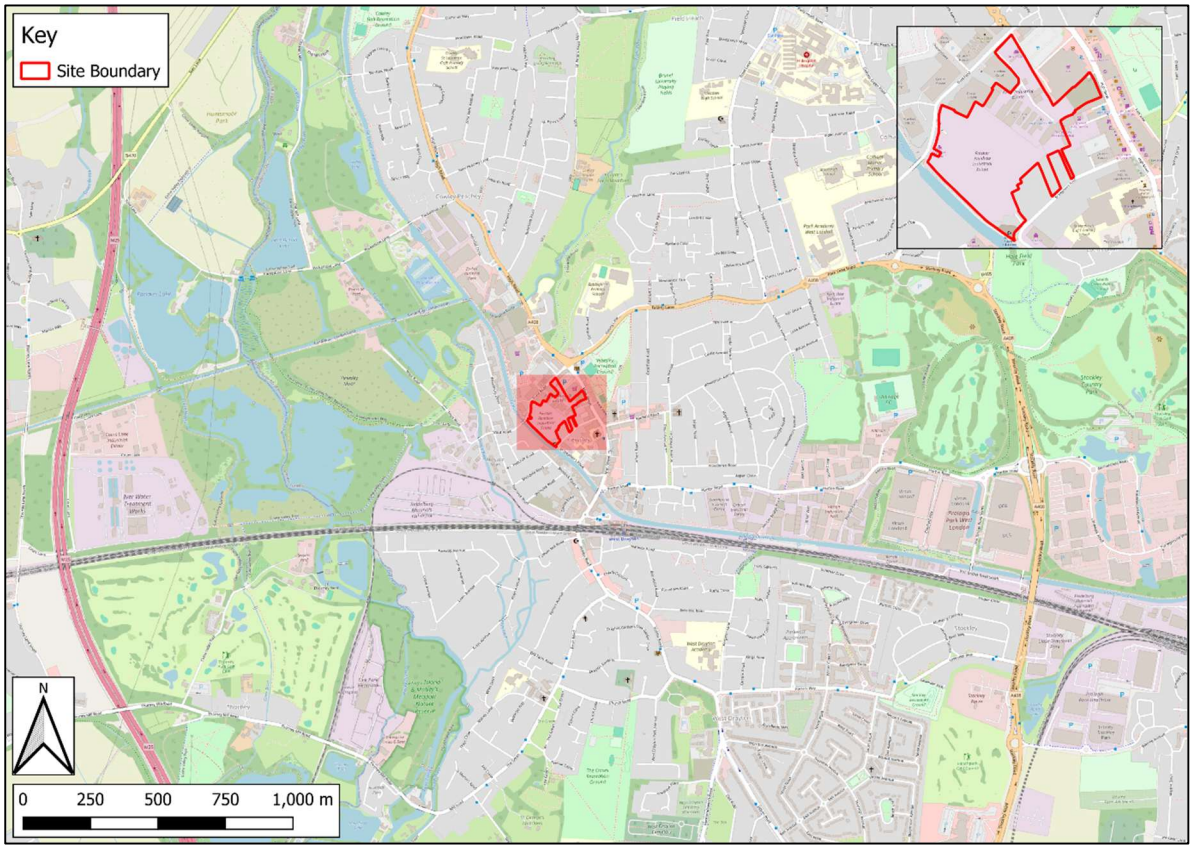
2.0 Introduction

1. Davidson Watts Ecology Ltd was commissioned by Trium Environmental Consulting LLP to carry out a River Condition Assessment (RCA) at Trout Road, West Drayton, concerning a section of the Grand Union Canal, which runs along the Site's western boundary.

2. This survey is required to provide the baseline condition of the watercourse to inform a Biodiversity Net Gain (BNG) Assessment of the Site through the DEFRA Statutory Biodiversity Metric Calculator.

3. The scope of this survey has been devised based on guidance presented in A Guide to Assessing River Condition (Gurnell et al., 2024) and The MoRPh Survey Technical Reference Manual 2022 version (Gurnell & Shuker, 2022).

Figure 1 The Site (red line boundary) and watercourse.



3.0 Methodology

4. Survey and assessment were directed by David Kent (ACIEEM, MSc). David is qualified in the use of the Modular River Physical Survey River Condition Assessment for informing Statutory Biodiversity Metric.

5. Methods outlined in the River Condition Assessment training course and associated technical guidance documents were followed throughout the assessment.

3.1 River Type Assessment

6. River Type was assessed following standard Modular River Survey techniques (Appendix A).

3.2 Field Survey

7. MoRPh surveys were undertaken on 25th May 2025. The visit was undertaken during suitable weather conditions, with no adverse river conditions or high flow.

8. MoRPh surveys record general physical habitat availability to highly mobile organisms, as well as typical morphological units within the watercourse, contemporary hydromorphological processes, and any pressures acting on the surveyed reaches and sub-reaches.

9. The Site was subject to an initial walkover survey to determine suitable locations for survey. Survey locations were chosen based on the MoRPh module length and the extent of the development area. The field surveyor ensured in this instance that the whole part of the river within the development footprint was surveyed.

10. Surveys were composed of one MoRPh5s, each made up of five MoRPh modules, surveyed contiguously in a downstream direction from a suitable location on the riverbank.

11. The MoRPh module length was determined the MoRPh river width (Table 1) based on data obtained from aerial mapping and visual assessment of the river.

12. MoRPh river width is defined as the water width, plus any areas of emergent vegetation at the channel margin or exposed but frequently inundated sediment.

MoRPh River Width	MoRPh Module Length
<5m	10m
5 to < 10m	20m
10 to <20m	30m
20 to <30 m	40m
Large Rivers and Canals (navigable)	50m

Table 1 Relation between MoRPh river width and module length

13. Information on the canal's channel dimensions, bank top (extending 10m back from the edge of each bank), bank face, channel margin, and channel bed, were recorded in the MoRPh field survey.

3.3 River Condition Assessment

14. Data recorded in the MoRPh field survey and river type assessment were uploaded to Cartographer, the MoRPh survey software.

15. Cartographer calculates a river type based on data from the river type assessment, which may be overridden by the user based on their professional judgement.

16. Cartographer calculates 32 condition indicators based on data from the MoRPh field survey, 19 of which are positive indicators (ranked from 0 to 4), and 13 of which are negative indicators (ranked from 0 to -4). A mean average is calculated for the positive and negative indicators, and these averages are summed to produce a Preliminary Condition score. A summary of these indicators is presented in Appendix A.

17. River Type and Preliminary Condition Score are combined to produce a Final Condition Class, ranging from Poor to Good. If the surveyor considers the channel to be over deepened (see Appendix A), the Final Condition may be lowered by one Class.

4.0 MoRPh Field Survey

4.1 Limitations

18. The MoRPh field survey was conducted in May 2025, within the optimal MoRPh survey period (April—June) with vegetation observed during the active growing season. The only constraint was that the MorPh survey was conducted from the left bank, due to access restrictions.

4.2 Grand Union Canal

19. The Grand Union Canal runs for 150m in a southerly direction along the Site's western boundary. This section of the canal extends 6.5 miles from Cowley Lock (#89) at TQ 05141 82197 (water at a height of 107 feet above sea level) to Norwood Top Lock (#90) at TQ 13701 79366 (water at a height of 95 feet above sea level).

20. The canal was assessed as having a MoRPh river width of between 8m and 13m. The module survey length of 50m was used as a default as the canal is a navigable canal. The complete MoRPh5 survey was therefore 250m long, taking in areas either side of the Site. A single 250m MoRPh5 survey was sufficient to achieve the required survey proportion of more than 20% of the canal's length.

21. During the walkover, the canal presented a high level of artificial construction but did not have artificial weirs or evidence of large trash items.

22. The canal has an average MoRPh river width of 12.5m. The bed is of a navigable depth, averaging 2.0m in depth and comprises mainly unvegetated gravel and silt.

23. The entire Site length of the canal appears artificial vertical bank faces, made from a combination of sheet piling and brick/laid stone. A bridge at the north of the Site provides some narrow shading of the canal.

24. The Site is adjacent to the left bank of the canal. The left bank top is dominated by the tow path, sometimes with a narrow (up to 0.5m) strip of short herbs and grasses at the canal bank. Trees and scrub grow along some of the fence. The right bank does not have a tow path and supports various species and habitats including canal side buildings, deciduous woodland,

ground flora comprising short and creeping herbs and grasses, tall grasses, and bramble scrub. Several trees of a range of sizes and ages are present providing tree features such as overhanging branches along some of the surveyed length.

