HAVANT THICKET RESERVOIR PROJECT

Environmental Statement Volume 4 – Appendices
Appendix 9 Biodiversity
Appendix 9.21 Biodiversity Net Gain (BNG) Assessment (July 2026 update)

Portsmouth Water Ltd.

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1. Introduction

1.1. AtkinsRéalis has been instructed by Portsmouth Water Ltd. to provide a final Biodiversity Net Gain (BNG) assessment in relation to the Havant Thicket Reservoir Pipeline Scheme. The British Standard BS 8683:2021[1] defines BNG as "a specific, quantifiable outcome from project activities that deliver demonstrable benefits for biodiversity compared to the baseline situation."

1.2. This report broadly follows the framework set out by the Chartered Institute of Ecology and Environmental Management (CIEEM) for reporting in relation to BNG assessments and provides:

- A baseline assessment – a quantification of the current biodiversity value of the site (using habitat as a proxy) measured in biodiversity units;
- A post-development assessment to determine the number of biodiversity units required to achieve net gain; and
- An offsite post-intervention assessment to link the units required to achieve net gain with offsite gain sites.

1.3. The assessment has been undertaken by a competent person with reference to BS 8683:2021[1].

2. Policy context

2.1. Schedule 14 of the Environment Act 2021[2] makes provision for a biodiversity gain to be a condition of planning permission in England through amendment of the Town and Country Planning Act 1990 (Schedule 7A Biodiversity in England). This objective is for the proposed development to deliver at least a 10% increase in biodiversity value relative to the pre-development biodiversity value of the onsite habitat. This increase can be achieved through onsite biodiversity gains, registered off-site biodiversity gains or statutory biodiversity credits.

2.2. The Environment Act 2021 (Commencement No. 8 and Transitional Provisions) Regulations (2024)[3] commence biodiversity gain for most types of new planning applications into force on the 12th of February 2024. This primarily includes commencement of the following:

- Provision for a statutory condition to apply to all planning permissions granted in England (not including exemptions) to ensure the biodiversity gain objective is met.
- Provision for a public register to record off-site biodiversity gain sites and the allocation of any habitat enhancement from that site to any development.
- Provision for the creation of a system to sell a supply of statutory biodiversity credits to the habitat compensation market.

2.3. The Biodiversity Gain Requirements (Exemptions) Regulations (2024)[4] provide exemptions for categories of development to which biodiversity gain does not apply, for which this scheme does not qualify.

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[1] The British Standards Institution (2021). BS 8683:2021 Process for designing and implementing Biodiversity Net Gain – Specification. BSI Standards Limited 2021.

[2] Environment Act (2021). Schedule 14. Biodiversity gain as condition of planning permission. https://www.legislation.gov.uk/ukpga/2021/30/schedule/14/enacted

[3] The Environment Act 2021 (Commencement No. 8 and Transitional Provisions) Regulations 2024. https://www.legislation.gov.uk/uksi/2024/44/made

[4] The Biodiversity Gain Requirements (Exemptions) Regulations 2024.

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2.4. The Biodiversity Gain (Town and Country Planning) (Modifications and Amendments) (England) Regulations (2024)[5] set out the following:

- Provisions related to planning applications and the Biodiversity Gain Plan.
- Provision of Biodiversity Gain as a condition of planning permission.
- Modifications and explanatory notes of how Biodiversity Gain is applied for phased development.

2.5. The condition requires a biodiversity gain plan to be submitted and approved by the planning authority before development can lawfully be begun. The biodiversity gain plan must contain an assessment of the value of habitats before development and after development and ensure that at least a 10% net gain is achieved.

2.6. The Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations (2024)[6] set out the list of irreplaceable habitats[7]. The Regulations set out that developments for which planning permission is granted to increase the biodiversity value of the development through mandatory gain is disapplied for irreplaceable habitats.

2.7. The Biodiversity Gain Site Register Regulations 2024[8] make provision for a register of biodiversity gain sites and requires Natural England to establish and maintain the biodiversity gain site register and to ensure that information in it is accessible to the public. The Regulations provide the process and eligibility for registering land within the register under a conservation covenants or section 106 agreements and details on amending and removing land if required. The regulations also set out the fees required for adding land to the register, and fines for false information.

2.8. The Biodiversity Gain Site Register Regulations 2024 (Financial Penalties and Fees)[9] provide details on the financial penalties that could be applied, where the register operator is satisfied, on the balance of probabilities, that false information has been supplied to it in connection with an application to register land in the biodiversity gain site register.

2.9. The Biodiversity Net Gain Planning Practice Guidance (PPG) provides detailed advice to planners and developers on BNG during the planning process and information required for submission. This also details explanatory notes on; phased development, exemptions, determination of applications, appeals, relationship with existing planning policy and rules and best practice that should be applied. The guidance also provides the Biodiversity Gain Mitigation Hierarchy[1], which sets out the following priority actions:

- first, in relation to onsite habitats which have a medium, high and very high distinctiveness (a score of four or more according to the statutory biodiversity metric), the avoidance of adverse effects from the development and, if they cannot be avoided, the mitigation of those effects; and
- then, in relation to all onsite habitats which are adversely affected by the development, the adverse effect should be compensated by prioritising in order, where possible, the enhancement of existing

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https://www.legislation.gov.uk/uksi/2024/47/contents/made

[5] The Biodiversity Gain (Town and Country Planning) (Modifications and Amendments) (England) Regulations (2024).
https://www.legislation.gov.uk/uksi/2024/50/contents/made

[6] The Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations (2024).
https://www.legislation.gov.uk/uksi/2024/48/contents/made

[7] Ancient woodland, ancient and veteran trees, blanket bog, limestone pavements, coastal sand dunes, Spartina saltmarsh swards, Mediterranean saltmarsh scrub, lowland fens.

[8] The Biodiversity Gain Site Register Regulations 2024.
https://www.legislation.gov.uk/uksi/2024/45/contents/made

[9] The Biodiversity Gain Site Register Regulations 2024 (Financial Penalties and Fees).
https://www.legislation.gov.uk/ukdsi/2024/9780348254358

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onsite habitats, creation of new onsite habitats, allocation of registered off-site gains and finally the purchase of biodiversity credits.

2.10. The Biodiversity Gain Hierarchy has been designed for the purpose of the statutory framework for discharge of the Biodiversity Gain condition to reflect the habitat categories in the biodiversity metric and the type of ways that the objective of at least a 10% gain can be achieved.

2.11. Planning authorities must consider how the Biodiversity Gain Hierarchy has been applied. The Biodiversity Gain Hierarchy is distinct from the mitigation hierarchy set out in the National Planning Policy Framework[10].

2.12. Public bodies, such as Portsmouth Water, have a duty to conserve biodiversity under Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 (as amended). The introduction of the Environment Act 2021 strengthens this biodiversity duty by amending Section 40 of the NERC Act 2006 (as amended) so that public bodies also have a duty to enhance biodiversity. Public bodies must now:

- Consider what they can do to conserve and enhance biodiversity;
- Agree policies and specific objectives based on their consideration; and
- Act to deliver their policies and achieve their objectives.

2.13. Policies specific to the retention and enhancement of biodiversity within the Havant Thicket Reservoir are detailed in a number of district council local plans including: Havant Borough 'Building a Better Future' Plan (the draft local plan[11]) and East Hampshire District Council Draft Local Plan 2017-2036 (2019)[12]. Further detail on these policies is provided in the Revised Chapter 9 - Biodiversity[13].

The Pipeline Scheme

2.14. The objective of the Havant Thicket Reservoir Scheme is to provide a new resource to supply drinking water in the water-stressed South East of England, while maximising the community and environmental benefits of a new raw water reservoir.

2.15. The reservoir, when constructed, will be filled via a new dual pipeline with surplus water drawn from the Bedhampton Springs at the Bedhampton pumping station. Reservoir filling will occur in the winter when spring flows are at their highest, providing a water supply to Portsmouth Water customers in the summer months as required. The Pipeline Scheme will also enable additional water to be supplied to Southern Water. Southern Water has a forecast deficit in water resources in the Hampshire area, created by the reduction in abstraction from the internationally designated River Itchen and the nationally designated River Test, as agreed with the Environment Agency.

2.16. As well as augmenting water supplies and increasing the resilience of water resource management in the South East, the reservoir would provide a new recreational resource adjacent to one of the more deprived areas in South East Hampshire, in a location which the community can access on foot, by bike, or through existing bus routes. It also offers further opportunities to improve the wider footpath, cycleway

[10] National Planning Policy Framework, 12 December 2024 [accessed 13/06/25 from https://www.gov.uk/government/publications/national-planning-policy-framework--2]

[11] Havant Borough Council. Building a Better Future (draft plan) [accessed 13/06/2025 at https://www.havant.gov.uk/sites/default/files/2025-05/Draft%20Building%20a%20Better%20Future%20Plan%20Web.pdf]

[12] This is now superseded by the East Hampshire Local Plan 2021-2040. The new pipeline sites wholly within Havant Borough Council therefore the new pipeline route will not be assessed against this policy, however this section has been left as the draft policies were a material consideration to the determination of the reservoir application.

[13] AtkinsRéalis (2024). Environmental Statement Volume 4. Revised Chapter 9: Biodiversity

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and bridleway networks in the area. More than 29,500 people live within reasonable walking distance of the Site (1.5 km) and 120,000 people live within reasonable cycling distance (4.5 km).

2.17. The Scheme would provide a new wetland habitat and associated area for nature conservation. The proximity of the reservoir to the internationally important Langstone and Chichester Harbour means that it may be used as a safe retreat for qualifying bird species when there is disturbance in the Harbour Special Protection Area (SPA) and Special Area of Conservation (SAC). The construction of the reservoir will result in substantial reductions in nutrients loads to the harbour.

2.18. The proposed pipeline would transfer water from Bedhampton Springs to fill the reservoir in the winter and draw water off for treatment and supply when needed in the summer. It would also be used for emergency drawdown should the reservoir levels need to be reduced in emergency conditions, in accordance with the Environment Agency (EA) safety guidance.

2.19. The Scheme is allocated in the adopted Havant Borough Council (HBC) Local Plans. Further information and details can be found in the Planning Statement, which accompanies the planning applications.

2.20. The details of the Scheme are shown on Figure 9.6 Site location in ES Volume 4.

2.21. The Pipeline Scheme extends from the Bedhampton pumping station, northwards through the Leigh Park housing estate in Havant under roads and open spaces. It runs north/north-east adjacent to Hermitage Stream and Riders Lane Stream before heading north-west through Staunton Country Park. The pipeline then crosses into the footprint of the reservoir itself.

2.22. The Pipeline Scheme comprises seven ‘underground-only’ work locations (the drilled sections) and ten surface work locations, collectively referred to as ‘the Site’ in this report. The surface works comprise of eights Shafts and associated compounds, and three ‘Sections’ (section 2, 9 and 10) where the pipeline will be installed via open-cut methodology. The location of each surface work location is detailed in Table 2-1. The surface work location ID will be used to reference the specific surface works locations, where required, throughout the report.

2.23. Within three of the Shafts (shaft 5, 6 and 8) upgrades to existing culverts running beneath public roads area required as part of the scheme.

Table 2-1 – Surface work locations along the Pipeline Scheme (numbered from south to north)

Surface work location ID	Central Ordnance Survey National Grid Reference (OSNGR)
Shaft 1 / Bedhampton Pumping Station	SU 70557 06332
Shaft 2 (Section 2 is between shaft 2 and 3)	SU 70700 06893
Shaft 3	SU 70863 07175
Shaft 4	SU 71123 07331
Emergency Discharge Chamber (EDC)	SU 71009 07562
Shaft 5	SU 71183 07793
Shaft 6	SU 71291 08166
Shaft 7	SU 71611 08293
Shaft 8	SU 71832 08741
Section 9	SU 71717 08900
Section 10 (reservoir site)	SU 71123 09746

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2.24. The duration of construction is expected to be approximately two years, with some elements (such as the turf translocation of 'other neutral grassland' in Staunton Country Park - Section 9) taking less time (approximately six months for the works, with subsequent reinstatement expected to take 1-2 growing seasons with appropriate aftercare, see ES Appendix 9.17 for further details), and some aspects such as landscape reinstatement potentially falling into year 3 (due to seasonal constraints to planting).

2.25. The statutory metric guidance allows for temporary impacts[14] to be reflected in the calculations and any habitat that is considered to be temporarily impacted can be assigned as 'retained' in the metric. This is the approach that has been taken for the other neutral grassland in Section 9, which is expected to return to its baseline condition within two years of the impact. An exception being the riparian habitat within Section 9 at the Lake Stream crossing, which would not return to baseline condition within two years of impact due to the removal of established tree and scrub vegetation which may take longer to re-establish following construction. As such, this is counted as permanent loss followed by creation within the metric. Furthermore, there are seventeen trees that will be translocated rather than felled and these trees have also been assigned as 'retained' in the metric. When assessed against the metric condition assessment criteria for individual trees, it is expected that these trees will meet their baseline criteria within two years of the translocation process.

2.26. For watercourses, culvert creation and any permanent reduction in river condition (for example, due to permanent sheet piling) does not have a habitat creation delay applied. This is due to the creation of lower condition habitat occurring immediately following the loss of the higher condition habitat.

2.27. For all other areas of habitat creation a delay of 3 years has been used in the metric calculations to reflect the worst-case time the habitat is absent on the ground. The habitats present throughout the Site (surface works locations only) comprise broadleaved mixed and yew woodland, including wet woodland and lowland mixed deciduous woodland; other neutral and modified grassland; dense scrub; hedgerows; and tree lines intersected by rivers and streams (Hermitage Stream, Riders Lane Stream or the Lake Stream). At the northern end of the Pipeline Scheme, the Site intersects Staunton Country Park, which includes land covered by various non-statutory designations within its boundary and continues into the reservoir site, which formerly comprised other neutral grassland, purple moor grass and rush pasture and lowland mixed deciduous woodland, but has since been replaced with an active construction site at the main reservoir site.

3. Methodology

3.1. Biodiversity units are calculated using the statutory biodiversity metric tool (the metric) released in February 2024[15]. Supporting documents, such as the Statutory biodiversity metric user guide and condition assessments were used to undertake the BNG assessment. A summary of the metric is provided here alongside details of baseline site condition assessments and post-development assessments.

3.2. Competent ecologists have completed the biodiversity metric tool, and an accredited Modular River (MoRPh) surveyor carried out the River Condition Assessments.

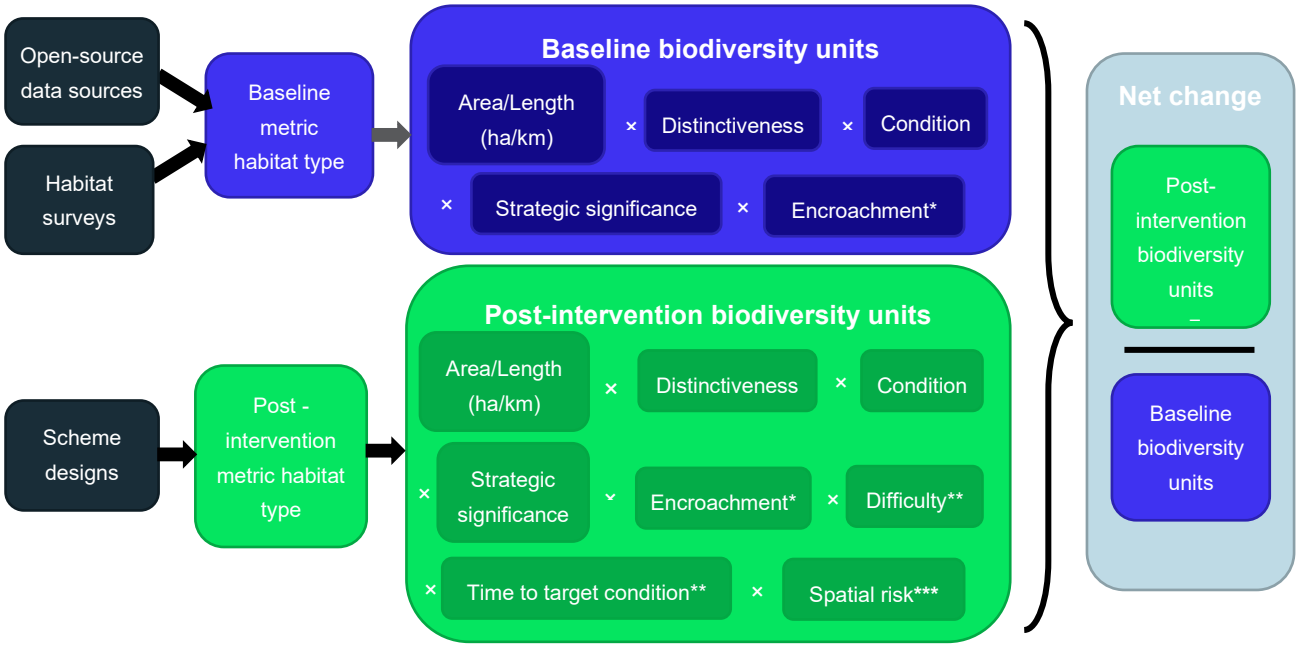
[14] The definition of 'temporary' in this context is habitat which 'can be restored to both: baseline habitat type within two years of the initial impact and baseline condition within two years of the initial impact'.

[15] Defra (2023). Statutory biodiversity metric tools and guides. https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides?fbclid=IwAR3t_S8djN97HZzsb8H9ISdfVqDiUZJcSR7pp4Kz5zHRFK5KWoLjPBlmRcw [Accessed 19/04/2024]

The Statutory Biodiversity Metric Tool

3.3. The metric uses a number of elements to quantify biodiversity value for each habitat type within the red line boundary as 'biodiversity units' before the scheme (baseline) and after the scheme (post-development). The net percentage change between the baseline and the post-development is the net gain, or loss. The calculation of biodiversity units is outlined in Figure 3.1.

3.4. Area habitat features (ha), linear hedgerow features (which includes lines of trees) (km) and linear watercourse features (km) are measured as separate modules within the metric. BNG targets must be achieved for each of these habitat types individually and units cannot be traded between feature types.



*Encroachment only applies to the calculation of watercourse units and includes both riparian and watercourse encroachment

**Risk factor applied when creating or enhancing habitats.

Figure 3-1 - Illustration of elements and multipliers that are combined to calculate the net change in biodiversity units in the metric.

Irreplaceable habitats

3.5. Irreplaceable habitats (as provided for in the BNG regulations[16]) are defined as habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed. As such the BNG requirements are disapplied for these habitats. Any losses or deterioration impacts to irreplaceable habitat cannot be calculated by the biodiversity metric tool and they are removed from the baseline. However, bespoke compensation for irreplaceable habitat is still required and would need to be identified and agreed with Natural England. All on-site irreplaceable habitat is recorded in the metric, based on field surveys and desk study information.

[16] The Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations (2024). Available from: https://www.legislation.gov.uk/uksi/2024/48/contents/made [Accessed: 19/04/2024]

3.6. No irreplaceable habitats are lost as a result of the Scheme, therefore they are not mentioned further within this report.

Habitat trading rules

3.7. Units cannot be traded between area habitats, linear hedgerows, and/or linear watercourses.

3.8. There are also additional trading rules which apply when compensating for loses. These are summarised below:

- High distinctiveness habitats must be replaced with area habitat units/hedgerow units and/or watercourse units of the same habitat band or a higher band
- Medium distinctiveness habitat must be replaced with area habitat units of either medium habitats within the same broad habitat type or any habitat from a higher band from any broad habitat type.
- Medium distinctiveness habitat (hedgerows/watercourses) must be replaced with hedgerow units and/or watercourse units of the same or a higher band

3.9. Trading rules apply up to the point of no net loss. Once trading rules have been met the 'net gain' can be achieved by the creation or enhancement of any habitat (this rule is still applied separately for area habitats, linear hedgerows and linear watercourses).

3.10. The loss of very high distinctiveness habitats should be avoided as they are highly threatened and internationally scarce habitats. Priority should be given to replacing the loss with the same habitat type, however, it maybe also be necessary to agree a bespoke compensation strategy with the local planning authority if losses occur to these habitats.

Baseline data collection

Field surveys

3.11. Table 3-1 provides the dates of all field surveys carried out to inform the BNG assessment, including surveys of offsite 'gain sites'. The methodologies followed are detailed in the subsequent sections.

Table 3-1 - Field surveys informing BNG assessment

Survey type	Date	Notes
Onsite UKHab survey	January to March 2023 (various dates) 26th - 27th July 2023 (Staunton Country Park) 7th September 2023 (additional areas) 7th November 2023 (Bedhampton update)	For area habitats and linear hedgerows
Onsite Modular River Physical Habitat (MoRPh) survey	29 June 2020, 2 July 2020, 1 February 2023, 2 April 2024 and 3 April 2024, and 24th – 25th February 2025.	For linear watercourses
Offsite UKHab survey	25 - 26th February 2025	For area habitats and linear hedgerows

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Deviation from metric methodology

3.12. Rule 4 of the biodiversity metric rules, as set out on page 12 of the statutory metric user guide, suggests that in exceptional ecological circumstances deviation from the biodiversity metric methodology may be permitted by the relevant planning authority.

3.13. As agreed with Havant Borough Council (HBC) the approach that the current BNG assessment has taken is to omit the area within the development boundary that are 'underground-only' work locations (i.e. the drilled sections) and the above ground section (referred to as pipeline Section 10) within the existing consented reservoir site which is now an active construction site and was part of a bespoke voluntary BNG assessment (and compensation package) submitted with the original Havant Thicket Reservoir EIA application in 2020.

3.14. Therefore, the current BNG assessment has been carried out on a modified development boundary, which can be seen on Figure 9.19 in ES Volume 4.

3.15. Justification for this is based on early discussions with HBC at the initial project stages (i.e. prior to biodiversity net gain becoming mandatory) and the desire for the pipeline application to avoid conflict with the complex ecological compensation package, already being delivered for the consented reservoir scheme.

3.16. Furthermore, as the impacts associated with the proposed pipeline are mostly temporary, and there will be no habitat removal or in-direct impacts on habitats within the drilled sections, it was felt that the scale of the assessment needed to be proportionate to the impact and therefore, the drilled sections were not included in the BNG baseline. Subsequent guidance was published by DEFRA on 22 February 2024 – which clarified that (unless exempt), *'developers in England are required to provide 10% BNG on all habitats within the redline boundary of their development, whether or not they are impacted, and that separate arrangements apply to on-site irreplaceable habitat.'* However, this clarification came too late in the pipeline scheme program to implement a change to the previous approach taken for the BNG assessment (i.e. to omit the drilled sections and Section 10 within the reservoir footprint from the baseline). The approach taken to date for the BNG assessment is however considered to be appropriate and proportional based on exceptional ecological (and planning-related) circumstances.

Area-based/linear habitat baseline

UKHab survey (terrestrial habitats and hedgerows)

3.17. Terrestrial habitats and hedgerows within the Site were recorded using the UKHab Classification system[17]. UKHab is a comprehensive and hierarchical habitat classification system for the UK that has been developed to benefit from recent changes in habitat categorisation, recording and analysis, and is suitable for digitally recording in the field using GIS. It is fully compatible with other major existing classifications, including Priority Habitat types and Habitats Directive Annex I habitat types and has been chosen as the classification system for the majority of terrestrial area habitat types used in the metric.

3.18. UKHab is comprised of two main parts, a Primary Habitat system and a list of secondary codes (which are used to provide extra detail on the environment, management or origin of the mapped habitat feature). The Primary Habitat system is hierarchical with five levels as follows:

- Level 1 - major ecosystem i.e. terrestrial, freshwater, coastal.
- Level 2 - nine ecosystem types (grassland, woodland, heathland and shrub etc).

[17] Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020) The UK Habitat Classification User Manual Version 1.1 at https://ukhab.org. UKHab is the classification system that Biodiversity Metric 3.0 predominantly uses for area-based habitats.

- Level 3 - 20 broad habitat types such as neutral grassland or dense scrub.
- Level 4 - 80 habitats including Priority Habitats.
- Level 5 - 104 habitat types including 69 Habitat Directive Annex I habitats and further splitting of Level 4 habitats.

3.19. The guidance for UKHab surveys[9] recommends that all habitats are recorded to at least Level 3 of the UKHab hierarchy. However, wherever possible, surveys should aim to record to at least Level 4 of the UKHab hierarchy so that habitats of ecological importance, e.g. priority habitats, can be identified. The metric typically uses Level 4 UKHab categories (and there are also some UKHab categories that are not directly transferred into the metric). Therefore, some post-survey alignment and translation of the data was carried out to ensure the correct and most appropriate levels and typologies were included. This is summarised in Table 3-2 below.

3.20. Survey data was collected in the field by suitably experienced ecologists with Level 4 Field Identification Skills Certificate (FISC) or above. Surveyors used iPads with pre-loaded master mapping data and a computer software package (Esri ArcGIS Fieldmaps), which enables condition assessment data to be collected for each target habitat parcel / linear feature using pre-set drop-down menus.

3.21. Survey dates are presented in Table 3-1. UKHab surveys of all onsite areas were initially carried out between January and March 2023, outside of the recommended time of year, which is April through to September. However, high value onsite habitats were revisited at an appropriate time of year, and this informed the condition assessments for these habitats. Follow on survey were carried out in July, September and November 2023 (see Table 3-1).

3.22. Offsite UKHab surveys were also carried out outside of the recommended time of year. The Pig Shed Trust land had no previous botanical data, however this is an ex-arable field therefore this is not considered to be a significant limitation.

Table 3-2 – Translation of UKHab categories to 'Habitats types' as listed in the metric

UKHab Category (from field surveys)	Metric Habitat Type Used	Justification
h3 – dense scrub	Introduced shrub	A parcel of introduced shrub was identified within the Site, recorded as h3 dense scrub in the UKHab surveys as per the UKHab classification (with a secondary code to specify introduced shrub). However, introduced shrub is an option within the metric (under the broad habitat type 'urban') so this has been used.
u1 – Built-up areas and gardens u1b – Developed land; sealed surface u1e – Built linear features	Developed land; sealed surface	All u1, u1b and u1e habitats mapped during the UKHab survey have been translated to developed land; sealed surface for simplicity within the metric. All score 'very low' in the metric so there are no implications associated with merging these habitat types.
f2d - aquatic marginal vegetation	Other neutral grassland	'Aquatic marginal vegetation' is not an option in the metric. Based on the urban setting and adjacent habitat, it has been converted to other neutral grassland.

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3.23. Post-processing checks of the data were carried out by the lead field surveyor and all raw data then underwent a quality assurance check by a suitably experienced ecologist trained in UKHab and BNG assessment. The survey data was then exported and analysed using QGIS. The habitat mapping data was processed by GIS specialists to remove small overlaps and gaps between polygons that result from digitising at low resolution. The habitat survey data was finally clipped to exclude habitat data outside of the site boundary. Using GIS, areas, measured in hectares (ha), were calculated for each area-based habitat feature; lengths, measured in kilometres (km), were calculated for linear hedgerow features. These measurements were further broken down by condition assessment score to give the overall area/length of each habitat type in each condition.

3.24. The raw data were then exported and consolidated within the QGIS Import Tool before being directly exported to the metric calculation tool spreadsheet. The QGIS Tool provides a standardised methodology to produce shareable outputs that track the life cycle of each parcel of land. Data can be recorded in a format which is consistent with the requirements of the metric.

3.25. Where habitat identification surveys and condition assessments have not been undertaken, aerial imagery was used to determine the likely habitat. Where online resources were utilised, a precautionary approach (but one that also reflects the condition of the same habitat types that have been assessed) has been taken when assigning condition scores.

3.26. Watercourses greater than 5 m wide have been recorded and mapped as an area in line with the metric guidance and assigned to 'watercourse footprint' in the area habitat module. However, it is the length of any such watercourse which is used to calculate Watercourse Units (WUs). This is to ensure that the sum of the area habitats recorded in the metric equals the total site area. The watercourse footprint habitat type in the area habitat metric does not score any biodiversity units.

Strategic significance

3.26.1. A desk study focused on assigning a strategic significance[18] to the habitats on-site (which is a requirement of the BNG assessment) was carried out using the following resources:

- MAGIC website[19] for information on statutory designated sites, ancient woodland, irreplaceable habitat and areas of existing priority habitat in proximity to the Scheme.
- Hampshire Biodiversity Action Plan Volume One[20] and Volume Two[21] to identify relevant actions plans and/ or species action plans associated with relevant habitats.
- Havant Borough Tree and woodland strategy 2022-2026[22] to identify relevant policies and action plans with regards to trees and woodland within Havant.

3.27. Table 3-3 below details the scoring of strategic significance, which has been applied to each habitat types within this assessment.

Table 3-3 - Strategic significance scoring

Strategic significance	Score
Formally identified in local strategy	High

[18] The term 'strategic significance' is used in BNG to account for whether or not the habitat is sited in an area identified, typically in a relevant local strategy or plan, as being of strategic significance for nature.

[19] Defra (c2019). Magic Map Application. [Online]. [Accessed January 2023]. Available from: https://magic.defra.gov.uk/MagicMap.aspx

[20] Hampshire County Council (1998). Biodiversity Action Plan for Hampshire: Volume One

[21] Hampshire County Council (2000). Biodiversity Action Plan for Hampshire: Volume Two

[22] Havant Borough Council (2022). Tree and woodland strategy 2022-2026

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Location ecologically desirable but not in local strategy	Moderate
Area/ compensation not in local strategy/ no local strategy	Low

Watercourse baseline

3.28. On-site baseline linear WUs were calculated using a combined desk study and site survey approach. Using GIS, Ordnance Survey mapping was used to calculate the baseline lengths of the watercourse habitats within the modified development boundary and for rivers within 10 m of this boundary, which must be included in the baseline as defined in the metric guidance.

3.29. Lengths of watercourse on-site were delineated into sections of consistent hydro-morphological and riparian character. These are called BNG reaches within this assessment and are shown on Figure 9.23 in ES Volume 4. This exercise was undertaken for both the 'above-ground' works locations (assessed within this report within the modified development boundary) and the 'underground-only' work locations (not assessed within this report), as such the numbering of BNG reaches presented in this report is not always sequential.

3.30. To determine the baseline WUs, four key quality components are assessed and inputted into the metric tool (along with length of watercourse within the Site). These are:

- Distinctiveness (determined by watercourse habitat type type);
- Strategic significance;
- River condition (calculated from MoRPh field survey and river condition assessment); and
- Watercourse and riparian encroachment.

Watercourse habitat type, distinctiveness and condition

3.31. Watercourse habitat type (i.e. Priority River Habitat, Other Rivers and Streams, Ditches, Canals or Culverts) is identified initially through a desk-based assessment of Ordnance Survey maps, satellite imagery, priority river habitat maps[23] and historical maps. River distinctiveness is automatically generated in the metric based on the type of watercourse. Watercourse habitat type was refined based on the site visit.

3.32. Watercourse condition was assessed for Priority River Habitat, Other Rivers and Streams and Canals (where present) using the MoRPh[24] survey methodology that is required to conduct a River Condition Assessment (RCA) as stated in the metric. MoRPh surveys were conducted across more than 20% of the watercourses within the Site as defined by RCA guidance. MoRPh surveys were conducted by an accredited MoRPh Pro surveyor on various survey dates listed in Table 3-1. MoRPh survey results were updated to the Cartographer platform and the River Type desk-based assessment conducted to complete the River Condition Assessment.

3.33. Ditch condition is assessed using the habitat conditions assessment sheets as defined in the metric. No ditches were identified on Site, consequently, no ditch condition assessments were required.

[23] Natural England (2021). Priority River Habitat – Headwater Areas. 07 December 2021. Available at: https://www.data.gov.uk/dataset/e19f3b5e-23b3-4b43-8a1a-0bca58f5736c/priority-river-habitat-headwater-areas

[24] Available at https://modularriversurvey.org/. Accessed on 18/04/2024.