25. The bank faces are comprised of steel sheet piling, with vegetation on the right bank that overhangs from the bank top.

26. Non-Native Invasive Plant (NNIP) were not observed on either bank top in the MoRPh5 survey.

Figure 2 MoRPh survey sites on Ludhill Dike.

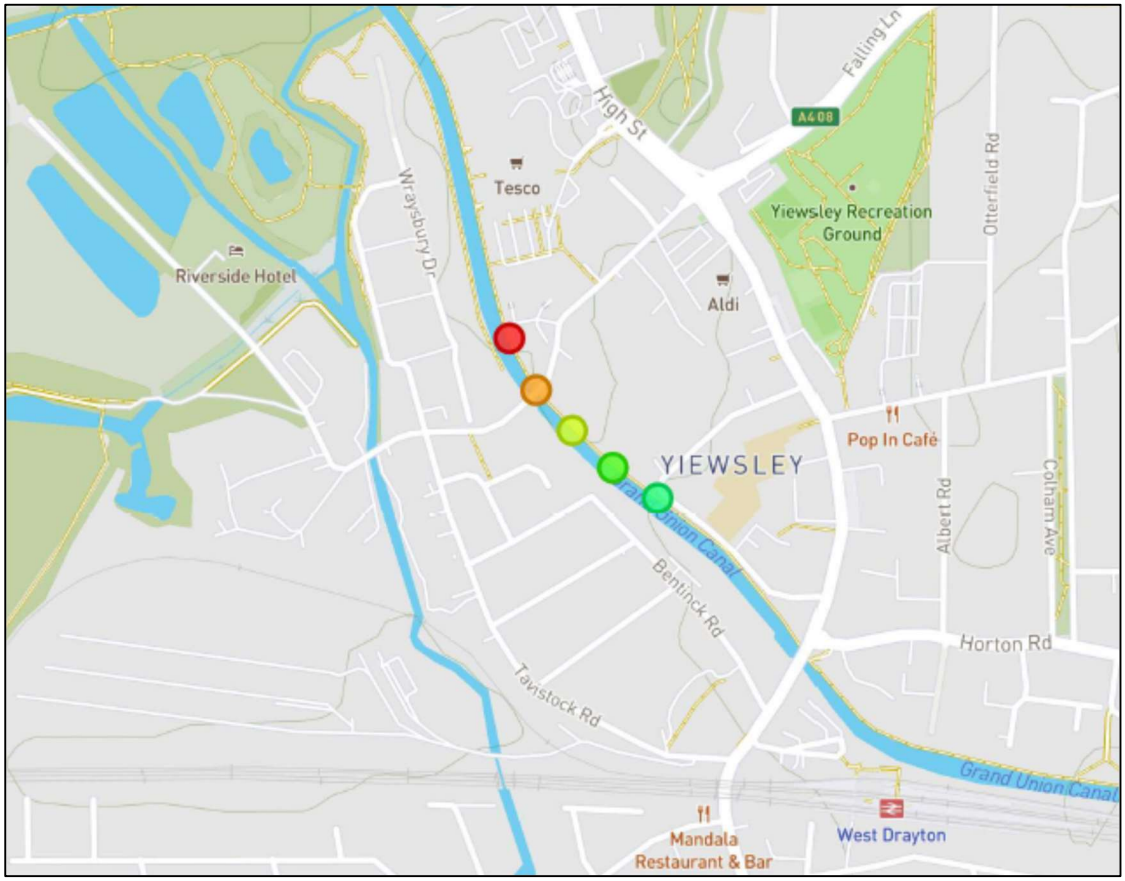


Figure 3
View of culvert at Module 1.

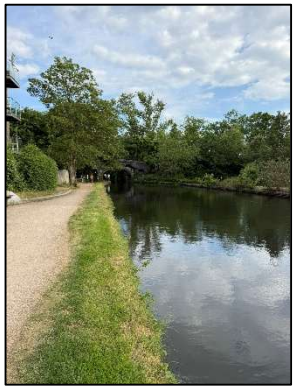


Figure 4
View of channel with brick reinforcement at Module 2.

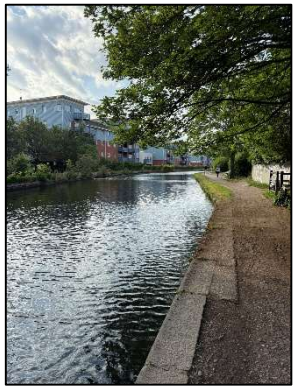


Figure 5
View from end of module 3, facing upstream.

Figure 6
View of organic matter within channel bed.

Figure 7
Typical view of channel, bank face and bank top.

Figure 8
Himalayan Balsam in module 4.

Figure 9
View of module 5 facing downstream.

Figure 10
View of module 5 facing downstream

Figure 11
View of module 5 facing downstream

5.0 Results

5.1 Watercourse Condition

27. The canal was categorised as being a navigable large river or canal.

28. A preliminary condition score of -0.652 was generated for the Site length of the Grand Union Canal. When assessed against the table of threshold values (see Appendix A), for a large river or canals, this is indicative of Poor condition.

29. This stretch of the navigable river has also been classed as overdeep, confirming the final condition score as **Poor**.

Condition	River	Length
Poor	Grand Union Canal	150m

Table 2 River Condition and Length

5.2 Encroachment

30. Riparian zone encroachment is any feature or intervention within the riparian zone that reduces the quantity, quality or ecological function of the riparian habitat. This includes:

- buildings or hardstanding
- management practice (including agriculture)
- structures that prevent wildlife from accessing the riverbank

However, the Site does have an exemption for the established canal towpaths, which reduces the extent of the recorded encroachment.

31. Watercourse encroachment can be any feature or action that adversely affects the natural function of the watercourse, or results in localised changes in habitat, species and migratory pathways. Major encroachment includes rivers where greater than 20% of the bank length is an engineered bank revetment.

32. The levels of watercourse encroachment were assessed as part of this survey, according to Statutory Metric Guidance. This has been entered into the Biodiversity Metric, as described in Table 3 below.

Length	Encroachment extent		
	Watercourse	Riparian Zone (Left)	Riparian Zone (Right)
150m	Major	Moderate	Minor

Table 3 Baseline encroachment extents.

33. The watercourse encroachment has been assessed based on the presence of reinforcement to the bank faces.

34. The riparian zone encroachments have been assessed based on the presence of the industrialised areas on the full length of the left bank and partially along the right bank of the canal. Post development encroachment has been assessed as Major as it is 17% of the riparian zone and is included as image 4 in Appendix C.

35. The above data will be used to inform a BNG Assessment of the Site, reported separately.

5.3 Biodiversity Net Gain

36. The baseline total watercourse units for the Grand Union Canal at the Site is 0.31 watercourse units. The canal has major water encroachment, moderate riparian zone encroachment on the left bank, and minor encroachment on the right bank.

37. Minor riparian encroachment includes any encroachment 8 to 10 metres from the bank top (covering up to 100% of area); or where the footprint of encroachment occupies 0-10% of the riparian zone area 4 to 10 metres from bank top.

38. Moderate riparian encroachment includes where the footprint of any encroachment occupies between 10% and 25% of the riparian zone area 4 to 10 metres from the bank top

39. Major riparian encroachment includes any encroachment in the first 0m to 4m of the bank top or where the footprint occupies between greater than 25% of the total riparian zone.

40. The canal is categorised as having high strategic significance as it formally identified within a metropolitan SINC and noted for ecological connectivity and local environmental strategy.

41. Improvements to the riparian zone on the left bank could be sufficient to reduce the impact of encroachment on habitats from moderate to minor, potentially providing an enhancement of 0.26 watercourse units, an increase of 97%. However, this may not be possible to achieve in the post development design.

5.4 Biodiversity Net Gain – Post Development Considerations

42. As noted in paragraph 36 above, the current watercourse units at the Site is 0.31 Units. After discussion with Trium it is evident that the post development watercourse units will be reduced due to the negative impact on riparian terrestrial habitats on the left bank.

43. The anticipated development will increase the impact from moderate to major, as the encroachment in the first 0m to 4m of the bank top (Image 4 of Appendix C).