3.34. No RCA assessment is required for Culverts as they are automatically assigned a 'low' condition by the metric.

Watercourse and riparian encroachment

3.35. Watercourse and riparian zone encroachment are included within the baseline and post development elements of the metric. The riparian zone is defined as a 10 m zone from top of the riverbank for priority rivers, other rivers and streams or canals. It is defined as a 5 m zone from the top of the river bank for ditches. This area would naturally be periodically flooded and directly influences the hydrological, geomorphological and biological functions and processes within the river channel. Riparian encroachment is considered as 'No encroachment', 'Minor' or 'Major' depending on how far artificial development has encroached towards the river within the riparian zone on both banks or within and along the river channel. Encroachment is not recorded for culverts, instead it is automatically assigned the 'N/A' option within the calculation tool which assigns set multipliers.

3.36. Watercourse encroachment is any feature or action that adversely affects the natural function of the watercourse, or results in localised changes in habitat, species and migratory pathways. Watercourse encroachment is recorded as 'No encroachment', 'Minor', 'Major', or 'N/A – Culvert'.

Watercourse Strategic significance

3.37. A search for any local strategies and plans was undertaken to determine the strategic significance of the watercourse habitats. This included:

- South East river basin district river basin management plan (2022)[25]; and
- Havant Borough Council Local Plan[26] and core strategy[27].

3.38. The data obtained for watercourse length, type/distinctiveness, condition, strategic significance and encroachment were then inputted into the watercourse module of the Statutory Biodiversity Metric calculation tool spreadsheet.

On-site post-development

3.39. Scheme designs informed the post- development habitat types and condition. Post-development habitat types and condition were decided using professional judgement of what might be feasible to create and/or enhance on the site and what would deliver BNG in terms of both biodiversity units and wider landscape-scale nature benefits (e.g. increasing species diversity and improving ecological functionality). These are recorded in Table 4.1.

3.40. Target condition scores for the proposed post development habitat development have been assigned based on the realistic likelihood of achieving the target condition. The assumptions made when assigning a target condition for the proposed habitat development are based on the relevant criteria set out in the metric and the mitigation hierarchy and BNG good practice principles[28].

3.41. It is not currently anticipated that any advance habitat creation will take place and, therefore, this value has been set as 0 years in the metric calculator.

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[25] Available at: https://www.gov.uk/guidance/south-east-river-basin-district-river-basin-management-plan-updated-2022. Accessed on 18/04/2024.

[26] Available at: https://www.havant.gov.uk/planning-services/planning-policy/local-plan. Accessed on 18/04/2024.

[27] Available at: https://www.havant.gov.uk/media/7437/download?inline=. Accessed on 18/04/2024.

[28] CIRIA (2019). Biodiversity net gain. Good practice principles for development: A practical guide

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3.42. For the majority of areas of habitat creation, a delay of 3 years has been used in the metric calculations to reflect the worst-case potential time the habitat is absent on the ground.

Off-site post-intervention

3.43. Post-intervention habitat types and condition scores for the off-site areas were decided using professional judgement of what might be feasible to create and/or enhance on the site/s and what would deliver the BNG units required and help the scheme achieve the trading rules. The assumptions made when assigning a target condition for the proposed habitat/s are based on the relevant criteria set out in the metric (see Appendix C for habitat condition assessment tables) and the mitigation hierarchy and BNG good practice principles.

Assumptions and limitations

3.44. The BNG assessment will solely comprise the habitats within the surface ground working areas (as detailed in paragraph 2.22) within the Site, where terrestrial and aquatic habitats will be temporarily, or permanently, lost. No assessment has been made of the 'underground-only' work locations (i.e. the drilled pipeline sections) and the above ground section (referred to as pipeline Section 10). Justification for this is based on early discussions with HBC at the initial project stages (i.e. prior to net gain becoming mandatory) and the desire for the pipeline application to avoid conflict and duplication with the complex ecological compensation package already being delivered for the consented reservoir scheme. Therefore, this is not considered a limitation.

3.45. The optimal time for undertaking botanical surveys is typically during the core growing season (May to August inclusive), although this survey season may be extended in some instances dependent upon habitat type and surveyor competency. Surveys undertaken outside of this period are limited in their ability to produce a comprehensive list of species present at any given site. During the walkover habitats were classified based on the species present at the time of the survey and, therefore, classifications may differ during the core growing season. In general habitats present within the pipeline corridor were common and could be confidently assigned to a habitat type, despite the timings of the survey. For habitats present within the working area of Staunton Country Park further botanical surveys were undertaken in July and September[29] to inform mitigation and historical botanical data (provided by HBIC) was reviewed.

3.46. Condition assessments of the terrestrial habitats were undertaken retrospectively throughout October to November 2023. Desk-based condition assessments of common grassland habitats were undertaken, utilising the UKHab data that had been collected, photographs taken from field survey, and experience of the surveyors. Where habitat data was insufficient, field-based condition assessments were undertaken in July and September to November. These habitats included woodland, line of trees, and individual trees. This combined method of undertaken the habitat condition assessment for area habitats and linear hedgerows is not considered to be a constraint to the BNG assessment. Condition assessments for each habitat parcel are provided in Appendix B.

3.47. An assumption has been made that all areas that lie within the temporary working area of the Scheme will be reinstated to the same habitat type and condition as prior to the works occurring and returned to the landowner. These habitats have been shown as 'lost' in the metric and then 'recreated' due to the length of construction. Apart from other neutral grassland in Section 9 where reinstatement within two years is realistic due to the construction approach being used (turf translocation).

[29] AtkinsRéalis (2024). Environmental Statement Volume 4. Chapter 9: Appendix A9.20: Botanical Survey Report

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3.48. MoRPh surveys to inform the River Condition Assessment were undertaken during the optimum survey season (May, June and September) where possible. However, in some instances this was not feasible due to the project programme and access requirements. Although undertaken outside of the optimum survey period, MoRPh surveys conducted on the 1 February 2023, 2 April 2024 and 3 April 2024 are not considered to pose a significant constraint to the BNG assessment. Vegetation within these reaches was assessed looking at both new growth and vegetation die-back to mitigate for the seasonal constraints. This is considered appropriate given the survey method assesses broad vegetation types as opposed to specific species which could be missed during a winter survey. Due to the extent of channel shading by bankside trees in most survey locations it should be noted that in-channel vegetation is not a characteristic of the watercourses surveyed.

3.49. During the April 2024 MoRPh surveys, the water within the Hermitage Stream and Riders Lane Stream (for MoRPh Sites 10, 11, 14, and 15) was turbid and the bed substrates could not be fully assessed. Observations from previous surveys on these watercourses were used to provide substrate information on the Cartographer app to determine the MoRPh River Type within the River Condition Assessment. However, it is likely that the overall baseline river condition score for these survey reaches is slightly reduced as a result of substrates being recorded as absent/not visible. There are limited options available to deal with this constraint. The MoRPh survey method requires the surveyor to record ‘what they see’, therefore, the surveys adhere to the methodology. Given the overall river condition for these survey reaches is similar to previous surveys on these watercourses (MoRPh Sites 6 and 8 for instance) when turbidity wasn’t a constraint, it is not considered to significantly affect this assessment.

3.50. Overall, there was good access within MoRPh survey reaches. However, in places visibility was sometimes constrained due to dense bankside vegetation and steep banks (notably for MoRPh Site 13 modules 4 and 5). This is not thought to considerably affect overall river condition scores as the MoRPh methodology sums the information from five separate modules to provide an overall river condition score and therefore observations lacking in one or two modules are unlikely to significantly reduce or increase the score for the MoRPh5 reach as a whole. For MoRPh Site 13 professional judgement and available views of inaccessible modules indicate that these modules exhibit similar characteristics to the other three modules within the reach. Since the other three modules within the reach were accessible and they contribute more than modules 4 and 5 to the overall river condition score it is considered that the calculated condition class is likely to be representative of the reach as a whole.

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4. On-site baseline

Area habitat baseline

4.1. There are three parcels of wet woodland priority habitat type and five parcels of lowland mixed deciduous woodland priority habitat type within the Site. The metric assigns these habitats as 'High' distinctiveness category in the calculator tool. Key data regarding these priority habitats is presented in Table 4.1.

4.2. Table 4.1 below provides an overview of the combined habitat data[30] which have been used to populate the metric spreadsheet (A-1 On-site habitat baseline tab). The Onsite Baseline Habitats Plan (Appendix D) shows the location of all area habitats within the Site.

[30] Where individual habitat parcels are of the same type (i.e. same UKHab code) and condition (i.e. good, moderate or poor) they are combined within the metric into one row.

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Table 4-1 - Summary of baseline area habitats and biodiversity units generated

Metric Broad Habitat-Habitat Type	Distinctiveness	Condition	Strategic Significance	Area (ha)	Total Baseline Habitat Units	Notes
Wet woodland	High	Moderate	High	0.41	5.67	Five habitat parcels associated with the riparian corridor within Shafts 6, 7, and 8. In all parcels, no recognisable NVC category is present, with presence of invasive cherry laurel. NB: 0.26 ha of this habitat is retained.
Lowland mixed deciduous woodland	High	Moderate	High	0.29	4.02	Four habitat parcels across the EDC, Shaft 8, and Section 9. No recognisable NVC layer and lack of deadwood prevent 'Good' condition. NB: 0.14 ha of this habitat is retained.
Lowland mixed deciduous woodland	High	Poor	High	0.03	0.23	One habitat parcel in Shaft 4. Condition 'Poor' due to presence of invasive Montbretia and ash dieback. NB: All 0.03 ha of this habitat is retained.
Other neutral grassland	Medium	Good	High	1.34	18.42	One parcel within Section 9. This grassland is of high biodiversity value, and has a bespoke mitigation plan as detailed in Section 6. NB: All 1.34 ha of this habitat is shown as 'retained' in the metric due to the turf translocation approach.
Other neutral grassland	Medium	Moderate	High	7.44	68.47	38 parcels throughout the Site. Largely amenity grassland parcels with < 10 vascular plant species per m2 that are characteristic of the habitat type. NB: 5.59 ha of this habitat is retained.

Metric Broad Habitat-Habitat Type	Distinctiveness	Condition	Strategic Significance	Area (ha)	Total Baseline Habitat Units	Notes
Other neutral grassland	Medium	Poor	High	0.02	0.09	One parcel within the EDC. This parcel has been converted from f2d – marginal aquatic vegetation as there is no equivalent habitat type in the statutory metric. NB: All 0.02 ha of this habitat is retained.
Blackthorn scrub	Medium	Poor	High	0.02	0.09	One parcel within Shaft 1. 'Poor' condition due to a lack of well-developed edge and range of age classes. NB: 0.01 ha of this habitat is retained.
Bramble scrub	Medium	Condition Assessment N/A	High	0.18	0.85	11 parcels throughout the Site. Dominated by bramble, often occurring where woodland has been cleared. NB: 0.01 ha of this habitat is retained.
Mixed scrub	Medium	Poor	High	0.11	0.52	Two parcels within Shaft 8 associated with the riparian corridor. There is a lack of clearings, glades and rides, as well as a range of age classes so condition is assigned as 'poor' only. NB: 0.06 ha of this habitat is retained.
Other woodland; broadleaved	Medium	Poor	High	0.09	0.43	Two parcels within the EDC and Shaft 5. Both are small parcels of woodland with no recognisable NVC community and lack of deadwood. NB: 0.01 ha of this habitat is retained.
Other woodland; broadleaved	Medium	Moderate	High	0.01	0.91	Five parcels all within Section 9. All are small parcels of woodland with no recognisable NVC community but support three or more native tree and

Metric Broad Habitat-Habitat Type	Distinctiveness	Condition	Strategic Significance	Area (ha)	Total Baseline Habitat Units	Notes
						shrub species, with an absence of invasive non-native species.
Urban tree	Medium	Good	High	1.36	18.77	41 trees throughout the Site. All mature trees with natural ecological niches and lack of damage from grazing or human impact. NB: 1.3 ha of this habitat is retained.
Urban tree	Medium	Moderate	High	0.63	5.80	20 trees throughout the Site. All mature or semi-mature trees, but many do not provide ecological niches or there is evidence of damage from human impact. NB: 0.22 ha of this habitat is retained.
Urban tree	Medium	Poor	High	0.30	1.38	36 trees throughout the Site. Young trees that are largely immature with a small canopy. Many of which have been planted recently. NB: 0.27 ha of this habitat is retained.
Modified grassland	Low	Good	High	0.90	6.24	Eight parcels within Shaft 4. Less than 6 vascular plant species per m2 but presence of scattered scrub and < 5 % physical damage. NB: 0.49 ha of this habitat is retained.
Modified grassland	Low	Moderate	High	0.04	0.19	One parcel within Shaft 4. Less than 6 vascular plant species per m2 but presence of scattered scrub and < 5 % physical damage. NB: 0.04 ha of this habitat is retained.
Modified grassland	Low	Poor	High	3.33	7.65	21 parcels throughout the Site. All with < 6 vascular plant species per m2 largely due to local enrichment.

Metric Broad Habitat-Habitat Type	Distinctiveness	Condition	Strategic Significance	Area (ha)	Total Baseline Habitat Units	Notes
						NB: 2.17 ha of the habitat is retained.
Introduced shrub	Low	Condition assessment N/A	Low	0.77	1.54	A single parcel present in Shaft 1. Shrub is dominated by Buddleia atop large spoil mounds. NB: 0.54 ha of this habitat is retained.
Watercourse footprint	V.low	N/A - Other	High	0.14	0.00	Present throughout the Site, through all Shaft locations other than Shafts 2 and 3.
Developed land; sealed surface	V.Low	N/A - Other	Low	1.90	0.00	90 parcels present throughout the Site, comprising roads, buildings, and developed land.
Total habitat units:					141.25	
Total habitat units (high distinctiveness habitats):					9.92	
Total habitat units (medium distinctiveness habitats):					115.71	
Total habitat units (low distinctiveness habitats):					15.62	
Total habitat units (very low distinctiveness habitats):					0.00	

Linear habitat – hedgerow baseline

4.3. Linear habitats within the Site comprise a mixture of hedgerow and line of trees.

4.4. Table 4-2 provides an overview of the linear hedgerow types, condition scores, and total baseline linear hedgerow units generated. The Onsite Baseline Habitats Plan (Appendix D) shows the location of all area habitats within the Site.

4.5. Two of the hedgerows present within the Site meet the priority habitat criteria for hedgerows (i.e. 80% or more cover of at least one woody UK native species).

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Table 4-2 – Summary of baseline linear habitats and biodiversity units generated

Metric Broad Habitat-Habitat Type	Distinctiveness	Condition	Strategic Significance	Length (km)	Total Baseline Habitat Units
Line of trees	Low	Poor	High	0.29	0.67
Line of trees	Low	Moderate	High	0.04	0.18
Native hedgerow	Low	Moderate	High	0.07	0.32
Non-native and ornamental hedgerow	Very low	Poor	Low	0.07	0.07
Total linear habitat units:					1.24
Total linear habitat units (low distinctiveness habitats):					1.17
Total linear habitat units (very low distinctiveness habitats):					0.07

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Linear habitat – watercourse baseline

4.6. Three watercourses are present within the Site:

- Lake Stream (also referred to as the unnamed tributary of Riders Lane Stream within the biodiversity chapter of the Environmental Statement for the Scheme[31]);
- Riders Lane Stream; and
- Hermitage Stream.

4.7. All three of the watercourses on Site have been categorised as 'Other rivers and streams' watercourse habitat type. No priority river habitat, ditches or canals are present within the Site.

4.8. Twelve MoRPh[5] surveys have been undertaken across the three watercourses to inform the assessment of RCA for this pipeline BNG assessment. The results of the RCA are detailed in Table 4-3 and shown on Figure 9.23 in ES Volume 4. Detailed MoRPh survey data are provided in Appendix D.

4.9. Three existing culverts are present within the Site, all situated along Riders Lane Stream. These are Middle Park Way culvert, Dunsbury Way culvert and Purbrook Way culvert.

4.10. Table 4.4 provides a summary of the on-site watercourse baseline lengths and units. Table 4-5 provides a breakdown of length and units per watercourse on Site.