44. The watercourse units for the Grand Union Canal at the Site will reduce from 0.31 to 0.29.

45. Compensatory watercourse units and the requirement to deliver a 10% gain in watercourse units will be met through offsetting and that this will be addressed in the projects Net Gain Plan.

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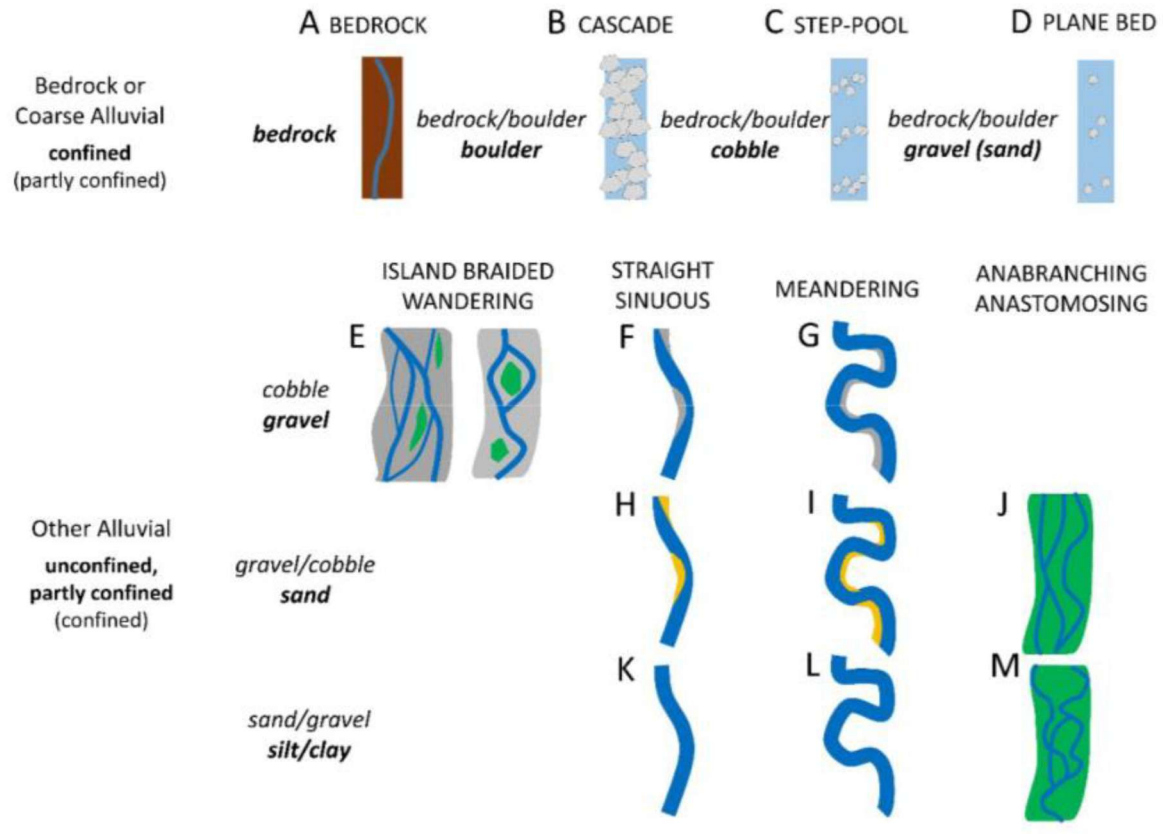
Appendix 1 Accompanying Data, Explanatory Notes and Resources Used

River Type

Aerial mapping software was used to determine reach length and indicators A1—A5. Google Earth Pro is the recommended data source; however, constraints include (but are not limited to) the river being obscured by vegetation, changes in the baseline since aerial mapping was taken, and inaccurate topography. The river reach used to calculate river type was determined by the surveyor. A reach usually covers a 0.5-10km length of river, including the field survey location(s), with similar planform along its length, and no major tributaries or weirs that may drastically impact flow type and sediment deposition. Twenty-two broad natural and semi-natural river types have been identified across Europe (Rinaldi et al., 2016), based on valley confinement and slope, planform, and bed material size. Fifteen are included in the MoRPh classification system, including canals and navigable rivers, large rivers, and 13 river planform bed material types A-M as shown in Figure 2, below.

Figure A1 River types A-M (thirteen near-natural river types that might be encountered in England). From Gurnell et al. (2022).



Eight river type indicators (Table 1, below) are combined to produce an indicative river type. Indicators A1-A5 are calculated in the Desk Study phase, using Google Earth or similar mapping software; indicators A6-A8 are derived from values recorded in the Field Survey stage.

For navigable large rivers and canals river type indicators are not used for the completion of the MoRPh assessment.

Code	Name	Source
A1	Braiding index	Desk Study
A2	Sinuosity index (SI)	Desk Study
A3	Anabra nching index (AI)	Desk Study
A4	Level of confinement (U, PC, C)	Desk Study
A5	Valley gradient	Desk Study
A6	Bedrock reach	Field Survey
A7	Coarsest bed material size class	Field Survey
A8	Average bed material size class	Field Survey

Table A1 River type indicators and their location sources. Based on Gurnell et al. (2022).

Overdeepening

A channel may be considered 'overdeep' when is comparatively deep relative to its width, suggesting that the bed has been incised/dredged and/or that the bank tops have been raised artificially. This results in a channel that is disconnected from its bank tops and floodplain, with flood flows less likely to burst the banks than if the cross-profile were unmodified. As this reduces the channel's value for biodiversity, the Final Condition Class may be lowered by one class if the surveyor considers it to be over deep. The River Shape and Average Width indicators generated in Cartographer from river dimensions collected in the field can be used to provide a numerical estimate of the likelihood of over deepening, although professional judgement should always be applied on a case-by-case basis.

Encroachment

Encroachment extents are assessed according to the Statutory Metric Biodiversity Metric User Guide, and considers any features or intervention within the riparian zone or watercourse that reduce the quantity, quality or ecological function of the riparian habitat, or that adversely affects the natural function of the watercourse.

River Condition Scores and Indicators

River Type	Canals and Navigable rivers	Large rivers	A	B	C	D	E	F	G	H	I	J	K	L	M
Likely best Provisional Condition Score	1.8	2.2	2.4	2.7	2.7	2.7	2.7	2.8	3.0	2.9	3.1	2.8	2.4	2.4	2.4
Lower threshold for GOOD	>1.4	>1.8	>1.9	>2.2	>2.2	>2.2	>2.2	>2.3	>2.5	>2.4	>2.5	>2.3	>1.9	>1.9	>1.9
Lower threshold for FAIRLY GOOD	>0.9	>1.3	>1.2	>1.4	>1.4	>1.4	>1.4	>1.5	>1.6	>1.6	>1.7	>1.5	>1.2	>1.2	>1.2
Lower threshold for MODERATE	>0.3	>0.5	>0.2	>0.2	>0.2	>0.2	>0.2	>0.4	>0.5	>0.5	>0.6	>0.4	>0.2	>0.2	>0.2
Lower threshold for FAIRLY POOR	>-0.5	>-0.4	>-1.0	>-0.9	>-0.9	>-0.9	>-0.9	>-0.9	>-0.9	>-0.9	>-0.8	>-0.9	>-1.0	>-1.0	>-1.0
Likely worst Provisional Condition Score	-1.5	-1.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5

Table A2 Likely best and worst preliminary condition scores for each river type (from Gurnell et al., 2024).

(NNIPS = non-native invasive plant species, positive indicators underlined, *negative indicators in italic font*)

Location	Code	Name
Bank top	B1	Bank top vegetation structure
	B2	Bank top tree feature richness
	B3	Bank top water-related features
	B4	*Bank top NNIPS cover*
	B5	*Bank top managed ground cover*
Bank face	C1	Bank face riparian vegetation structure
	C2	Bank face tree feature richness
	C3	Bank face natural bank profile extent
	C4	Bank face natural bank profile richness
	C5	Bank face natural bank material richness
	C6	Bank face bare sediment extent
	C7	*Bank face artificial bank profile extent*
	C8	*Bank face reinforcement extent*
	C9	*Bank face reinforcement material severity*
	C10	*Bank face NNIPS cover*
Channel – water margin	D1	Channel margin aquatic vegetation extent
	D2	Channel margin aquatic morphotype richness
	D3	Channel margin physical feature extent
	D4	Channel margin physical feature richness
	D5	*Channel margin artificial features*
Channel bed	E1	Channel aquatic morphotype richness
	E2	Channel bed tree features richness
	E3	Channel bed hydraulic features richness
	E4	Channel bed natural features extent
	E5	Channel bed natural features richness
	E6	Channel bed material richness
	E7	*Channel bed siltation*
	E8	*Channel bed reinforcement extent*
	E9	*Channel bed reinforcement severity*
	E10	*Channel bed artificial features severity*
	E11	*Channel bed NNIPS extent*
	E12	*Channel bed filamentous algae extent*

Table A3 River condition assessment indicators table (from Gurnell et al., 2024).