[31] AtkinsRéalis (2024). Environmental Statement Volume 2. Revised Chapter 9: Biodiversity

AtkinsRéalis - Baseline / Référence

Table 4-3 - Summary of MoRPh surveys undertaken and overall river condition scores.

Watercourse	BNG Reach	Survey Date	Survey midpoint location (NGR)	MoRPh site reference	Length of channel surveyed (m)	MoRPh River Type[32]	Overall condition score	Overall condition class
Lake Stream	1	01/02/2023	SU 71710 08901	Site 9 – Lake Stream Pipeline Crossing	50	K - Straight/sinuous, coarsest SA, average SI	0.664	Moderate
Riders Lane Stream	2	29/06/2020	SU 71382 09059	Site 6 – Southern Edge of Havant Thicket Reservoir	50	H - Straight/sinuous, coarsest GP, average SA	1.328	Moderate
	5 & 6	02/04/2024	SU 71765 08625	Site 10 – Riders Lane Stream Downstream of Middle Park Way	50	K - Straight/sinuous, coarsest SA, average SI	0.838	Moderate
	Outside of site boundary. Closest to BNG reach 7*.	02/07/2020	SU 71698 08465	Site 7 – Copse Wood	50	K - Straight/sinuous, coarsest SA, average SI	1.506	Fairly Good
	12 & 13	02/04/2024	SU 71264 08114	Site 11 – Riders Lane Stream Downstream of Dunsbury Way	50	K - Straight/sinuous, coarsest SA, average SI	0.449	Moderate
	20	03/04/2024	SU 71027 07524	Site 12 – Riders Lane Stream Upstream of Hermitage Stream Confluence	50	K - Straight/sinuous, coarsest SA, average SI	-0.385	Fairly poor

[32] Information on MoRPh River Type can be found in: Gurnell, A.M., England, J., Scott, S.J. and Shuker, L.J. (2020) A guide to assessing river condition. Part of the Rivers and Streams Component of the Biodiversity Net Gain Metric. Beta test version: March 2020.

Watercourse	BNG Reach	Survey Date	Survey midpoint location (NGR)	MoRPh site reference	Length of channel surveyed (m)	MoRPh River Type[32]	Overall condition score	Overall condition class
Hermitage Stream	22	01/02/2023	SU 71002 07511	Site 13 – Emergency Discharge Chamber	100	K - Straight/sinuous, coarsest SA, average SI	-0.830	Fairly poor
	25	02/07/2020	SU 71248 07185	Site 8 – Stockheath	100	K - Straight/sinuous, coarsest SA, average SI	-1.623	Poor
	26 & 27	24/02/2025	SU 70709 06325	Site 16 - Bedhampton	100	K - Straight/sinuous, coarsest SA, average SI	-1.632	Poor
	28a	03/04/2024	SU 70602 06255	Site 14 - Bedhampton	100	K - Straight/sinuous, coarsest SA, average SI	-0.996	Fairly poor
	28b	24/02/2025	SU 70495 06235	Site 17 - Bedhampton	100	F - Straight/sinuous, coarsest CO, average GP	1.223	Moderate
	29	25/02/2025	SU 70380 06200	Site 19 - Bedhampton	150	F - Straight/sinuous, coarsest CO, average GP	0.381	Fairly poor

*Retained in assessment for information.

Table 4-4 - Summary of on-site watercourse baseline by watercourse habitat type

Watercourse habitat type	Baseline length (km)	Baseline WUs
Priority River Habitat	0.000	0.00
Other Rivers and Streams	0.874	5.55
Ditches	0.000	0.00
Canals	0.000	0.00
Culverts	0.092	0.14
TOTAL	**0.966**	**5.69**

Note: the statutory metric rounds numbers up and therefore there may be minor discrepancies between the numbers reported in this document and the statutory metric.

Table 4-5 - Summary of on-site watercourse baseline by watercourse

Watercourse	BNG reaches included within the baseline length	Baseline length (km)	Baseline WUs
Lake Stream	1	0.010	0.13
Riders Lane Stream	3, 5, 8, 10, 12, 14, 16, 20	0.349	2.92
Riders Lane Stream – Culverts	4, 11, 15	0.092	0.14
Hermitage Stream	21, 22, 24, 25, 26, 27, 28a, 28b, 29	0.515	2.50
TOTAL		**0.966**	**5.69**

Note: the statutory metric rounds numbers up and therefore there may be minor discrepancies between the numbers reported in this document and the statutory metric.

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5. Off-site baseline

Pig Shed Trust

5.1. The land available at the Pig Shed Trust consists of 8.6 ha of arable land, which has been categorised as 'cereal crops' habitat type. Cereal crops are classified as 'low' distinctiveness habitats. No condition assessment is required for this habitat type. The baseline habitat has been classified as medium strategic significance based on guidance from South Downs National Park[33].

5.2. Although the arable field has not been recently planted or ploughed, discussions with the landowner and a review of historic aerial imagery has indicated that the field was regularly ploughed until four years prior to the survey being undertaken, and therefore it is considered appropriate to classify the habitat type as cereal crops.

5.3. The cereal crops habitat at the Pig Shed Trust generates 18.92 habitat units at the baseline.

5.4. No linear habitat features such as hedgerows, nor any watercourses, are present within the Pig Shed Trust land available for off-site BNG (though they are present within the wider site).

Wild Felmersham

5.5. The land available at the Wild Capital Wild Felmersham habitat bank consists of 0.28 ha of poor condition modified grassland. Modified grassland is classed as a 'low' distinctiveness habitat. The parcel has been classified as having low strategic significance. This parcel provides 0.57 habitat units at the baseline.

Wild Stubbington

5.6. The land available at Wild Capital's Wild Stubbington habitat bank consists of 0.63 ha of arable land, classified as 'cereal crops', a low distinctiveness habitat type. The parcel has been classified as having 'low' strategic significance. No condition assessment is required for this habitat type. This parcel provides 1.25 habitat units at the baseline.

Wild Marbury

5.7. The land available at Wild Capital's Wild Marbury habitat bank consists of two parcels of arable land, classified as 'cereal crops', a low distinctiveness habitat type which totals 0.46 ha. The parcel has been classified as having 'low' strategic significance. No condition assessment is required for this habitat type. These two parcels together provide 0.92 habitat units at the baseline.

5.8. The 'other rivers and streams' and 'ditches' provision is from a mixture of watercourses available at Wild Capital's Wild Tees, Wild Burntwood, Wild Cobham and Wild Denchworth habitat banks. These watercourses together provide 15.07 watercourse units at the baseline.

[33] Biodiversity Net Gain Technical Advice Note March 2024. Available at: https://www.southdowns.gov.uk/wp-content/uploads/2025/03/BNG-TAN-March-2025-Update-final-version-for-publication-130325_links-fixed.pdf [accessed 03/07/25]

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6. On-site scheme design

6.1. The Scheme design has been developed with due regard to the BNG Good Practice Guidelines (see Appendix B) and specifically the trading rules for terrestrial habitats, rivers/streams and ditches as outlined in the baseline section.

6.2. Local and national biodiversity strategies have been reviewed and habitat creation has been focused on helping deliver these targets, where appropriate.

6.3. Habitats have been retained wherever possible; see retained habitats section.

6.4. The on-site post development habitat creation is shown in Appendix D. The planting specifications, management prescriptions and monitoring requirements of all newly created habitats will be detailed within a Landscape and Ecology Management Plan (LEMP) as agreed with Havant Borough Council. The requirement for a LEMP will be set out in a planning condition.

6.5. Since the previous version of this report, AtkinsRéalis have been made aware of a proposed Battery Energy Storage System (BESS) which is proposed to be located within the onsite boundary at the Bedhampton Water Treatment Works. It has been assumed and agreed with Portsmouth Water that the entire area covered by the BESS will be marked as the Statutory Biodiversity Metric habitat type: 'Urban – Developed land; sealed surface.' To offset the losses of habitats on Site to accommodate for the BESS, additional offsite compensatory habitat has been required. This has been reflected in this iteration of the report.

Retained habitat

6.6. In total, 13.45 ha of habitat and 0.31 km of hedgerow within the modified development boundary will be retained. This includes the grassland in Section 9 which is discussed in paragraphs 4.9 to 4.12.

6.7. The total area habitat lost is 5.95 ha, which equates to 34.94 habitat units lost. The total length of hedgerow habitat (including lines of trees) lost is 0.16 km. This equates to 0.42 linear units lost.

6.8. The information regarding the number of retained trees has been determined from the arboriculture impact assessment and tree protection plans. These have not been displayed on the figures accompanying this report.

Post-development area/linear hedgerow habitats

6.9. All areas within the temporary working area of the Scheme will be returned after construction to their pre-works baseline habitat type and condition. Much of this habitat is grassland and, therefore, easy to reinstate.

6.10. There is a permanent loss of lowland mixed deciduous woodland, wet woodland and other neutral grassland, urban trees and ornamental non-native hedgerow linear habitat.

6.11. Wherever possible permanent habitat loss has been minimised and habitats have been restored however, the requirement for new structures, particularly at the Emergency Discharge Chamber (EDC) and the new culvert locations, has resulted in a loss of woodland types. Where woodland has been re-created, for example around the EDC, this been assigned in the metric to 'other woodland; broadleaved' rather than lowland mixed deciduous woodland as this is more achievable in an urban setting with a standard approach to woodland creation. Wet woodland creation is a commitment in the design and it is considered to be achievable as the hydrology of the area will not change as a result of the works and the areas will be profiled to match the original dimensions and therefore with the species selected and the

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conditions remaining the same it is expected that (with aftercare and long term management) a moderate condition can be reached.

6.12. No non-native hedgerows will be replaced but species-rich hedgerows will be planted, and lines of trees (using a mixture or native and non-native species) will be used for landscape screening.

6.13. The landscape designs for post-development area and linear hedgerow types are described further in Table 6-1 and Table 6-2 respectively.

Section 9 grassland

6.14. The other neutral grassland within Staunton Country Park is of high biodiversity value (forming part of High Lawn and Thicket Lawn Sites of Importance for Nature Conservation (SINCs) and they are an important public open space. Therefore, a bespoke construction approach has been developed for this section of the pipeline route using turf translocation to allow quick reinstatement of the grassland communities. Full details of the approach to be taken are provided in the Pipeline Ecological Mitigation and Monitoring Plan in ES Appendix 9.17. As set out in paragraph 2.7 in Section 1 the grassland in this area has been assigned as 'retained' in the metric.

6.15. There are also areas of wet woodland, other woodland; broadleaved, and urban trees within Section 9 – these have not been assigned as 'retained' where habitat removal is required for construction as reinstatement will follow a standard approach for these habitat types.

6.16. Furthermore, the construction compound to the south of Section 9 (shaft 8) will have a longer construction duration and turf translocation is not proposed here, therefore, this area has been shown as being lost, and subsequently recreated (with a 3 year delay) in the metric as per the user guide elements (such as the turf translocation in Staunton Country Park - Section 9) taking less time (approximately six months for the works, with subsequent reinstatement expected to take 1-2 growing seasons with appropriate aftercare, see ES Appendix 9.17 for further details

Landscape design

6.17. The post-development habitat types are shown in Table 6-1 and Table 6-2, and a target condition assigned based on the likely achievable condition. Justification for the target condition is provided for each habitat type. Landscape reinstatement plans will be provided in the pipeline LEMP.

Table 6-1 - Landscape design planting types

Metric 'Proposed habitat'	Distinctiveness	Target Condition	Justification
Wet Woodland	High	Moderate	Woodland planting which includes a mix of native tree species. The majority of the mix is made up by Alder, Downy Birch, Goat Willow and Crack Willow. There will be three different ages of trees planted; transplant, feathered and selected. Native plug planting to be planted under wet woodland mix. The target condition for this habitat type is moderate.
Other woodland; broadleaved	Medium	Moderate	Woodland planting which includes a mix of native tree and shrub species. The mix is predominantly tree species with the majority being comprised of Oak, Silver

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Metric ‘Proposed habitat’	Distinctiveness	Target Condition	Justification
			Birch and Beech. There will be three different ages of trees planted; transplant, feathered and selected. The target condition for this habitat type is moderate.
Mixed Scrub	Medium	Moderate	There are two Mixed scrub mixes, one of which is more tailored towards Dormouse habitats; the other is a dense scrub mix. Both mixes contain native species. Within the dense mix typical species include Hawthorn, Hazel, Blackthorn and Goat Willow. The Dormouse mix includes species such as Honeysuckle, Crab apple, Ivy, Blackberry and Common gorse.
Other Neutral Grassland	Medium	Moderate	These areas are made up by a species rich mix with 80% Grasses and 20% wildflowers with a high proportion of indicator species relevant to this habitat. The target condition for this habitat type is moderate.
Urban trees	Medium	Moderate	Selected standard trees at a proposed size of 10-12cm girth, 400-450cm height which is classed as ‘small’ using the metric tree helper. The target condition for this habitat type is moderate as it is assumed that this condition could be easily met within the 30 year duration.
Modified Grassland	Low	Moderate	Amenity grass mix mostly made up by Crested Dog’s-tail, Slender Creeping Red Fescue and Smooth Stalked Meadow Grass. The reinstatement area within the rugby club boundary is made up of a sports seed mix with sports turf proposed for an area which directly impacts a rugby pitch. The target condition for this habitat type is moderate.

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Post-development linear habitats

6.18. The Scheme will result in the loss of 0.10 km of linear habitat comprising lines of trees, native hedgerow, and non-native ornamental hedgerow. Table 6-2 details the post-development linear habitat types, which includes the creation of 0.31 km of species-rich native hedgerow.

Table 6-2 - Landscape design linear planting types

Metric 'Proposed habitat'	Target Condition	Justification
Line of Trees	Moderate	Selected standard trees at a proposed size of 10-12cm girth, 400-450cm height. The target condition for this habitat type is moderate.
Species-rich native Hedgerow	Moderate	The species rich native hedgerows will be 50% Hawthorn with 10% Blackthorn. Other species include: Field Maple, Hazel, Beech, Crab Apple, Travellers Joy, Holly, Honeysuckle, Dog Rose and Wych Elm. The hedgerows will be planted with at least five woody species per 30 m section/s The target condition for this habitat type is moderate.

Watercourses

6.19. The following Pipeline Scheme interactions with watercourses have been identified that are considered to determine the post-development baseline:

- Lake Stream open cut pipeline crossing (within BNG Reach 1);
- Culvert extensions on the Riders Lane Stream at Middle Park Way, Dunsbury Way and Purbrook Way (within BNG Reach 5, 12 and 16);
- Emergency Discharge Chamber spillway and associated scour protection adjacent to and within the Hermitage Stream (within BNG Reach 22);
- A new permanent headwall structure for the washout at Shaft 4 on the left bank of the Hermitage Stream (within BNG Reach 24); and
- Riparian vegetation removal at various locations within Riders Lane Stream and Hermitage Stream riparian zones to facilitate construction, principally to allow for construction access and compounds.
- Footpath realignment alongside the Hermitage Stream and crossing (BNG Reach 28b and 29).

6.20. The majority of the riparian vegetation removal required to facilitate Scheme construction is temporary and will be reinstated post-development. Exceptions to this are the permanent losses associated with the footprint of the shaft manhole covers, culvert upgrade works and the Shaft 4 washout outfall headwall. Although the riparian habitat will be reinstated following construction of the pipeline, where this results in loss of riparian broadleaved woodland this reinstatement cannot meet the metric criteria for temporary loss[14]. As a result, temporary riparian woodland losses (e.g. at the Lake Stream) are considered as permanent area habitat loss within the metric calculations.

6.21. Riparian vegetation loss can affect both riparian encroachment extent and river condition scores and class. Whilst it is recognised that the loss may not have a measurable effect on river condition at the MoRPh survey scale, the assessment has assumed that any loss of established riparian vegetation

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(namely trees and scrub) would reduce the associated watercourse condition by one condition class at the length of watercourse coincident within the loss. The exception to this approach has been where the change is considered too minor to warrant a condition shift even at the scale of the loss. For example, in the case of minor vegetation removal (<5 m) of scrub on the left bank of the Hermitage Stream at SU 71197 07289 (within BNG Reach 24 for the construction of a new 2 m long headwall structure for the washout outfall at Shaft 4 Site Compound). This is because the watercourse at this location has an existing artificial bank (concrete toe) and is obviously re-shaped which is driving the condition score of poor. As such, a minor change of the bank from vegetated to unvegetated at this scale is not anticipated to result in any condition class change and subsequent loss of watercourse units.

6.22. Following construction (post-development), watercourses are assessed as being re-created to pre-works condition in the locations where riparian vegetation removal is the only impact. Within the modified development boundary there are limited opportunities to enhance watercourses. Often the modified development boundary only encapsulates one bank of a watercourse and not the in-channel habitat to allow for full channel restoration. Moreover, the riparian zones of both the Riders Lane Stream and Hermitage Stream are significantly constrained by existing encroachment which will need to be retained e.g. public footpaths and commercial/residential land uses.

6.23. Where there are truly permanent works to watercourses, for example culvert extensions (headwall and rip-rap works), a resulting permanent change in river type or condition has been assessed within the metric and reported in Section 87.

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7. Off-site design

Pig Shed Trust

7.1. At the Pig Shed Trust site, the cropland will be lost to facilitate habitat creation of higher distinctiveness habitat types. It is proposed that 5.95 ha of good condition mixed scrub and 2.65 ha of moderate condition lowland mixed deciduous woodland will be created onsite. This is detailed in the table below.

7.2. While it is recognised that the rewilded 'scrub' habitat will in practice be a mosaic of scrub and grassland, Other Neutral Grassland is of the same distinctiveness as mixed scrub and has the same predicted time to target condition, so showing the habitat as an estimated mixture of the two habitat types would not alter the number of units gained. It is therefore considered reasonable to simply describe the mosaic area as scrub in the metric. As rewilding, no target proportions are set in the balance between scrub and grassland that develops, and the mosaic will have added value for a wide range of species.

Table 7-1 - Pig Shed Trust Habitat Design

Metric 'Proposed habitat'	Distinctiveness	Target Condition	Justification
Mixed scrub	Medium	Good	The approach for woodland condition is to allow natural regeneration of woodland through natural processes (grazing with cattle) as Pig Trust is an active 'rewilding' site. Scrub condition has been assessed against the following indicators: • Habitat is representative of UKHab description (where in its natural range). There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be up to 100% cover). • There is a good age range – all of the following are present: seedlings, young shrubs and mature shrubs. • There is an absence of invasive non-native species (As listed on Schedule 9 of WCA 1981 (as amended)) and undesirable species make up less than 5% of ground cover. • The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s). • There are clearings, glades or rides present within the scrub, providing sheltered edges. It considered possible to achieve well-developed scrub edges through a 'rewilding' approach. The target condition for this habitat type is therefore 'good' which requires all of the above condition assessment criteria to be met.

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Metric 'Proposed habitat'	Distinctiveness	Target Condition	Justification
Lowland mixed deciduous woodland	High	Moderate	The approach for woodland condition is to allow natural regeneration of woodland through natural processes (grazing with cattle) as Pig Trust is an active 'rewilding' site. Woodland will be developed through grazing by cattle in a rotation-based approach. Woodland condition has been assessed against the following indicators: • Age distribution of trees – higher scores for more three age classes present. • Wild, domestic and feral herbivore damage – higher scores for no/lower browsing damage. • Invasive plant species – higher scores for no/lower amounts of invasive plant species. • Number of native tree species – higher scores for more native tree or shrub species. • Cover of native tree and shrub species – higher scores for more cover of native species. • Open space within woodland – higher scores for smaller areas of open space. • Woodland regeneration – higher scores for three age classes present and presence of saplings, seedlings of coppice regrowth. • Tree health – higher scores for lower levels of tree mortality/pests/diseases/crown dieback. • Vegetation and ground flora – higher scores for presence of ancient woodland indicator species. • Woodland vertical structure – higher score for three or more storeys. • Veteran trees – higher score for the presence of veteran trees. • Amount of deadwood – higher score for increased amount of deadwood. • Woodland disturbance – higher score for lower levels of nutrient enrichment and damaged ground. The target condition for this habitat type is 'moderate' which requires a score of 26 – 32 to be achieved. It will not be possible to score particularly highly against a number of indicators such as vertical structure, veteran trees or deadwood within the 30 year period.

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Wild Capital Sites

7.3. The land provided by the Wild Capital habitat banks (Wild Stubbington, Wild Marbury, Wild Felmersham, Wild Tees, Wild Cobham, Wild Denchworth, Wild Nunthorpe and Wild Burntwood) will be managed by Wild Capital to reach the target conditions set. The approach taken to create the habitat and manage it to achieve the target condition will be managed by Wild Capital, therefore the approach is not detailed here as it is with the Pig Shed Trust site.

7.4. At Wild Felmersham, all the modified grassland is to be lost to facilitate the creation of a wet woodland, a 'high' distinctiveness habitat in moderate condition. This would generate 1.54 habitat units.

7.5. At Wild Stubbington, all the cereal crop habitat is to be lost to facilitate the creation of other neutral grassland, a 'medium' distinctiveness habitat in a good condition. This would generate 6.05 habitat units.

7.6. At Wild Marbury, all the cereal crop habitat is to be lost to facilitate the creation of traditional orchards, a 'high' distinctiveness habitat type in a moderate condition. This would generate 3.11 habitat units.

7.7. The deficit in watercourse units will be made up of watercourse units (other rivers and streams and ditches) from Wild Tees, Wild Burntwood, Wild Cobham, Wild Denchworth and Wild Nunthorpe Habitat banks. This would generate 20.66 watercourse units.

8. BNG metric results

8.1. This section of the report replicates the key outputs from the metric calculator[34]. A copy of the completed metric calculator for terrestrial and linear habitats, and watercourses is provided as a supporting document on request and with the planning submission.

Onsite Net Change

Area habitats

8.2. The justification for post development habitat choices, distinctiveness and condition selected are provided in Table 6-1 and Table 6-2.

8.3. The baseline area habitat units total is 141.25, of which 106.31 units will be retained and 34.94 lost. Accounting for the retention, and creation, of area habitats on site, the Scheme design will result in a decrease of habitat units from 141.25 to 126.18, which equates to a -10.67% net loss. A breakdown of the onsite habitat units generated by the Scheme is provided in Table 8-1.

[34] The 'metric calculator' is a macro enabled excel spreadsheet with pre-set, non-editable cells and cells where data is entered (from a range of information gathered on the habitats within the development footprint, and off-site where applicable). The key data from the metric calculator has been replicated within this report and it is not necessary to view the metric calculator itself to follow the BNG assessment process and/or understand the BNG results. However a copy of the completed metric calculator can be made available on request.

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Table 8-1 - Summary of on-site area habitat creation results

Post-development Habitat Type	Distinctiveness (pre-set)	Target Condition	Area (ha)	Strategic Significance	Habitat Enhanced in Advance (years)	Delay in Starting Habitat Enhancement (years)	Final Time to Target Condition (taking into account a 3 year delay for construction)	Habitat Units Delivered
Wet woodland	High	Moderate	0.12	High	0	3	18	0.57
Other woodland; broadleaved	Medium	Moderate	0.16	High	0	3	18	0.77
Other neutral grassland	Medium	Moderate	1.65	High	0	3	8	11.42
Urban tree	Medium	Moderate	0.1	High	0	3	30	0.32
Mixed scrub	Medium	Moderate	0.21	High	0	3	11	1.48
Modified grassland	Low	Moderate	1.56	High	0	3	7	5.59
Developed land; sealed surface	Very low	N/A - Other	1.76	Low	0	3	3	0.00
Total:			5.56	Total:				20.15

Trading Rules

8.4. There is a -3.62 loss of high distinctive habitat and a -9.69 loss of medium distinctiveness habitat. In accordance with the trading rules, high distinctiveness habitats habitat will be created (off-site) with an equivalent number of area habitat units of the same habitat types. For medium distinctiveness habitats, an equivalent number of units will be created (off-site) or a higher distinctiveness habitat will be created with an equivalent number of area habitat units (off-site). Further detail is provided in the offsite net change section.

Table 8-2 - Trading summary for onsite area habitats

Habitat Group	Distinctiveness	Final area habitat units delivered
Lowland mixed deciduous woodland	High	-2.08
Wet woodland	High	-1.54
Other neutral grassland	Medium	-6.05
Blackthorn scrub	Medium	-0.03
Mixed scrub	Medium	+1.23
Bramble scrub	Medium	-0.40
Urban tree	Medium	-4.42
Other woodland; broadleaved	Medium	-0.02
Modified grassland	Low	+0.06
Introduced shrub	Low	-1.54

Linear hedgerow habitat

8.5. The justification for post development habitat choices, distinctiveness and condition selected are provided in Section 66 Scheme Design.

8.6. The baseline linear hedgerow biodiversity units is 1.24, of which 0.83 units is retained and 0.42 units is lost. Accounting for the retention, and creation, of linear hedgerow habitats on-site, the Scheme design will result in an increase of linear hedgerow units from 1.24 to 3.58, which equates to a +188.08 % net gain. A breakdown of the hedgerow units generated by the Scheme is provided in Table 8.3.

8.7. All trading rules are satisfied for the linear hedgerow habitats, with an increase biodiversity units for each habitat distinctiveness. Therefore, no off-site creation is required.

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Table 8-3 - Summary of on-site linear habitat creation results

Post-development Linear Hedgerow Habitat Type	Distinctiveness (pre-set)	Target Condition	Length (km)	Strategic Significance	Habitat Enhanced in Advance (years)	Delay in Starting Habitat Enhancement (years)	Final Time to Target Condition (taking into account a 3 year delay for construction)	Hedgerow Units Delivered
Species-rich native hedgerow	Medium	Moderate	0.31	High	0	3	8	2.14
Line of trees	Low	Moderate	0.3	High	0	3	23	0.61
Total:			0.61	Total:				2.75

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Watercourse losses

8.8. Watercourse lengths retained and lost are shown in Tables 8-4 and 8-5. Table 8-4 splits this out per watercourse habitat type, while Table 8-5 splits it out per watercourse.

8.9. The metric calculation tool presented alongside this report and details lengths of watercourse by each BNG reach, with explanatory notes to describe the watercourse retention and loss from each reach.

Table 8-4 - Summary of on-site retained and lost watercourses by watercourse habitat type

Watercourse habitat type	Length retained (km)	WUs retained	Length lost (km)	WUs lost
Other Rivers and Streams	0.489	2.652	0.384	2.897
Culverts	0.092	0.138	0.000	0.000
TOTAL	0.581	2.79	0.384	2.897

Note: the statutory metric rounds numbers up and therefore there may be minor discrepancies between the numbers reported in this document and the statutory metric.

Table 8-5 - Summary of on-site retained and lost watercourses by individual watercourse

Watercourse	Watercourse habitat type	Length retained (km)	WUs retained	Length lost (km)	WUs lost
Lake Stream	Other Rivers and Streams	0.000	0.000	0.010	0.132
Riders Lane Stream	Other Rivers and Streams	0.156	1.305	0.193	1.614
Riders Lane Stream - Culverts	Culverts	0.092	0.138	0.000	0.000
Hermitage Stream	Other Rivers and Streams	0.333	1.347	0.181	1.150
TOTAL[35]		0.581	2.790	0.384	2.896

Note: the statutory metric rounds numbers up and therefore there may be minor discrepancies between the numbers reported in this document and the statutory metric.

Watercourse creation and enhancement

8.10. Unit losses of watercourses need to be offset through enhancement and creation to watercourse habitats and cannot be considered within other habitat modules of the metric. Watercourse enhancement opportunities are limited on Site due to the constrained nature of the modified development boundary. Specifically, the existing modified nature of the watercourses and the constraints associated with adjacent land-uses (e.g. residential/industrial buildings, local footpaths and

[35] Note that the difference in total units between is due to rounding errors with number of decimal points.

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road infrastructure) mean there is limited space for in-channel and riparian enhancements through for instance re-meandering and bank re-profiling.

8.11. Watercourse creation reported here relates to the reinstatement of watercourse habitats following the 'loss' (change in condition/encroachment) experienced during the construction process, which although temporary, is assumed to take longer than 2 years for reinstatement at the existing condition. Subsequently, the negative multipliers applied within the metric to habitat creation result in a net loss in WUs for the Scheme, despite much of the watercourse being re-instated to the same condition across the same length.

Table 8-6 - Summary of on-site watercourse enhancements and creation by watercourse type

Watercourse habitat type	Enhanced length (km)	Enhanced WUs	Created length (km)	Created WUs
Other Rivers and Streams	N/A	N/A	0.328	0.640
Culverts	N/A	N/A	0.033	0.032
TOTAL	N/A	N/A	0.361	0.672

Note: the statutory metric rounds numbers up and therefore there may be minor discrepancies between the numbers reported in this document and the statutory metric.

Table 8-7 - Summary of on-site watercourse enhancements and creation by individual watercourse

Watercourse	Watercourse habitat type	Enhanced length (km)	Enhanced WUs	Created length (km)	Created WUs
Lake Stream	Other Rivers and Streams	N/A	N/A	0.010	0.033
Riders Lane Stream	Other Rivers and Streams	N/A	N/A	0.140	0.300
Riders Lane Stream - Culverts	Culverts	N/A	N/A	0.033	0.031
Hermitage Stream	Other Rivers and Streams	N/A	N/A	0.178	0.306
TOTAL		N/A	N/A	0.361	0.670[36]

Note: the statutory metric rounds numbers up and therefore there may be minor discrepancies between the numbers reported in this document and the statutory metric.

8.12. For the watercourse unit module of the metric the Scheme design will result in a loss of 2.90 WUs, retention of 2.79 WUs and creation (reinstatement) of 0.672 WUs. This equates to an overall net loss of -2.23 units or -39.13% when considering the watercourse baseline of 5.69 WUs.

[36] [36] Note that the difference in total units between is due to rounding errors with number of decimal points.

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8.13. The watercourse losses reported are precautionary. Should the construction programme be shorter than 2 years, then the unit loss associated with temporary riparian vegetation removal may be discounted if the condition can be reinstated within 2 years of it first being impacted.

Offsite Net Change

Area Habitats

8.14. The justification for post development habitat choices, distinctiveness and condition selected are provided in Section 6 Off-site Design.

8.15. A breakdown of the area habitat units generated by the off-site designs/interventions is provided in the table below.

Table 8-8 - Off-site Area Habitats Summary

Offsite Habitat Units Baseline	Offsite Habitat Units Post-Intervention	Offsite Net Change
21.66	69.39	47.73 (+220.37%)

8.16. Trading rules have been met.

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9. Scheme implementation and construction

On-site delivery

9.1. A Pipeline Ecological Management and Monitoring Plan (EMMP) has been prepared for the Scheme and can be found in ES Appendix 9.17. This details all ecological mitigation and monitoring required up to and during construction. It also outlines the aftercare and post-construction monitoring required for the grassland in Section 9.

9.2. In addition, a Record of Environmental Actions and Commitments (REAC) has been produced which forms part of the EMMP and sets out the mitigation measures that have been committed to within the ES (including the BNG assessment) to manage the effects of the construction and operation of the Scheme to the environment, and how those mitigation commitments will be implemented through the construction of the Scheme and into its operation.

9.3. A Landscape and Ecology Management Plan (LEMP) has been produced to discharge a planning condition detailing the activities which will be carried out to ensure the reinstatement of habitats on-site (i.e. all habitats shown in the habitat creation, hedgerow creation and watercourse creation sections of the completed metric) are successfully delivered by the Scheme. This has been agreed with the Local Planning Authority (Havant Borough Council).

Off-site delivery

9.4. The offsite gain sites will be registered by Portsmouth Water on Natural England's offsite register and linked to the Bedhampton pipeline development in order to achieve the committed net gain targets outlined in Section 8.