Indicator (positive indicators shaded)	Code	Baseline	Post-dev
Bank top vegetation structure	B1	3	tbc
Bank top tree feature richness	B2	2	tbc
Bank top water-related features	B3	0	tbc
Bank top NNIPS cover	B4	0	tbc
Bank top managed ground cover	B5	-4	tbc
Bank face riparian vegetation structure	C1	2	tbc
Bank face tree feature richness	C2	1	tbc
Bank face natural bank profile extent	C3	0	tbc
Bank face natural bank profile richness	C4	0	tbc
Bank face natural bank material richness	C5	0	tbc
Bank face bare (unvegetated) sediment extent	C6	1	tbc
Bank face artificial bank profile extent	C7	-4	tbc
Bank face reinforcement extent	C8	-4	tbc
Bank face reinforcement material severity	C9	-4	tbc
Bank face NNIPS cover	C10	0	tbc
Channel margin aquatic vegetation extent	D1	0	tbc
Channel margin aquatic morphotype richness	D2	0	tbc
Channel margin physical feature extent	D3	0	tbc
Channel margin physical feature richness	D4	0	tbc
Channel margin artificial features	D5	0	tbc
Channel aquatic morphotype richness	E1	0	tbc
Channel bed tree features richness	E2	0	tbc
Channel bed hydraulic features richness	E3	1	tbc
Channel bed natural features extent	E4	0	tbc
Channel bed natural features richness	E5	0	tbc
Channel bed material richness	E6	1	tbc
Channel bed siltation	E7	0	tbc
Channel bed reinforcement extent	E8	0	tbc
Channel bed reinforcement severity	E9	0	tbc
Channel bed artificial features severity	E10	0	tbc
Channel bed NNIPS extent	E11	0	tbc
Channel bed filamentous algae extent	E12	0	tbc

Table A4 Condition Indicators and scores obtained for river baseline. C8 is highlighted showing the only change in condition score.

Grand Union Canal, Trout Road, West Drayton	
River Type	Large river or canal
Average +ve Factors	0.579
Average -ve Factors	-1.231
Overall Score	-0.652
Preliminary Condition	Poor
Final Condition	Poor

Table A5 Indicator score averages and overall score/condition Trout Road

Appendix 2 Opportunities for further enhancement of full survey length according to condition indicators

Condition indicators (see Table A3) calculated from field survey data and extracted from Cartographer, can be used to inform opportunities for enhancement. The opportunities listed are colour coded by their impact potential, based on the potential for increase in score.

It should be noted that these are listed for transparency, regardless of their feasibility, and not all may be applicable to this Site, or in this context.

A license from the Environment Agency may be required before significant changes are made to rivers, and any plans may need to be informed by further study to prevent unintended impacts.

Indicator (+positive or -negative)	Enhancement strategy
Bank top vegetation structure (+) B1	Enhance bank top vegetation structure (B1) by planting a range of riparian vegetation types on the bank top
Bank top tree feature richness (+) B2	Enhance bank top tree feature richness (B2) by planting riparian trees such as willow and alder, and allowing for the retention of fallen and leaning trees, large wood, and branches trailing into the canal
Bank top water-related features (+) B3	Introduce bank top water-related features (B3) such as ponds, side channels, and wetlands
Bank top NNIPS cover (-) B4	Reduce bank top NNIPS cover (B4) by controlling Himalayan balsam
Bank top managed ground cover (-) B5	Minimise encroachment of managed ground cover into the bank top areas post-development (B5)
Bank face riparian vegetation structure (+) C1	Enhance bank face riparian vegetation structure (C1) by planting a range of riparian vegetation types on the bank face (include only if plausible for bank face type)
Bank face tree feature richness (+) C2	Enhance bank face tree feature richness (C2) by planting riparian trees such as willow and alder, and allowing for the retention of fallen and leaning trees, large wood, and branches trailing into the canal
Bank face natural bank profile extent (+) C3	Enhance bank face natural profile extent (C3) by allowing natural geomorphic processes to take place to increase the extent of natural bank profiles
Bank face natural bank profile richness (+) C4	Enhance bank face natural profile richness (C4) by allowing natural geomorphic processes to take place to increase variation in the types of natural bank profiles present
Bank face natural bank material richness (+) C5	Enhance bank face natural bank face material richness (C5), by allowing natural geomorphic processes to take place to expose a variety of natural sediments
Bank face bare sediment extent (+) C6	Enhance bank face bare sediment extent (C6) by controlling invasive or dominating plants to allow natural geomorphic processes to take place
Bank face artificial bank profile extent (-) C7	Minimise the artificial bank profile extent (C7) by naturalising the bank profile
Bank face reinforcement extent (-) C8	Reduce bank face reinforcement extent (C8) through replacement of existing reinforcement with lower severity options, e.g. willow spilling, biotex, or coir

Indicator (+positive or -negative)	Enhancement strategy
Bank face reinforcement material severity (-) C9	Reduce bank face reinforcement severity (C9) through replacement of existing reinforcement with lower severity options, e.g. willow spilling, biotex, or coir.
Bank face NNIPS cover (-) C10	Reduce bank face NNIPS cover (C10) by controlling invasive weeds, such as Himalayan balsam, Japanese knotweed or Giant Hogweed
Channel margin aquatic vegetation extent (+) D1	Enhance channel margin aquatic vegetation extent (D1) by planting a range of native aquatic species at the water's edge
Channel margin aquatic morphotype richness (+) D2	Enhance channel margin aquatic morphotype richness (D2) by planting a range of native aquatic species at the water's edge
Channel margin physical feature extent (+) D3	Enhance channel margin physical feature extent (D3) by investigating measures to generate side bars and marginal backwaters
Channel margin physical feature richness (+) D4	Enhance channel margin physical feature richness (D4) by investigating measures to generate side bars and marginal backwaters
Channel margin artificial features (-) D5	Reduce impact of channel margin artificial features (D5) by investigating removal of pipe outflows, jetties or artificial deflecting features
Channel aquatic morphotype richness (+) E1	Investigate measures to enhance channel aquatic morphotype richness (E1)
Channel bed tree feature richness (+) E2	Investigate measures to enhance channel bed tree feature richness (E2) such as planting trees within the channel
Channel bed hydraulic features richness (+) E3	Investigate measures to enhance channel bed hydraulic feature richness (E3)
Channel bed natural features extent (+) E4	Retain channel bed natural features to enhance extent (E4) by removing artificial channel bed features and allowing natural hydraulic processes to take place
Channel bed natural features richness (+) E5	Retain channel bed natural features to enhance richness (E5) by removing artificial channel bed features and allowing natural hydraulic processes to take place
Channel bed material richness (+) E6	Enhance channel bed material richness (E6) by removing artificial channel reinforcement and allowing natural hydraulic processes to take place

Indicator (+positive or -negative)	Enhancement strategy
Channel bed siltation (-) E7	Investigate measures to reduce channel bed siltation (E7)
Channel bed reinforcement extent (-) E8	Reduce channel bed reinforcement extent (E8) by removing artificial in-channel reinforcement
Channel bed reinforcement severity (-) E9	Reduce channel bed reinforcement severity (E9) by replacing artificial in-channel reinforcement with materials of lesser severity, such as wood pilling, rip-rap, gabions, or builder's waste
Channel bed artificial features severity (-) E10	Reduce channel bed artificial features (E10) by removing large trash, and investigating measures to remove or reduce severity of weirs, or to open existing culverts
Channel bed NNIPS extent (-) E11	Reduce channel bed NNIPS cover (E11) by controlling invasive weeds, such as floating pennywort
Channel bed filamentous algae extent (-) E12	Investigate measures to increase water quality and reduce channel bed filamentous algae (E12)

Table C1 Enhancement opportunities, based on score alone, and their potential opportunity to impact overall condition score. Rows are colour-coded to indicate interventions with major, moderate, minor, and no potential impact on the watercourse's condition score. Indicator (+positive or -negative) Enhancement

Appendix 3 Encroachment extracts from BNG Guidance and Project Encroachment

Table 12 Watercourse riparian zone encroachment bands

Riparian zone encroachment band for a bank	Definition for rivers and canals	Definition for Ditches
No encroachment	No encroachment within 10 metres of bank top	No encroachment within 5 metres of bank top
Minor	Any encroachment 8 to 10 metres from the bank top (covering up to 100% of area); or where the footprint of encroachment occupies 0-10% of the riparian zone area 4 to 10 metres from bank top.	Any encroachment 4 to 5 metres from the bank top (covering up to 100% of area); or where the footprint of encroachment occupies 0-10% of the riparian zone area 2 to 5 metres from bank top.
Moderate	Where the footprint of encroachment occupies between 10% to 25% of the riparian zone area 4 to 10 metres from the bank top.	Where the footprint of encroachment occupies between 10% to 25% of the riparian zone area 2 to 5 metres from the bank top.
Major	Any encroachment 0 to 4 metres from the bank top; or Where encroachment occupies greater than 25% of the total riparian zone area.	Any encroachment 0 to 2 metres from the bank top; or Where encroachment occupies greater than 25% of the total riparian zone area.

Image 1 Page 42 The Statutory Biodiversity Metric User Guide First published: February 2024 Last updated: July 2024

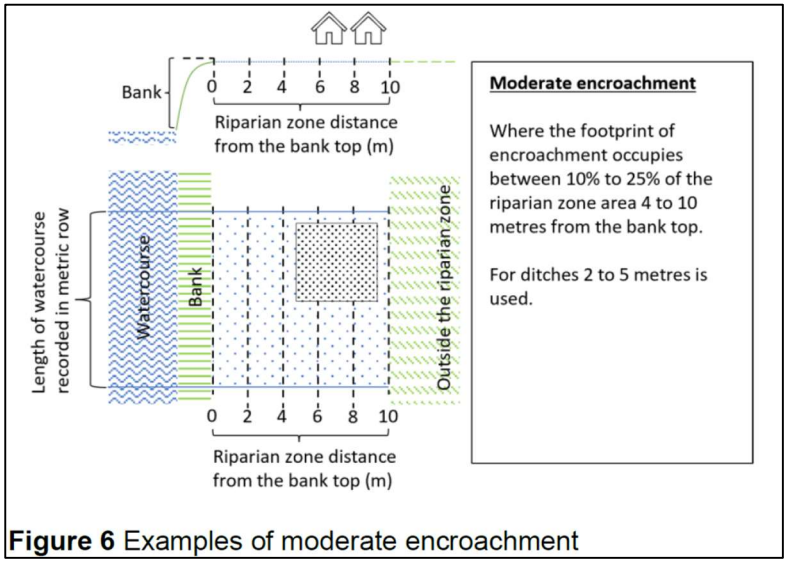


Figure 6 Examples of moderate encroachment

Image 2 Page 43 The Statutory Biodiversity Metric User Guide First published: February 2024 Last updated: July 2024

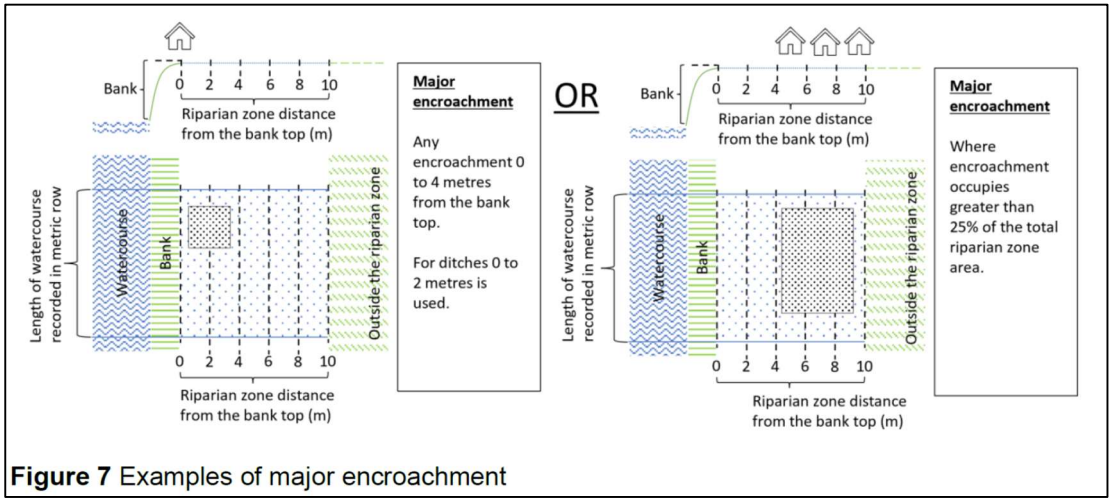


Figure 7 Examples of major encroachment

Image 3 Page 43 The Statutory Biodiversity Metric User Guide First published: February 2024 Last updated: July 2024

Image 4 Development plans for the site where encroachment occurs within 0-4 metres of the bank and the additionally where the total encroachment is more than 10% of the riparian zone between 4m and 10m from the bank (750m^2 planting within the 900m2 area, which equates to 83% semi-natural area and 17% encroachment).

APPENDIX D – Delivering the Principles of Biodiversity Net Gain

Principle	Application in Practice	How to Address through the Project
Apply the mitigation hierarchy	Do everything possible to first avoid and then minimise impacts on biodiversity. Only as a last resort compensate for losses that cannot be avoided and, where not possible, offset biodiversity losses by gains elsewhere.	An ecological appraisal has been undertaken early in the project to understand potential biodiversity constraints associated with the development site and review the development layout to consider opportunities to retain significant habitats.
Avoid losing biodiversity that cannot be offset elsewhere	Avoid impacts on irreplaceable biodiversity – these impacts cannot be offset to achieve net gain.	By undertaking an ecological appraisal early in the project, the presence of such habitats within the development site can be identified and opportunities to retain these habitats considered. Where impacts do occur, consideration will be required to provide bespoke compensation, agreed with the Local Planning Authority and considered independent of the Statutory Defra Metric. None of the habitats present within the site were considered to be an irreplaceable habitat within BNG.
Be inclusive and equitable	Engage stakeholders[48] early, and involve them in designing, implementing, monitoring and evaluating the approach to net gain.	Collaboration between various interested parties in the design, in particular the landscape architect and ecologist but potentially extending to additional consultants in relation to sustainable drainage and health, is important in ensuring opportunities for combined benefits can be realised through the proposals. The requirements of external stakeholders are well communicated through various strategies and policies, which have been referenced in the ecological assessment.
Address risk	Mitigate difficulty, uncertainty and other risks to achieve net gain. Apply well-accepted ways to add contingency when calculating biodiversity losses and gains in order to account for any residual risk, as well as compensate for the time between the losses occurring and the gains being fully realised.	The BNG assessment has been based on Defra's Statutory Biodiversity Metric, which addresses risk through a series of multipliers. The difficulty of creation/enhancement multiplier addresses the uncertainty in the effectiveness of techniques to create/enhance habitats whilst the time to target condition addresses the time between creation/ enhancement and achievement of the target condition. In addition to this, as the development programme includes a delay between site clearance and the commencement of landscaping, this has been included in the temporal risk.
Make a measurable net gain contribution	Achieve a measurable, overall gain for biodiversity and the services ecosystems provide while directly contributing towards nature conservation priorities.	Assessment of the net gain through Defra's Statutory Biodiversity Metric has quantified the biodiversity value of the final development site and net gain over the baseline. Enhancements proposed have given consideration to local policies for nature conservation priority, where possible, including those communicated in Biodiversity Action Plans and other local initiatives.