10. Conclusions

10.1. A summary is provided in Table 10.1of the unit breakdowns from on-site and off-site provision.

Table 10-1 - Summary of BNG

Metric category	Unit breakdown	Results
On-site baseline units	Area habitat units	141.25
	Hedgerow units	1.24
	Watercourse units	5.69
On-site post- development units	Area habitat units	126.18
	Hedgerow units	3.58
	Watercourse units	3.46
Total net unit change on-site	Area habitat units	-15.06
	Hedgerow units	+2.34
	Watercourse units	-2.23
Total units required (incl. 10% net gain)	Area habitat units	155.37
	Hedgerow units	1.37
	Watercourse units	6.26
Off-site baseline units	Area habitat units	21.66
	Hedgerow units	0
	Watercourse units	15.07
Off-site post-intervention units	Area habitat units	69.39
	Hedgerow units	0
	Watercourse units	20.66
Total off-site post-intervention units net unit gain	Area habitat units	16.41 (+11.62%)
	Hedgerow units	2.34 (+188.08%)
	Watercourse units	0.57 (+10.00%)
Total Unit deficit	Area habitat units	0
	Hedgerow units	0
	Watercourse units	0

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Area habitat conclusions

10.2. Within the modified development boundary, there is a permanent loss of lowland mixed deciduous woodland, wet woodland, and other neutral grassland. Both lowland mixed deciduous and wet woodland are high distinctiveness habitats.

10.3. As detailed in paragraph 3.93.9, the trading rules apply up to the point of no net loss. Once trading rules have been met the 10% 'net gain' can be achieved by the creation or enhancement of any area habitat type.

10.4. All areas within the modified development boundary that have been impacted temporarily (not in terms of the metric which has shown these areas as 'lost' and then 'recreated' due to the length of construction) will be reinstated to baseline condition in most areas. Enhancement of these habitats is limited because the habitats are all widely used public spaces. However, there may be opportunities to enhance some areas to higher value habitats. To achieve this, liaison with the LPA will be required to identify suitable opportunities.

10.5. The total net change, when considering both on-site and off-site habitats for area habitats is an increase of 16.41 habitat units, corresponding to a net gain of +11.62%.

Linear habitat conclusions

10.6. Within the modified development boundary, non-native ornamental hedgerow will be permanently lost. However, the landscape design includes the creation of species-rich native hedgerow as well as the reinstatement and enhancement of lines of trees. As a result, there is a predicted 188.08 % increase in linear hedgerow units, with all trading rules satisfied. Consequently, no off-site hedgerow creation is required.

Watercourse conclusions

10.7. Within the modified development boundary there will be a net loss of 2.23 WUs (-39.13%). However, this is based on a precautionary approach due to uncertainty around the construction programme. Watercourse losses are principally associated with riparian vegetation removal, which is assumed to reduce river condition and/or increase encroachment during the construction of the Scheme and whilst the habitats are re-establishing to target condition. These impacts are counted as permanent loss under the metric. However, the calculations does not take account of any retained habitat at a lower condition during the construction process.

10.8. A 10% net gain is also required on the baseline watercourse units with the development boundary. Provision of watercourse loss and net gain is being secured via a private habitat bank – full details are provided in the Biodiversity Gain Plan as required.

AtkinsRéalis - Baseline / Référence

Appendix A. Metric element definitions

Table A-1 - Definition of metric elements from Defra guidance

Metric element	Definition
Habitat type	Determined from site surveys (UKHab) for area habitat and hedgerow features, and via a combination of open-source data and site surveys for watercourse features.
Distinctiveness	Derived from its intrinsic biodiversity value, reflecting the rarity of the plant community, the time it takes to reach maturity, its value to fauna, and its ecosystem function. This score is pre-assigned and is pre-populated in the metric.
Condition	Reflects the quality of the habitat determined by site habitat condition assessments from the metric for habitat and hedgerow features, and through a River Condition Assessment that combines site surveys (MoRPh) and open-source data for watercourse features.
Strategic significance	Based on desk-based assessment to determine whether the location of a site and/or the baseline habitats present, or proposed habitat development have been identified as being locally important for biodiversity. All habitat parcels must be assigned a strategic significance score.
Encroachment	An additional element for watercourses. It reflects whether a watercourse has been modified by built development through the presence of encroachment into the watercourse channel or riparian zone. In this way the multipliers reduce the number of units to reflect the negative impact that such encroachment has on a naturally functioning river system.
Difficulty	A multiplier that applies to post- development habitat creation or enhancement. The weighting is pre-assigned and is pre-populated in the metric to reflect the difficulty of creating certain types of habitat. Habitats that are more difficult to create deliver fewer biodiversity units.
Time to target	A multiplier that applies to post- development habitat creation or enhancement. The weighting is pre-assigned and is pre-populated in the metric to reflect how long it takes for a habitat to reach the desired condition. Habitats that take longer to reach target deliver fewer biodiversity units. However, multiplier is adjusted to reflect whether habitat creation or enhancement is delivered in advance of any impact it is compensating for, or whether there will be any significant delay in an intervention relative to the impact.
Spatial risk	A multiplier that only applies to off-site habitat creation or enhancement. The spatial risk multiplier reduces the amount of habitat units delivered based on the distance of habitat creation or enhancement to the site of habitat loss.

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Appendix B. Assessment principles

B.1. Mitigation hierarchy

In accordance with good practice[37] the principles of the mitigation hierarchy and the avoidance of impacts to irreplaceable habitats must be applied when committing to achieving BNG. This is reinforced through the publication of BS 8683:2021.

The sequential approach to applying the mitigation hierarchy is to:

Avoid – Where possible habitat damage should be avoided.

Minimise – Where possible habitat damage and loss should be minimised.

Remediate – Where possible any damaged or lost habitat should be restored.

Compensate – As a last resort, damaged or lost habitat should be compensated for[38].

Application of the mitigation hierarchy is encouraged by the metric because BNG can be more easily achieved by avoiding the loss of habitat through either retention or enhancement. Principle 1 of the metric adds "*The use of this metric does not override the ecological mitigation hierarchy and other requirements (such as consenting or licensing processes, for example woodlands)*".

B.2. BNG good practice principles

The User Guide for the metric includes rules and principles. Amongst these Principle 3 states "This biodiversity metric should be used in accordance with established good practice guidance and professional codes".

To claim BNG, evidence that demonstrates a project has clearly applied all ten of the Good Practice Principles for achieving BNG[39] as summarised below, should be provided. Adhering to all Principles together underpins the good practice required for achieving and sustaining BNG.

Table B-1 - Biodiversity Net Gain good practice principles

Principle	In practice
Apply the mitigation hierarchy	Do everything possible to first avoid and then minimise impacts on biodiversity. Only as a last resort, and in agreement with external decision makers where possible, compensate for losses that cannot be avoided. If compensating for losses within the development footprint is not possible or does not generate the most benefits for nature conservation, then offset biodiversity losses by gains elsewhere.
Avoid losing biodiversity that cannot be	Avoid impacts on irreplaceable biodiversity – these impacts cannot be offset to achieve no net loss or net gain.

[37] CIEEM, CIRIA & IEMA (2019). *Biodiversity net gain. Good practice principles for development. A practical guide*. CIRIA C776a. London.
[38] Compensation should be undertaken on-site. If this is not possible then off-site habitat compensation may be an option; however, this should be undertaken as close to the on-site as possible.
[39] Biodiversity-Net-Gain-Principles.pdf

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Principle	In practice
offset by gains elsewhere	
Be inclusive and equitable	Engage stakeholders early, and involve them in designing, implementing, monitoring and evaluating the approach to net gain. Achieve net gain in partnership with stakeholders where possible and share the benefits fairly among stakeholders.
Address risks	Mitigate difficulty, uncertainty and other risks to achieving net gain. Apply well-accepted ways to add contingency when calculating biodiversity losses and gains in order to account for any remaining risks, as well as to compensate for the time between losses occurring and the gains being fully realised.
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.
Achieve the best outcomes for biodiversity	Achieve the best outcomes for biodiversity by using robust, 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.
Be additional	Achieve nature conservation outcomes that demonstrably exceed existing obligations (i.e. do not deliver something that would occur anyway).
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;[40] 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.
Optimise sustainability	Prioritising BNG and, where possible, optimise the wider environmental benefits for a sustainable society and economy.
Be transparent	Communicate all net gain activities in a transparent and timely manner, sharing the learning with all stakeholders.

[40] For development in the UK, the expectation is that compensation sites will be secured for at least the lifetime of the development (e.g. often 25–30 years) with the objective of net gain management continuing in the future.

AtkinsRéalis - Baseline / Référence

Appendix C. Habitat Condition Assessments

C.1. Area based habitats – on-site

AtkinsRéalis - Baseline / Référence

Condition Sheet: SCRUB Habitat Type

Habitat Types

Heathland and shrub - Blackthorn scrub
Heathland and shrub - Gorse scrub
Heathland and shrub - Hawthorn scrub
Heathland and shrub - Hazel scrub
Heathland and shrub - Mixed scrub
Heathland and shrub - Dunes with sea buckthorn (H2160)
Heathland and shrub - Willow scrub

Habitat Description

Single parcel of h3a6, blackthorn scrub within amenity grassland, associated with fenceline of pumping station. Parcel ID: 535

For Dunes with sea buckthorn see:	Dunes with sea-buckthorn (Dunes with Hippophae rhamnoides) - Special Areas of Conservation (jncc.gov.uk)		
For other scrub types see:	ukhab – UK Habitat Classification		
On-site or off-site, site name and location	Shaft 1	**Survey date and Surveyor name**	10/11/2023
Limitations (if applicable)	Survey led by FISC 6 surveyor, but undertaken outside of core growing season.	**Survey reference (if relating to a wider survey)**	n/a
Grid reference	SU 70611 06445	**Habitat parcel reference**	535

	Condition Assessment Criteria	Criterion passed (Yes or No)	Notes (such as justification)
A	The parcel represents a good example of its habitat type - the appearance and composition of the vegetation closely matches its UKHab description (where in its natural range).[1] - At least 80% of scrub is native, - There are at least three native woody species[2], - No single species comprises more than 75% of the cover (except hazel *Corylus avellana* , common juniper *Juniperus communis* , sea buckthorn *Hippophae rhamnoides* (only in its restricted native range), or box *Buxus sempervirens* , which can be up to 100% cover).	Y	
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran[3]) shrubs are all present.	N	
C	There is an absence of invasive non-native plant species[4] (as listed on Schedule 9 of WCA[5]) and species indicative of suboptimal condition[6] make up less than 5% of ground cover.	Y	
D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	N	Scrub is surrounded by amenity grassland with no transitional edge habitat.

E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	N	Small parcel of scrub < 100 m2, absense of clearing, glades, or rides.
		Number of criteria passed	

Condition Assessment Result (out of 5 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**
Passes 5 criteria	Good (3)	
Passes 3 or 4 criteria	Moderate (2)	
Passes 2 or fewer criteria	Poor (1)	x

Suggested enhancement interventions to improve condition score

Condition Sheet: LINE OF TREES Habitat Type

Habitat Types

Line of trees
Line of trees – associated with bank or ditch
Ecologically valuable line of trees
Ecologically valuable line of trees – associated with bank or ditch

Please see the separate Individual trees condition sheet for linear blocks and groups of trees in an urban setting. You should only use this Line of trees condition assessment and record this habitat type in rural locations.

Habitat Description

35 - line of semi-mature elder trees

See the Statutory Biodiversity Metric User Guide.
This assessment is based on the Hedgerow Survey Handbook[1]. For further clarifications please refer to the Handbook.
Where ancient and veteran trees are present within the line of trees, see Footnote 2 for standing advice.

On-site or off-site, site name and location	Shaft 1	**Survey date and Surveyor name**	UKHab survey - Febraury 2023
Limitations (if applicable)	Retrospective condition assessment based on previous (same year) UKHab data and aerial imagery.	**Survey reference (if relating to a wider survey)**	n/a
Grid reference	SU7054706354	**Habitat parcel reference**	35

	Condition Assessment Criteria	**Criterion passed (Yes or No)**	**Notes (such as justification)**
A	At least 70% of trees are native species.	Y	Elder
B	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Y	
C	One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and attached deadwood, cavities, ivy or loose bark.	N	
D	There is an undisturbed naturally-vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing). Where veteran trees are present, root protection areas should follow standing advice[2].	N	Tree line is surrounded by amenity grassland. Naturally vegetated ground layer extends to approximately 1 m from tree base.
E	At least 95% of the trees are in a healthy condition (deadwood or veteran features valuable for wildlife are excluded from this). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	N	
		Number of criteria passed	2

Condition Assessment Result (out of 5 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**
Passes 5 criteria	Good (3)	
Passes 3 or 4 criteria	Moderate (2)	
Passes 2 or fewer criteria	Poor (1)	X

Suggested enhancement interventions to improve condition score

Footnotes

Condition Sheet: GRASSLAND Habitat Type (medium, high and very high distinctiveness)

UK Habitat Classification (UKHab) Habitat Types

Grassland - Lowland calcareous grassland
Grassland - Lowland dry acid grassland
Grassland - Lowland meadows
Grassland - Other lowland acid grassland
Grassland - Other neutral grassland
Grassland - Tall herb communities (H6430) [Not to be confused with the Tall forbs secondary code – see UKHab guidance for details.]
Grassland - Upland acid grassland
Grassland - Upland calcareous grassland
Grassland - Upland hay meadows
Sparsely vegetated land - Calaminarian grassland

Habitat Description

1: Amenity grassland (g3c, other neutral grassland) surrounding Bedhampton 2 pumping station. Comprising habitat parcels: 241, 251, 252, 225, 552, 257, 63, 246
2: Amenity grassland (g3c, other neutral grassland) surrounding Bedhampton 1 pumping station. Comprising habitat parcels: 248, 506, 505, 34, 112, 17, 540, 544
3: Amenity grassland (g3c, other neutral grassland) dog walking park north of the Bedhampton pumping stations. Comprising habitat parcels 539 and 254.
551 - Grassland south of Bedhampton 2 pumping station. Horse-grazed field assigned coastal and floodplain grazing marsh priority habitat (updated UKHab survey confirms this grassland does not hit the CFGM criteria, confirmed as g3c other neutral grassland)

ukhab – UK Habitat Classification

On-site or off-site, site name and location	On-site, Shaft 1	**Survey date and Surveyor name**	UKHab survey - February 2023
		Survey reference (if relating to a wider survey)	n/a
Limitations (if applicable)	Retrospective condition assessment based on previous (same year) UKHab data and aeriel imagery.		

		Habitat parcel reference										
		1	2	3	551							
		Grid reference										
Condition Assessment Criteria		SU 70464 06277	SU 70567 06394	SU 70786 06368	SU 70366 06227							
		Criterion passed (Yes or No)										**Notes (such as justification)**
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description).[1] **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	Y	Y	Y	Y							
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	N	N	Y	Y							Parcels 1 & 2 more intensively managed due to presence within pumping station.
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens[2].	Y	Y	Y	Y							
D	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.	Y	Y	Y	Y							
E	Combined cover of species indicative of suboptimal condition[3] and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species[4] (as listed on Schedule 9 of WCA[5]) are present, this criterion is automatically failed.	N	N	N	N							failed due to > 5 % cover of species indicative of sub-optimal condition.

Additional Criterion - must be assessed for all non-acid grassland types

F	There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count). **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**	N	Y	N	N							Parcel 2 includes small-flowered buttercup and wall bedstraw (county scarce/ nationally rare plants) in addition to common species.
Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)		N	Y	N	N							
Number of criteria passed		3	4	4	4							

Condition Assessment Result	**Condition Assessment Score**	**Score Achieved ×/✓**									
Acid grassland types (Result out of 5 criteria)											
Passes 5 criteria	Good (3)										
Passes 3 or 4 criteria	Moderate (2)										
Passes 2 or fewer criteria	Poor (1)										
Non-acid grassland types (Result out of 6 criteria)											
Passes 5 or 6 criteria, including essential criterion A and additional criterion F.	Good (3)										
Passes 3 - 5 criteria, including essential criterion A.	Moderate (2)	X	X	X	X						
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.	Poor (1)										

Suggested enhancement interventions to improve condition score

Notes

Footnote 1 - Professional judgement should be used alongside the UKHab description.

Footnote 2 – For example, this could include small, scattered areas of bare ground allowing for plant colonisation, or localised patches not exceeding 5% cover.