[48] *Stakeholders are defined in the guidance as 'individuals and organisations who are actively involved in the project, or whose interests may be positively or negatively affected as a result of project execution or successful project completion'.*

Principle	Application in Practice	How to Address through the Project
Achieve the best outcomes for biodiversity	Achieve the best outcomes for biodiversity by using credible evidence and local knowledge to make clearly justified choices when: • Delivering compensation that is ecologically equivalent in type, amount and condition and that accounts for the location and timing of biodiversity losses; • Compensating for losses of one type of biodiversity by providing a different type that delivers greater benefits for nature conservation; • Achieving net gain locally to the development while also contributing towards nature conservation priorities at local, regional and national levels; • Enhancing existing or creating new habitat; • Enhancing ecological connectivity by creating more, bigger, better and joined areas for biodiversity.	Defra's Statutory Biodiversity Metric, on which the assessment has been based, addresses the 'like-for-like or better' principle through the application of Trading Rules, which highlights where appropriate compensatory planting is not achieved for particular habitat types. The location of enhancement/compensation measures has been considered through the Statutory Metric, adding weight to on-site and local measures compared to off-site measures. As a result, it is advantageous for the project to maximise opportunities for biodiversity on-site where possible. Where habitats on-site or within the ownership boundary can be retained and protected, opportunities to enhance the condition can provide 'easy-wins' in delivering a net gain for biodiversity, particularly where this can be established early in the development programme or, better still, prior to habitat losses. Consideration has been given in the Ecological Appraisal regarding the context of the site and its potential to establish connection with wider biodiversity resources as a stepping stone habitat linkage, particularly given its urban location.
Be additional	Achieve nature conservation outcomes that demonstrably exceed existing obligations, i.e. do not deliver something that would occur anyway.	Habitat creation and enhancement proposals are based on actions that are undertaken to deliver new habitats or enhance habitat condition, seeking to exceed the minimum requirements of 10 % net gain mandated through the Environment Act 2021 and providing additional species measures will demonstrate additionality.
Create a net gain legacy	Ensure net gain generates long-term benefits by: • Engaging stakeholders and jointly agreeing practical solutions that secure net gain in perpetuity; • Planning for adaptive management and securing dedicated funding for long-term management; • Designing net gain for biodiversity to be resilient to external factors, especially climate change; • Mitigating risks from other land uses; • Avoiding displacing harmful activities from one location to another; • Supporting local-level management of net gain activities.	Consideration has been given through the development of proposals to ensure solutions are practical for their location/use and resilient to external factors, such as climate change. This has been achieved through collaboration in the design team to balance competing requirements for space within the development, ensuring proposals for habitat creation are appropriate for their intended purpose/location and through consideration of the species proposed for planting to balance native species with those being resilient to warmer and more arid environments. Management forms a significant aspect of BNG, with the Environment Act 2021 requiring habitats created or enhanced to be managed for a minimum period of 30 years. A condition requiring a Landscape and Ecological Management Plan is proposed to address adaptive management that secures long-term enhancement. Given the urban nature of the site, it is not envisaged that redevelopment of the site would displace harmful activities to another location, with no harmful activities undertaken on the site.
Optimise sustainability	Prioritise BNG and, where possible, optimise the wider environmental benefits for a sustainable society and economy.	As above, collaboration in the design team has sought to realise mutual benefits through habitat creation, for example as a result of access to nature for tenants, occupiers or the public, improved air quality, provision of shading or as a sustainable drainage feature.
Be transparent	Communicate all net gain activities in a transparent and timely manner, sharing the learning with all stakeholders.	The BNG assessment has been communicated in a clear manner, following the precautionary principle where appropriate and clearly demonstrating how the proposals will deliver on planning policy and legislative requirements to deliver a net gain for biodiversity.

APPENDIX E – Site Photographs

Photo 1: Car Sales forecourt on Kirby Estate with vegetation establishing around the periphery

Photo 2: Road leading to industrial units on Kirby Estate

Photo 3: Workshop for vehicle repair on Kirby Estate

Photo 4: Workshop in temporary building on Kirby Estate

Photo 5: Fairfield House on Kirby Estate

Photo 6: Unit 8 and temporary kiosk and hardstanding on Kirby Estate

Photo 7: Unit 2 workshop and entrance to Unit 8 on Kirby Estate

Photo 8: Unit 3 workshop on Kirby Estate

Photo 9: Disused yard and open shutters to Unit 3 on Kirby Estate

Photo 10: Unit 4 workshop and access on Kirby Estate

Photo 11: Unit 5 and access on Kirby Estate

Photo 12: Unit 6 workshop on Kirby Estate

Photo 13: Workshop building and deteriorating roof and absent windows in Unit 6 on Kirby Estate

Photo 14: Dilapidated rear of building of Unit 6 workshop on Kirby Estate

Photo 15: Rear of workshops in 6B St Stephens Road with deteriorating brick walls and wooden glazing, from Unit 6 Kirby Estate

Photo 16: Vacant land with some vegetation growth on the land to the north of Unit 6 Kirby Estate and adjacent to Aldi

Photo 17: Access to vacant land alongside Aldi along the High Street

Photo 18: Access to 6B St Stephens Road industrial area

Photo 19: Vacant land and industrial premises within 6B St Stephens Road

Photo 20: Vacant land and industrial premises within 6B St Stephens Road

Photo 21: Vacant land and industrial premises within 6B St Stephens Road

Photo 22: Vacant land and industrial premises within 6B St Stephens Road

Photo 23: St Stephens Road

Photo 24: Access track to 20A St Stephens Road car workshop

Photo 25: Car workshop at 20A St Stephens Road

Photo 26: Rear façade of the car workshop at 20A St Stephens Road from the main site

Photo 27: Rear façade of the car workshop at 20A St Stephens Road from the main site

Photo 28: Access to 22 St Stephens Road and main site

Photo 29: Missing and loose tiles on 22 St Stephens Road roof

Photo 30: Roof of 22 St Stephens Road with loose and lifting tiles

Photo 31: Gap around wooden window frame and rotting soffit/fascia above on 22 St Stephens Road

Photo 32: Crevice behind wooden boarding on façade of 22 St Stephens Road.

Photo 33: Rotting timbers on the roof of 22 St Stephens Road

Photo 34: 22 St Stephens Road with missing and loose tiles on the roof

Photo 35: Al Falah Masjid, façade onto St Stephens Road

Photo 36: Rear roof areas of the Al Falah Masjid

Photo 37: Western façade of the Al Falah Masjid onto the Grand Union Canal

Photo 38: Crack in boundary wall of the Al Falah Masjid overlooking the Grand Union Canal

Photo 39: Crack in boundary wall of Al Falah Masjid overlooking Grand Union Canal

Photo 40: Grand Union Canal and towpath alongside the site

Photo 41: Grand Union Canal and Trout Road bridge alongside the site

Photo 42: Trout Road looking towards canal bridge and main site entrance

Photo 43: Entrance to the main area of the Trout Road site

Photo 44: Hardstanding at entrance to Trout Road site

Photo 45: Broadleaved woodland habitat in western corner of the site alongside canal access path

Photo 46: Hardstanding used for material storage for timber and roofing merchant

Photo 47: Access road to industrial areas on Trout Road site

Photo 48: Conway compound on Trout Road site

Photo 49: Compound on Trout Road site used for provision of storage services

Photo 50: Concrete mixing compound on Trout Road site

Photo 51: Concrete mixing compound on Trout Road site

Photo 52: Temporary site offices for concrete mixing compound on Trout Road site

Photo 53: Waste management area within Trout Road site

Photo 54: Largely unused area of Trout Road site with vehicle parking

Photo 55: Largely unused area of Troud Road site with vegetation establishing

Photo 56: Temporary structure on the site providing industrial premises on Trout Road site

Photo 57: Temporary building providing office accomodation on Trout Road site

Photo 58: Temporary building providing office and customer service/retail space on Trout Road site

Photo 59: Temporary structure providing shelter for operations associated with timber and roofing merchant on Trout Road site

Photo 60: Small brick building on boundary of Trout Road site used for informal accommodation.

APPENDIX F – Habitat Condition Assessment

Condition Sheet: WOODLAND Habitat Type

UK Habitat Classification (UKHab) Habitat Types

Woodland and forest - Lowland beech and yew woodland
Woodland and forest - Lowland mixed deciduous woodland
Woodland and forest - Native pine woodlands
Woodland and forest - Other coniferous woodland
Woodland and forest - Other Scot's pine woodland
Woodland and forest - Other woodland; broadleaved
Woodland and forest - Other woodland; mixed
Woodland and forest - Upland birchwoods
Woodland and forest - Upland mixed ashwoods
Woodland and forest - Upland oakwood
Woodland and forest - Wet woodland

Habitat Description

Small stand of sycamore on the bank that forms a habitat best described as other broadleaved woodland.

ukhab – UK Habitat Classification

This condition sheet is based on the England Woodland Biodiversity Group (EWBG) Woodland Condition Survey Method, available here:
Woodland Wildlife Toolkit (sylva.org.uk)

IMPORTANT: This biodiversity metric woodland condition assessment must be used to assess woodland being input into the biodiversity metric. The outputs of this condition assessment are not equivalent to, nor are they comparable with the scores from the EWBG condition assessment, because the EWBG assessment has been adapted for the biodiversity metric, including the removal of EWBG Indicator 7 (Proportion of favourable land cover around woodland) and Indicator 14 (Size of woodland), and minor changes to other indicators.