Footnote 3 - Species indicative of suboptimal condition for this habitat type include: creeping thistle *Cirsium arvense* , spear thistle *Cirsium vulgare* , curled dock *Rumex crispus* , broad-leaved dock *Rumex obtusifolius* , common nettle *Urtica dioica* , creeping buttercup *Ranunculus repens* , greater plantain *Plantago major* , white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris* . There may be additional relevant species local to the region and or site.

Footnote 4 – 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, by applying professional judgement.

Footnote 5 – Wildlife and Countryside Act 1981 (as amended).

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

1 - Trees within Bedhampton 1 pumping station field. Tree ID: G168-A-D, T169, G170-A-D, T172, G174-A-D, T167, T166, G164, T162
2 - Trees within Bedhampton 2 pumping station field. Tree ID: T182, T185, T184, T183, T187, T188, G186-A-B, G199A-C
3 - mature beech tree in Bedhampton 2 field. Tree ID: T189

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	On-site, Shaft 1	**Survey date and Surveyor name**	10/11/2023
		Survey reference (if relating to a wider survey)	n/a
Limitations (if applicable)	Survey led by FISC 6 surveyor, but undertaken outside of core growing season.		

			Habitat parcel reference									
			1	2	3							
			Grid reference									
			n/a	n/a	SU 70430 06260							
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).		N	N	Y							
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).		Y	Y	Y							
C	The tree is mature (or more than 50% within the block are mature)[1].		N	N	Y							
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.		Y	Y	Y							
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.		N	N	Y							

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

1 - two sycamore trees of similar age class. Tree ID: T157, T156
2 - group of 13 young/semi-mature planted lime trees along northern field boundary. Tree IDs: G149-A, B, C, D, E, F, G, H, I, J, K, L, M.
3 - group of 10 young planted lime trees along northern field boundary. Tree IDs: G146-A, B, C, D, E, F, G, H, I, J

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	On-site Shafts 2-3	**Survey date and Surveyor name**	Nov-23
		Survey reference (if relating to a wider survey)	n/a
Limitations (if applicable)	Field survey led by FISC 4 surveyor, but outside of the core growing season.		

Habitat parcel reference									
1	2	3	4	5					
Grid reference									
SU70 70306 864	SU70 77807 174	SU70 85807 173	SU706 88069 11	SU70 68806 911					

	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).	N	Y	Y	N	Y						see habitat description for species
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Y	N	N	Y	Y						
C	The tree is mature (or more than 50% within the block are mature)[1].	Y	N	N	N	Y						As per habitat description
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Y	Y	Y	Y	Y						
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	N	N	N	N	N						

F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Y	N	N	Y	Y						2 & 3 are young/semi-mature planted trees
	Number of criteria passed	4	2	2	3	5						

Condition Assessment Result (out of 6 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**										
Passes 5 or 6 criteria	Good (3)					X						
Passes 3 or 4 criteria	Moderate (2)	X			X							
Passes 2 or fewer criteria	Poor (1)		X	X								
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]

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)

UK Habitat Classification (UKHab) Habitat Type

Grassland - Modified grassland

Habitat Description

1 - Modified grassland (g4), primarily used as a sports field and frequented by dog walkers. Also includes road verges to the north. Comprises parcels: 167, 169, 548, and 67. Grouped together due to similarity of habitat condition and management.

ukhab – UK Habitat Classification

On-site or off-site, site name and location	On-site Shafts 2-3 Centred at OSNGR SU 70723 07100	**Survey date and Surveyor name**	UKHab field survey Feb-23
		Survey reference (if relating to a wider survey)	n/a
Limitations (if applicable)	Retrospective desk-based condition assessment based on previous (same year) UKHab data and photographs.		

		Habitat parcel reference										
		1										
		Grid reference										
		SU 70723 07100										
Condition Assessment Criteria		**Criterion passed (Yes or No)**										**Notes (such as justification)**
A	There are 6-8 vascular plant species per m^2 present, including at least 2 forbs (these may include those listed in Footnote 1). **Note - this criterion is essential for achieving Moderate or Good condition.** Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m^2 (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.	N										
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	N										Intensive management due to use as a sport pitch
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus* agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Y										
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	N										
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)[2].	N										> 10 % cover of bare ground due to use as a sports pitch
F	Cover of bracken *Pteridium aquilinum* is less than 20%.	Y										
G	There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]).	Y										
	Essential criterion achieved (Yes or No)	N										
	Number of criteria passed	3										

Condition Assessment Result (out of 7 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**	

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

Suggested enhancement interventions to improve condition score

Footnotes

Footnote 1 – Creeping thistle *Cirsium arvense* , spear thistle *Cirsium vulgare* , curled dock *Rumex crispus* , broad-leaved dock *Rumex obtusifolius* , common nettle *Urtica dioica* , creeping buttercup *Ranunculus repens* , greater plantain *Plantago major* , white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris* .

Footnote 2 – For example, this could include small, scattered areas of bare ground allowing establishment of new species, or localised patches where not exceeding 10% cover.

Footnote 3 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.

Footnote 4 – Wildlife and Countryside Act 1981 (as amended).

Condition Sheet: GRASSLAND Habitat Type (medium, high and very high distinctiveness)

UK Habitat Classification (UKHab) Habitat Types

Grassland - Lowland calcareous grassland
Grassland - Lowland dry acid grassland
Grassland - Lowland meadows
Grassland - Other lowland acid grassland
Grassland - Other neutral grassland
Grassland - Tall herb communities (H6430) [Not to be confused with the Tall forbs secondary code – see UKHab guidance for details.]
Grassland - Upland acid grassland
Grassland - Upland calcareous grassland
Grassland - Upland hay meadows
Sparsely vegetated land - Calaminarian grassland

Habitat Description

Road verge on the boundary of a residential dog-walking park. Evidence of old woodland from grassland species present. g3c other neutral grassland

ukhab – UK Habitat Classification

On-site or off-site, site name and location	Shaft 4	**Survey date and Surveyor name**	UKHab survey - Feb-23									
		Survey reference (if relating to a wider survey)	n/a									
Limitations (if applicable)	Retrospective assessment, using previous (same year) UKHab data and aerial imagery	**Habitat parcel reference**										
		360	378									
Condition Assessment Criteria		**Grid reference**										
		SU7127 907164	SU712640 7143									
		Criterion passed (Yes or No)										**Notes (such as justification)**
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description).[1] **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	Yes	Yes									
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	No	No									Grassland under management for recreational use so no variation in sward height.
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens[2].	Yes	Yes									
D	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.	Yes	Yes									
E	Combined cover of species indicative of suboptimal condition[3] and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species[4] (as listed on Schedule 9 of WCA[5]) are present, this criterion is automatically failed.	Yes	Yes									

Additional Criterion - must be assessed for all non-acid grassland types

F	There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count). **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**	No	No									
Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)		No	No									
Number of criteria passed		4	4									

Condition Assessment Result	**Condition Assessment Score**	**Score Achieved ×/✓**									
Acid grassland types (Result out of 5 criteria)											
Passes 5 criteria	Good (3)										
Passes 3 or 4 criteria	Moderate (2)										
Passes 2 or fewer criteria	Poor (1)										
Non-acid grassland types (Result out of 6 criteria)											
Passes 5 or 6 criteria, including essential criterion A and additional criterion F.	Good (3)										
Passes 3 - 5 criteria, including essential criterion A.	Moderate (2)	X	X								
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.	Poor (1)										

Suggested enhancement interventions to improve condition score

Notes

Footnote 1 - Professional judgement should be used alongside the UKHab description.

Footnote 2 – For example, this could include small, scattered areas of bare ground allowing for plant colonisation, or localised patches not exceeding 5% cover.

Footnote 3 - Species indicative of suboptimal condition for this habitat type include: creeping thistle *Cirsium arvense* , spear thistle *Cirsium vulgare* , curled dock *Rumex crispus* , broad-leaved dock *Rumex obtusifolius* , common nettle *Urtica dioica* , creeping buttercup *Ranunculus repens* , greater plantain *Plantago major* , white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris* . There may be additional relevant species local to the region and or site.

Footnote 4 – 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, by applying professional judgement.

Footnote 5 – Wildlife and Countryside Act 1981 (as amended).

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 woodland block (w1f lowland mixed deciduous woodland) on the boundary of a modified grassland dog-walking park. The woodland borders Hermitage Stream on the eastern bank.

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	Shaft 4	**Survey date and Surveyor name**	Nov-23
Limitations (if applicable)	Field assessment led by FISC 4 surveyor outside of core growing season.	**Survey reference (if relating to a wider survey)**	n/a
Grid reference	SU7126907182	**Habitat parcel reference**	556

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.	2	2 age classes
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	
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.	2	Montbretia < 10 %
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	4/5 native species

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].	3	
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	Based on woodland being < 10 ha with < 10 % temporary open space.
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].	2	
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].	1	ash dieback present
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	
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].	2	Shrub & canopy layer
K	**Veteran trees**	Two or more veteran trees[12] per hectare.	One veteran tree[12] per hectare.	No veteran trees[12] present in woodland.	2	
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	
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].	3	
				Total Score (out of a possible 39)	24	

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

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

Amenity grassland dog walking field with 13 individual trees, likely remnants of adjacent woodland.
T123 (Hybrid black poplar, mature), T136 (Common ash, semi-mature), T137 (Common oak, mature), T138 (Common oak, mature), T139 (Common oak, mature), T129 (Common oak, mature), G131-A (Common ash, mature), G131-B (Common ash, mature), G131-C (Hawthorn, mature), G134 (oak, early mature)

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	On-site Shaft 4	**Survey date and Surveyor name**	Nov-23
		Survey reference (if relating to a wider survey)	n/a
Limitations (if applicable)	Field survey led by FISC 4 surveyor outside of core growing season.		

Habitat parcel reference									
T129	T137	T138	T139	G131-A, B, C	T136	G134			
Grid reference									
SU71 24107 238	SU71 28807 185	SU71 29007 182	SU712 74071 66	SU71 24307 232	SU71 28207 199	SU71 24307 280			

	Condition Assessment Criteria	**Criterion passed (Yes or No)**										**Notes (such as justification)**
A	The tree is a native species (or at least 70% within the block are native species).	Y	Y	Y	Y	Y	Y	Y				
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Y	Y	Y	Y	Y	Y	Y				
C	The tree is mature (or more than 50% within the block are mature)[1].	Y	Y	Y	Y	Y	N	Y				
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Y	Y	Y	Y	Y	Y	Y				
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	Y	Y	Y	Y	Y	N	N				

F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Y	Y	Y	Y	Y	Y	Y				
	Number of criteria passed	6	6	5	6	6	4	5				

Condition Assessment Result (out of 6 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**										
Passes 5 or 6 criteria	Good (3)	X	X	X	X	X		X				
Passes 3 or 4 criteria	Moderate (2)						X					
Passes 2 or fewer criteria	Poor (1)											
Note that 'Fairly Good and Fairly Poor' condition categories are not available for this broad habitat type.												

Suggested enhancement interventions to improve condition score[2]

Condition Sheet: LINE OF TREES Habitat Type

Habitat Types

Line of trees
Line of trees – associated with bank or ditch
Ecologically valuable line of trees
Ecologically valuable line of trees – associated with bank or ditch

Please see the separate Individual trees condition sheet for linear blocks and groups of trees in an urban setting. You should only use this Line of trees condition assessment and record this habitat type in rural locations.

Habitat Description

Line of multi-stemmed trees comprising: field maple, hawthorn and oak within modified grassland parcel. Early mature trees with scrub ground layer .

See the Statutory Biodiversity Metric User Guide.
This assessment is based on the Hedgerow Survey Handbook[1]. For further clarifications please refer to the Handbook.
Where ancient and veteran trees are present within the line of trees, see Footnote 2 for standing advice.

On-site or off-site, site name and location	On-site, Shaft 4	**Survey date and Surveyor name**	Nov-23
		Survey reference (if relating to a wider survey)	n/a
Limitations (if applicable)	Field survey led by FISC 4 surveyor outside of core growing season.	**Habitat parcel reference**	1
		Grid reference	

	Condition Assessment Criteria	**Criterion passed (Yes or No)**	**Notes (such as justification)**
A	At least 70% of trees are native species.	Y	
B	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Y	
C	One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and attached deadwood, cavities, ivy or loose bark.	Y	
D	There is an undisturbed naturally-vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing). Where veteran trees are present, root protection areas should follow standing advice[2].	N	< 6 m naturally-vegetated strip.
E	At least 95% of the trees are in a healthy condition (deadwood or veteran features valuable for wildlife are excluded from this). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	Y	
	Number of criteria passed	4	

Condition Assessment Result (out of 5 criteria)	Condition Assessment Score	Score Achieved ×/✓									
Passes 5 criteria	Good (3)										
Passes 3 or 4 criteria	Moderate (2)	X									
Passes 2 or fewer criteria	Poor (1)										
Suggested enhancement interventions to improve condition score											
Footnotes											

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)

UK Habitat Classification (UKHab) Habitat Type

Grassland - Modified grassland

Habitat Description

g4 modified grassland, intersected by public footpaths and frequented by dog walkers.

ukhab – UK Habitat Classification

On-site or off-site, site name and location	Shaft 4 Centred at OSNGR SU 71222 07275	**Survey date and Surveyor name**	UKHab survey - Feb-23
		Survey reference (if relating to a wider survey)	n/a
Limitations (if applicable)	Retrospective desk-based condition assessment based on previous (same year) UKHab data and photographs.		

		Habitat parcel reference									
		364	113	363	133	367	221	77	78		
		Grid reference									
Condition Assessment Criteria		**Criterion passed (Yes or No)**									**Notes (such as justification)**
A	There are 6-8 vascular plant species per m^2 present, including at least 2 forbs (these may include those listed in Footnote 1). **Note - this criterion is essential for achieving Moderate or Good condition.** Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m^2 (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.	No	No	No	No	No	No	No	No			
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	No	No	No	No	No	No	No	No			Managed for recreational use therefore no variation in sward height.
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus* agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)[2].	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
F	Cover of bracken *Pteridium aquilinum* is less than 20%.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
G	There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]).	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
	Essential criterion achieved (Yes or No)	No	No	No	No	No	No	No	No			
	Number of criteria passed	5	5	5	5	5	5	5	5			

Condition Assessment Result (out of 7 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**

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

Suggested enhancement interventions to improve condition score

Footnotes

Footnote 1 – Creeping thistle *Cirsium arvense* , spear thistle *Cirsium vulgare* , curled dock *Rumex crispus* , broad-leaved dock *Rumex obtusifolius* , common nettle *Urtica dioica* , creeping buttercup *Ranunculus repens* , greater plantain *Plantago major* , white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris* .

Footnote 2 – For example, this could include small, scattered areas of bare ground allowing establishment of new species, or localised patches where not exceeding 10% cover.

Footnote 3 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.

Footnote 4 – Wildlife and Countryside Act 1981 (as amended).

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)

UK Habitat Classification (UKHab) Habitat Type

Grassland - Modified grassland

Habitat Description

11 parcels of g4 modified grassland under regular management as road verges.

ukhab – UK Habitat Classification

On-site or off-site, site name and location	Shaft 5	**Survey date and Surveyor name**	UKHab survey - Feb-23										
		Survey reference (if relating to a wider survey)	n/a										
Limitations (if applicable)	Retrospective condition assessment based on previous (same year) UKHab data and aeriel imagery.	**Habitat parcel reference**											
		445	149	392									
		Grid reference											
		SU71154 07785	SU71209 07775	SU71204 07764									

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

Condition Assessment Result (out of 7 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**	

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

Suggested enhancement interventions to improve condition score

Footnotes

Footnote 1 – Creeping thistle *Cirsium arvense* , spear thistle *Cirsium vulgare* , curled dock *Rumex crispus* , broad-leaved dock *Rumex obtusifolius* , common nettle *Urtica dioica* , creeping buttercup *Ranunculus repens* , greater plantain *Plantago major* , white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris* .

Footnote 2 – For example, this could include small, scattered areas of bare ground allowing establishment of new species, or localised patches where not exceeding 10% cover.

Footnote 3 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.