On-site or off-site, site name and location	Trout Road, West Drayton On-site	**Survey date and Surveyor name**	Tom Hall - 06/11/2024
Limitations (if applicable)	-	**Survey reference (if relating to a wider survey)**	-
Grid reference	TQ 05797 80503	**Habitat parcel reference**	W1g

Condition Assessment Criteria

	Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	Score per indicator	Notes (such as justification)
A	**Age distribution of trees**	Three age-classes[1] present.	Two age-classes[1] present.	One age-class[1] present.	1	Single age-class present
B	**Wild, domestic and feral herbivore damage**	No significant browsing damage evident in woodland[2].	Evidence of significant browsing pressure is present in less than 40% of whole woodland[2].	Evidence of significant browsing pressure is present in 40% or more of whole woodland[2].	3	No evidence of browsing damage as a result of inaccessibility
C	**Invasive plant species**	No invasive species[3] present in woodland.	Rhododendron *Rhododendron ponticum* or cherry laurel *Prunus laurocerasus* not present, and other invasive species[3] <10% cover.	Rhododendron or cherry laurel present, or other invasive species[3] ≥10% cover.	3	No invasive species present within the habitat
D	**Number of native tree species**	Five or more native tree or shrub species[4] found across woodland parcel.	Three to four native tree or shrub species[4] found across woodland parcel.	Two or less native tree or shrub species[4] across woodland parcel.	1	The woodland is a single species, sycamore
E	**Cover of native tree and shrub species**	>80% of canopy trees and >80% of understory shrubs are native[5].	50 - 80% of canopy trees and 50 - 80% of understory shrubs are native[5].	<50% of canopy trees and <50% of understory shrubs are native[5].	1	The understorey does not cover 50% of the canopy, which extends over hardstanding.
F	**Open space within woodland**	10 - 20% of woodland has areas of temporary open space[6]. Unless woodland is <10ha, in which case 0 - 20% temporary open space is permitted[7].	21 - 40% of woodland has areas of temporary open space[6].	<10% or >40% of woodland has areas of temporary open space[6]. But if woodland <10ha has <10% temporary open space, please see Good category[7].	3	No open space, but as woodland is <10ha is considered good.
G	**Woodland regeneration**	All three classes present in woodland[8]; trees 4 - 7 cm Diameter at Breast Height (DBH), saplings and seedlings or advanced coppice regrowth.	One or two classes only present in woodland[8].	No classes or coppice regrowth present in woodland[8].	1	No classes indicative of regrowth present.
H	**Tree health**	Tree mortality 10% or less, no pests or diseases and no crown dieback[9].	11% to 25% tree mortality and or crown dieback or low-risk pest or disease present[9].	Greater than 25% tree mortality and or any high-risk pest or disease present[9].	3	Trees appear in good condition.
I	**Vegetation and ground flora**	Recognisable NVC plant community[10] at ground layer present, strongly characterised by ancient woodland flora specialists.	Recognisable woodland NVC plant community[10] at ground layer present.	No recognisable woodland NVC plant community[10] at ground layer present.	1	Ground flora dominated by ivy with no NVC plant community present.
J	**Woodland vertical structure**	Three or more storeys across all survey plots, or a complex woodland[11].	Two storeys across all survey plots[11].	One or less storey across all survey plots[11].	1	Single storey habitat.
K	**Veteran trees**	Two or more veteran trees[12] per hectare.	One veteran tree[12] per hectare.	No veteran trees[12] present in woodland.	1	No veteran trees present.

L	**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[13].	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[13].	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[13].	1	No deadwood present.
M	**Woodland disturbance**	No nutrient enrichment or damaged ground evident[14].	Less than 1 hectare in total of nutrient enrichment across woodland area, and or less than 20% of woodland area has damaged ground[14].	1 hectare or more of nutrient enrichment, and or 20% or more of woodland area has damaged ground[14].	1	The habitat is subject to littering that covers a significant proportion of the habitat.
				Total Score (out of a possible 39)	21	

Condition Assessment Result	Condition Assessment Score	Result Achieved
Total score >32 (33 to 39)	Good (3)	Poor
Total score 26 to 32	Moderate (2)	
Total score <26 (13 to 25)	Poor (1)	

Suggested enhancement interventions to improve condition score

Footnotes

Footnotes below refer to the EWBG woodland condition assessment details: EWBG (No date). *Assessing your Woodland's Condition* [online]. Available from:

Woodland Wildlife Toolkit (sylva.org.uk)

The woodland condition assessment survey methodology is outlined in the EWBG toolkit. However the criteria on this sheet are those specific to the Statutory Biodiversity Metric and must be used when assessing woodland condition.

Footnote 1 - See EWBG method INDICATOR 1 for more information. If tree species is not a birch *Betula* sp., cherry *Prunus* sp. or *Sorbus* sp.: 0 – 20 years (Young); 21 - 150 years (Intermediate); and >150 years (Old). For birch, cherry or *Sorbus* species; 0 - 20 years = Young; 21 - 60 years =Intermediate; >60 years = Old. A recognisable age-class should be a consistent recognisable layer across the woodland or stand being assessed. Presence of a few saplings would not indicate that the woodland has an 'age-class' of young trees.

Footnote 2 - See EWBG method INDICATOR 2 for more information. Browsing pressure is considered to be significant where >20% of vegetation visible within each survey plot shows damage from any type of browsing pressure listed.

Footnote 3 - See EWBG method INDICATOR 3 for more information. Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly.

Check for the presence of all plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), particularly the following invasive non-native species: American skunk cabbage *Lysichiton americanus* ; Himalayan balsam *Impatiens glandulifera* ; Japanese knotweed *Reynoutria japonica* ; cherry laurel *Prunus laurocerasus* ; shallon *Gaultheria shallon* ; snowberry *Symphoricarpos albus* ; variegated yellow archangel *Lamiastrum galeobdolon subsp. argentatum* ; rhododendron *Rhododendron ponticum* ; and tree-of-heaven *Alianthus altissima* .

Footnote 4 - See EWBG method INDICATOR 4 and Table 2 for more information. The number of different native tree or shrub species including young trees and shrubs. A list of commonly found native tree and shrub species is provided in Table 2. Not all species listed are native to all parts of the UK. Note a list of commonly found non-native tree species are also included and should be recorded if present.

Footnote 5 - See EWBG method INDICATOR 5 and for more information. The abundance of native tree species in upper (>5 m) and understorey (up to 5 m) layers including young trees and shrubs.

Footnote 6 - See EWBG method INDICATOR 6 for more information. Open space within woodland in this context is temporary open space in which trees can be expected to regenerate (for example, glades, rides, footpaths, areas of clear-fell). This differs from permanent open space where tree regeneration is not possible or desirable (for example, tarmac, buildings, rivers). Area is at least 10 m wide with less than 20% covered by shrubs or trees.

Footnote 7 – Given the increased ratio of edge habitat to woodland where the woodland is <10ha.

Footnote 8 - See EWBG method INDICATOR 8 for more information. This indicator measures regeneration potential of the woodland by considering three classes: seedlings; saplings; and young trees of 4-7 cm DBH. All three classes would fall in the 'young' category of the 'age distribution of trees' indicator, but the regeneration indicator gathers additional information by considering regeneration potential - if seedlings, saplings and young trees are all present that means natural regeneration processes are happening.

Footnote 9 - See EWBG method INDICATOR 9 for more information and Table 3 for a list of diseases and pests and their risk level.

Footnote 10 - See EWBG method INDICATOR 10 directing to NVC key for more information. The 'UKHab to NVC translation table' in the UK Habitat Classification resources may also be useful to assess this.

Footnote 11 – This criterion looks at structural diversity and is useful to understand in conjunction with the age of trees in a woodland. Vertical structure is defined as the number of canopy storeys present. Possible storey values are: 1) Upper; 2) Complex: recorded when the stand is composed of multiple tree heights that cannot easily be stratified into broad height bands (such as upper, middle or lower); 3) Middle; 4) Lower; and 5) Shrub layer. There might be no storeys where the woodland has been felled. See EWBG INDICATOR 11 for more information.

Footnote 12 - See EWBG method INDICATOR 12 for more information. 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)

EWBG INDICATOR 12 is the relevant indicator.

Footnote 13 – See EWBG method INDICATOR 13 for more information. This includes logs, large dead branches on the forest floor and stumps (<1 m tall) >20 cm diameter at narrowest point and >50 cm long. Also includes standing dead trees (>1 m tall) and also deadwood on standing live trees. Diameter is measured at the narrowest point on the stem. Minimum diameter of 20 cm.

Footnote 14 - See EWBG method INDICATOR 15 for more information. Examples of disturbance are: significant nutrient enrichment; soil compaction from trampling, machinery, animal poaching or litter.

Condition Sheet: URBAN Habitat Type

Habitat Types

Sparsely vegetated land - Ruderal/Ephemeral
Sparsely vegetated land - Tall forbs
Urban - Allotments
Urban - Biodiverse green roof
Urban - Bioswale
Urban - Cemeteries and churchyards
Urban - Facade-bound green wall
Urban - Ground based green wall
Urban - Intensive green roof
Urban - Open mosaic habitats on previously developed land
Urban - Rain garden
Urban - Sustainable drainage system (SuDS)
Urban - Vacant or derelict land
Urban - Bare ground

Habitat Description

See the Statutory Biodiversity Metric User Guide for green roofs, and UK Habitat Classification (UKHab) for other habitats: ukhab – UK Habitat Classification

On-site or off-site, site name and location	Trout Road, West Drayton On-Site	**Survey date and Surveyor name**	Tom Hall - 06/11/2021
		Survey reference (if relating to a wider survey)	-
Limitations (if applicable)	-		

Condition Assessment Criteria		**Habitat parcel reference**										
		GBGW-1	SVUL-1	SVUL-2	SVUL-3	SVUL-4	SVUL-5	SVUL-6				
		Grid reference										
		TQ 05968 80502	TQ 05979 80580	TQ 05895 80643	TQ 05914 80576	TQ 05856 80557	TQ 05891 80437	TQ 05952 80525				
		Criterion passed (Yes or No)										**Notes (such as justification)**
Core Criteria - must be assessed for **all urban habitat types**:												
A	Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.	No	No	No	No	No	No	No				
B	The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.	No	No	No	No	No	No	No				
C	Invasive non-native plant species (listed on Schedule 9 of WCA[1]) and others which are to the detriment of native wildlife (using professional judgement)[2] cover less than 5% of the total vegetated area[3]. **Note - to achieve Good condition, this criterion must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).**	Yes	Yes	Yes	Yes	Yes	Yes	Yes				
Additional Criterion - must be assessed for **Open mosaic habitat on previously developed land** only:												
D	The parcel shows spatial variation and forms a mosaic of bare substrate PLUS: - At least four early successional communities (a) to (i); Communities: (a) annuals; (b) mosses/liverworts; (c) lichens; (d) ruderals; (e) inundation species; (f) open grassland; (g) flower-rich grassland; (h) heathland, (i) pools.											
Additional Criteria - must be assessed for **Bioswale and SuDS** habitat types only:												
E1	Plant species are mostly native. If non-native species are present, they should not be detrimental to the habitat or native wildlife[4].											
E2	The vegetation is comprised of plant species suited to wetland or riparian situations.											
Additional Criterion - must be assessed for **Intensive green roofs** only:												
F	The roof has a minimum of 50% native and non-native wildflowers. 70% of the roof area is soil and vegetation (including water features).											
Additional Criterion - must be assessed for **Biodiverse green roofs** only:												

G	The roof has a varied depth of 80 – 150 mm; at least 50% is at 150 mm and is planted and seeded with wildflowers and sedums or is pre-prepared with sedums and wildflowers. **Note – to achieve Good condition, some additional habitat, such as sand piles, stones, logs etc. are present.**											
Essential criteria relevant for habitat type achieved (Yes or No)		Yes	Yes	Yes	Yes	Yes	Yes	Yes				
Number of criteria passed		1	1	1	1	1	1	1				
Condition Assessment Result	**Condition Assessment Score**	**Score Achieved ×/✓**										
Results for habitats requiring assessment of **3 core criteria** only **(all listed urban habitats except Open mosaic habitat on previously developed land, Bioswale, SuDS and Green roofs)**:												
• Passes all 3 core criteria; AND • Meets the requirements for Good condition within criterion C.	Good (3)											
• Passes 2 of 3 core criteria; OR • Passes 3 of 3 core criteria but does not meet the requirements for Good condition within criterion C.	Moderate (2)											
• Passes 0 or 1 of 3 core criteria.	Poor (1)	Y	Y	Y	Y	Y	Y	Y				
Results for **Green roofs** and **Open mosaic habitat on previously developed land** (requiring assessment of **4 criteria** only - core criteria plus additional criterion specified for habitat type):												
• Passes all 3 core criteria; AND • Meets the requirements for Good condition within criterion C; AND • Passes additional criterion relevant to specific habitat type (D, F or G).	Good (3)											
• Passes 2 or 3 of 4 criteria; OR • Passes 4 of 4 criteria but does not meet the requirements for Good condition within criterion C.	Moderate (2)											
• Passes 0 or 1 of 4 criteria.	Poor (1)											
Results for **Bioswale or SuDS** (requiring assessment of **5 criteria** - core criteria plus additional criteria specified for habitat type):												
• Passes all 3 core criteria; AND • Meets the requirements for Good condition within criterion C; AND • Passes all additional criteria relevant to specific habitat type (Group E)	Good (3)											
• Passes 3 or 4 of 5 criteria; OR • Passes 5 of 5 criteria but does not meet the requirements for Good condition within criterion C.	Moderate (2)											
• Passes 2 or fewer of 5 criteria.	Poor (1)											

Suggested enhancement interventions to improve condition score

Footnotes

Footnote 1 – Wildlife and Countryside Act 1981 (as amended).

Footnote 2 – Sources of information about detrimental non-native species can be found on the GB Non-native Species Secretariat (GBNNSS) website:

Home » NNSS (nonnativespecies.org)

and Natural England Access to Evidence page should also be checked for up-to-date information:

Horizon-scanning for invasive non-native plants in Great Britain - NECR053 (naturalengland.org.uk)

For criterion C – For green roof habitat types only – buddleia *Buddleja davidii* should be assessed alongside Schedule 9 species. This species impairs the health of the local ecosystem and reduces the biodiversity potential of the roof. It is also a sign that a roof has not been planted and seeded correctly in subsequent years.

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 – Use professional judgement. Sources of information about non-native species that are not detrimental to native wildlife can be found on the GBNNSS website:

Alternative plants » NNSS (nonnativespecies.org)

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 rural trees. You should only use the Line of trees condition assessment and record that habitat type in rural locations.

Habitat Description

Individual trees (description applied to the urban or rural environment):
Young trees over 7.5 cm in diameter at breast height whose canopies are not touching.

Urban Perimeter / Linear Blocks and Groups (description applied to the urban environment only):
Groups or stands of trees (size requirement as defined above) within and around the perimeter of urban land. This includes those along urban streets, highways, railways and canals, and also former field boundary trees incorporated into developments. Canopies should predominantly overlap continuously. Groups of urban trees that don't match the descriptions for woodland may be assessed within this category.

On-site or off-site, site name and location	Trout Road, West Drayton On-Site	**Survey date and Surveyor name**	Tom Hall - 06/11/2024
Limitations (if applicable)	-	**Survey reference (if relating to a wider survey)**	-
Grid reference	TQ 05904 80434	**Habitat parcel reference**	

	Condition Assessment Criteria	**Criterion passed (Yes or No)**	**Notes (such as justification)**
A	The tree is a native species (or at least 70% within the block are native species).	No	
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).	Yes	
C	The tree is mature (or more than 50% within the block are mature)[1].	No	
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.	No	
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	No	
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	No	
	Number of criteria passed	1	

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)	Y
Note that 'Fairly Good and Fairly Poor' condition categories are not available for this broad habitat type.		

Suggested enhancement interventions to improve condition score[2]

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 - Enhancement of this habitat type is only possible by improving the habitat so that it meets all Criteria B, D and F. It is not possible or appropriate to enhance individual tree/s through meeting just one or two of those Criteria, nor by meeting Criteria A, C or E.

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