Footnote 4 – Wildlife and Countryside Act 1981 (as amended).

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)

UK Habitat Classification (UKHab) Habitat Type

Grassland - Modified grassland

Habitat Description

11 parcels of g4 modified grassland under regular management as road verges.

ukhab – UK Habitat Classification

On-site or off-site, site name and location	Shaft 5	**Survey date and Surveyor name**	UKHab survey - February 2023
		Survey reference (if relating to a wider survey)	n/a
Limitations (if applicable)	Retrospective condition assessment based on previous (same year) UKHab data and aeriel imagery.		

Habitat parcel reference									
152	151	509	512	448	386	435	158	353	444
Grid reference									
SU71161 07823	SU71165 07791	SU71169 07811	SU7120 607803	SU7118 907774	SU7117 307773	SU7115 607854	SU7114 407854	SU7114 807828	SU7115 207798

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

Condition Assessment Result (out of 7 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**	

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

Suggested enhancement interventions to improve condition score

Footnotes

Footnote 1 – Creeping thistle *Cirsium arvense* , spear thistle *Cirsium vulgare* , curled dock *Rumex crispus* , broad-leaved dock *Rumex obtusifolius* , common nettle *Urtica dioica* , creeping buttercup *Ranunculus repens* , greater plantain *Plantago major* , white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris* .

Footnote 2 – For example, this could include small, scattered areas of bare ground allowing establishment of new species, or localised patches where not exceeding 10% cover.

Footnote 3 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.

Footnote 4 – Wildlife and Countryside Act 1981 (as amended).

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

T206-209 & T089 all found within amenity grassland road verge, all mature oak trees.
T083 is a veteran oak tree within an amenity grassland dog park.
T203 & T204: both semi-mature oaks growing on west bank of river

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	Shaft 5	**Survey date and Surveyor name**	UKHab survey - February 2023								
		Survey reference (if relating to a wider survey)	n/a								
Limitations (if applicable)	Retrospective condition assessment based on UKHab data, tree schedule from arboriculture survey, site photographs and aeriel imagery.	**Habitat parcel reference**									
		T083	T206	T207	T208	T209	T089	T203	T204		
		Grid reference									
		SU71 20807 805	SU71 15007 797	SU71 15207 802	SU711 49078 15	SU71 14507 830	SU71 18407 769	SU71 17007 836	SU71 16907 837		
Condition Assessment Criteria		**Criterion passed (Yes or No)**									**Notes (such as justification)**
A	The tree is a native species (or at least 70% within the block are native species).	Y	Y	Y	Y	Y	Y	Y	Y		All oak trees
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Y	Y	Y	Y	Y	Y	Y	Y		
C	The tree is mature (or more than 50% within the block are mature)[1].	Y	Y	Y	Y	Y	Y	N	N		T083 confirmed veteran
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Y	Y	Y	Y	Y	Y	Y	Y		T206-209 are pollarded due to proximity to road but doesn't appear to have adverse affect
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	Y	N	N	N	N	N	N	N		

F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Y	Y	Y	Y	Y	Y	Y	Y			
	Number of criteria passed	6	5	5	5	5	5	4	4			

Condition Assessment Result (out of 6 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**										
Passes 5 or 6 criteria	Good (3)	X	X	X	X	X	X					
Passes 3 or 4 criteria	Moderate (2)							X	X			
Passes 2 or fewer criteria	Poor (1)											
Note that 'Fairly Good and Fairly Poor' condition categories are not available for this broad habitat type.												

Suggested enhancement interventions to improve condition score[2]

Condition Sheet: LINE OF TREES Habitat Type

Habitat Types

Line of trees
Line of trees – associated with bank or ditch
Ecologically valuable line of trees
Ecologically valuable line of trees – associated with bank or ditch

Please see the separate Individual trees condition sheet for linear blocks and groups of trees in an urban setting. You should only use this Line of trees condition assessment and record this habitat type in rural locations.

Habitat Description

Tree lines along Riders Lane Stream banks, bordered by amenity grassland.

See the Statutory Biodiversity Metric User Guide.
This assessment is based on the Hedgerow Survey Handbook[1]. For further clarifications please refer to the Handbook.
Where ancient and veteran trees are present within the line of trees, see Footnote 2 for standing advice.

On-site or off-site, site name and location	Shaft 5	**Survey date and Surveyor name**	UKHab survey - February 2023
		Survey reference (if relating to a wider survey)	n/a
Limitations (if applicable)	Retrospective condition assessment based on previous (same year) UKHab data and aeriel imagery.		

		Habitat parcel reference										
		7	18									
		Grid reference										
		SU711 79078 19	SU7117 307810									
Condition Assessment Criteria		**Criterion passed (Yes or No)**										**Notes (such as justification)**
A	At least 70% of trees are native species.	Y	Y									
B	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	N	Y									Gap > 5 m wide for 7.
C	One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and attached deadwood, cavities, ivy or loose bark.	N	Y									
D	There is an undisturbed naturally-vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing). Where veteran trees are present, root protection areas should follow standing advice[2].	N	N									Both tree lines surrounded by amenity grassland so < 6 m
E	At least 95% of the trees are in a healthy condition (deadwood or veteran features valuable for wildlife are excluded from this). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	Y	Y									
	Number of criteria passed	2	3									

Condition Assessment Result (out of 5 criteria)	Condition Assessment Score	Score Achieved ×/✓										
Passes 5 criteria	Good (3)											
Passes 3 or 4 criteria	Moderate (2)		X									
Passes 2 or fewer criteria	Poor (1)	X										

Suggested enhancement interventions to improve condition score

Footnotes

Condition Sheet: GRASSLAND Habitat Type (medium, high and very high distinctiveness)

UK Habitat Classification (UKHab) Habitat Types

Grassland - Lowland calcareous grassland
Grassland - Lowland dry acid grassland
Grassland - Lowland meadows
Grassland - Other lowland acid grassland
Grassland - Other neutral grassland
Grassland - Tall herb communities (H6430) [Not to be confused with the Tall forbs secondary code – see UKHab guidance for details.]
Grassland - Upland acid grassland
Grassland - Upland calcareous grassland
Grassland - Upland hay meadows
Sparsely vegetated land - Calaminarian grassland

Habitat Description

Amenity grassland dog-walking field (g3c, other neutral grassland) and adjacent road verges.

ukhab – UK Habitat Classification

On-site or off-site, site name and location	Shaft 5	**Survey date and Surveyor name**	UKHab survey - February 2023
		Survey reference (if relating to a wider survey)	n/a
Limitations (if applicable)	Retrospective condition assessment based on previous (same year) UKHab data and aeriel imagery.		

		Habitat parcel reference									
		349	161	159	391	191	282				
		Grid reference									
Condition Assessment Criteria		SU7119 307822	SU712120 7786	SU71194 07785	SU7117 007785	SU7116 907822	SU71169 07822				
		Criterion passed (Yes or No)									**Notes (such as justification)**
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description).[1] **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	Y	Y	Y	Y	Y	Y				
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Y	N	N	N	N	N				Parcel 349 slightly less managed than adjacent parcels so sward height varies.
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens[2].	Y	Y	Y	Y	Y	Y				
D	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.	Y	Y	Y	Y	Y	Y				
E	Combined cover of species indicative of suboptimal condition[3] and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species[4] (as listed on Schedule 9 of WCA[5]) are present, this criterion is automatically failed.	N	N	N	N	N	N				> 5 % cover of species indicative of suboptimal condition.

Additional Criterion - must be assessed for all non-acid grassland types

F	There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count). **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**	N	N	N	N	N	N					
Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)		N	N	N	N	N	N					
Number of criteria passed		4	3	3	3	3	3					
Condition Assessment Result	**Condition Assessment Score**	**Score Achieved ×/✓**										
Acid grassland types (Result out of 5 criteria)												
Passes 5 criteria	Good (3)											
Passes 3 or 4 criteria	Moderate (2)											
Passes 2 or fewer criteria	Poor (1)											
Non-acid grassland types (Result out of 6 criteria)												
Passes 5 or 6 criteria, including essential criterion A and additional criterion F.	Good (3)											
Passes 3 - 5 criteria, including essential criterion A.	Moderate (2)	X	X	X	X	X	X					
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.	Poor (1)											

Suggested enhancement interventions to improve condition score

Notes

Footnote 1 - Professional judgement should be used alongside the UKHab description.

Footnote 2 – For example, this could include small, scattered areas of bare ground allowing for plant colonisation, or localised patches not exceeding 5% cover.

Footnote 3 - Species indicative of suboptimal condition for this habitat type include: creeping thistle *Cirsium arvense* , spear thistle *Cirsium vulgare* , curled dock *Rumex crispus* , broad-leaved dock *Rumex obtusifolius* , common nettle *Urtica dioica* , creeping buttercup *Ranunculus repens* , greater plantain *Plantago major* , white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris* . There may be additional relevant species local to the region and or site.

Footnote 4 – 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, by applying professional judgement.

Footnote 5 – Wildlife and Countryside Act 1981 (as amended).

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

w1g, other woodland; broadleaved present on the banks of Hermitage stream.

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	Shaft 5	**Survey date and Surveyor name**	UKHab survey - February 2023
Limitations (if applicable)	Retrospective condition assessment based on previous (same year) UKHab data and aeriel imagery.	**Survey reference (if relating to a wider survey)**	n/a
Grid reference	SU7118107760	**Habitat parcel reference**	202

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	
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	
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	
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.	2	

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].	3	
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].	1	> 10 % open space, despite being < 10 ha.
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	
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	
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	
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].	2	
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	
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	
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].	2	
				Total Score (out of a possible 39)	24	

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

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

w1d wet woodland associated with Riders Lane stream, intersected by public footpath.

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	Shaft 6	**Survey date and Surveyor name**	Survey: November 2023	**Habitat parcel reference**												
				562	561											
Limitations (if applicable)	Survey led by FISC 6 surveyor, outside of core growing season.	**Survey reference (if relating to a wider survey)**	n/a	**Grid reference**												
				SU71276081 63	SU71279081 51											

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.	2	2									
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	3									
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.	1	1									Presence of rhododendron > 10 % cover.
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.	3	3									
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].	3	3									
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	3									

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].	2	2									
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	3									
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	1									
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].	2	2									
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	1									
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	1									
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].	2	2									
				Total Score (out of a possible 39)	27	27									

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

Suggested enhancement interventions to improve condition score

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

T065: veteran apple tree, surrounded by amenity grassland alongside a pavement and road.
T069: mature swedish whitebeam, surrounded by amenity grassland alongside a road.
G063-B: young to semi-mature Elder on north bank of culvert

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	Shaft 6	**Survey date and Surveyor name**	UKHab survey - February 2023								
		Survey reference (if relating to a wider survey)	n/a								
Limitations (if applicable)	Retrospective condition assessment based on tree schedule from arboriculture survey, site photographs, UKHab data and aerial imagery.	**Habitat parcel reference**									
		T065	T069	G063-B	T068	T061					
		Grid reference									
		SU71 30308 185	SU71 29508 164	SU71 32108 193	SU713 07081 69	SU71 31908 188					
Condition Assessment Criteria		**Criterion passed (Yes or No)**									**Notes (such as justification)**
A	The tree is a native species (or at least 70% within the block are native species).	Y	N	Y	N	Y					
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Y	Y	Y	Y	Y					
C	The tree is mature (or more than 50% within the block are mature)[1].	Y	Y	N	N	Y					
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Y	Y	Y	N	Y					Damage to T068 from spoil piling at base of tree
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	Y	N	N	N	N					T065 veteran tree with ecological niches

F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Y	Y	Y	Y	Y						
	Number of criteria passed	6	4	4	2	5						

Condition Assessment Result (out of 6 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**										
Passes 5 or 6 criteria	Good (3)	X				X						
Passes 3 or 4 criteria	Moderate (2)		X	X								
Passes 2 or fewer criteria	Poor (1)				X							
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]

Condition Sheet: LINE OF TREES Habitat Type

Habitat Types

Line of trees
Line of trees – associated with bank or ditch
Ecologically valuable line of trees
Ecologically valuable line of trees – associated with bank or ditch

Please see the separate Individual trees condition sheet for linear blocks and groups of trees in an urban setting. You should only use this Line of trees condition assessment and record this habitat type in rural locations.

Habitat Description

Line of trees comprising early mature field maple and hawthorn along a public footpath, and bordered by residential housing.

See the Statutory Biodiversity Metric User Guide.
This assessment is based on the Hedgerow Survey Handbook[1]. For further clarifications please refer to the Handbook.
Where ancient and veteran trees are present within the line of trees, see Footnote 2 for standing advice.

On-site or off-site, site name and location	Shaft 6	**Survey date and Surveyor name**	UKHab survey - February 2023
Limitations (if applicable)	Retrospective condition assessment based on tree schedule from arboriculture survey, site photographs, UKHab data and aerial imagery.	**Survey reference (if relating to a wider survey)**	n/a
Grid reference	SU7132008176	**Habitat parcel reference**	33

	Condition Assessment Criteria	**Criterion passed (Yes or No)**	**Notes (such as justification)**
A	At least 70% of trees are native species.	Y	
B	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	N	> 5 m gap
C	One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and attached deadwood, cavities, ivy or loose bark.	N	
D	There is an undisturbed naturally-vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing). Where veteran trees are present, root protection areas should follow standing advice[2].	N	
E	At least 95% of the trees are in a healthy condition (deadwood or veteran features valuable for wildlife are excluded from this). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	Y	
		Number of criteria passed	2

Condition Assessment Result (out of 5 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**
Passes 5 criteria	Good (3)	
Passes 3 or 4 criteria	Moderate (2)	
Passes 2 or fewer criteria	Poor (1)	X

Suggested enhancement interventions to improve condition score

Footnotes

Condition Sheet: GRASSLAND Habitat Type (medium, high and very high distinctiveness)

UK Habitat Classification (UKHab) Habitat Types

Grassland - Lowland calcareous grassland
Grassland - Lowland dry acid grassland
Grassland - Lowland meadows
Grassland - Other lowland acid grassland
Grassland - Other neutral grassland
Grassland - Tall herb communities (H6430) [Not to be confused with the Tall forbs secondary code – see UKHab guidance for details.]
Grassland - Upland acid grassland
Grassland - Upland calcareous grassland
Grassland - Upland hay meadows
Sparsely vegetated land - Calaminarian grassland

Habitat Description

G3c other neutral grassland verges along public footpaths and roadside subject to regular management.

ukhab – UK Habitat Classification

On-site or off-site, site name and location	Shaft 6	**Survey date and Surveyor name**	UKHab survey - February 2023
		Survey reference (if relating to a wider survey)	n/a
Limitations (if applicable)	Retrospective condition assessment based on previous (same year) UKHab data and aeriel imagery.		

		Habitat parcel reference										
		493	487	525	523	541						
	Condition Assessment Criteria	**Grid reference**										
		SU7128 208185	SU712960 8161	SU71290 08156	SU7132 408180	SU7131 308186						
		Criterion passed (Yes or No)										**Notes (such as justification)**
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description).[1] **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	Y	Y	Y	Y	Y						
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	N	N	N	N	N						
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens[2].	Y	Y	Y	Y	Y						
D	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.	Y	Y	Y	Y	Y						
E	Combined cover of species indicative of suboptimal condition[3] and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species[4] (as listed on Schedule 9 of WCA[5]) are present, this criterion is automatically failed.	N	N	N	N	N						> 5 % species indicative of sub-optimal conditions

Additional Criterion - must be assessed for all non-acid grassland types

F	There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count). **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**	N	N	N	N	N							
Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)		N	N	N	N	N							
Number of criteria passed		3	3	3	3	3							
Condition Assessment Result	**Condition Assessment Score**	**Score Achieved ×/✓**											
Acid grassland types (Result out of 5 criteria)													
Passes 5 criteria	Good (3)												
Passes 3 or 4 criteria	Moderate (2)												
Passes 2 or fewer criteria	Poor (1)												
Non-acid grassland types (Result out of 6 criteria)													
Passes 5 or 6 criteria, including essential criterion A and additional criterion F.	Good (3)												
Passes 3 - 5 criteria, including essential criterion A.	Moderate (2)												
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.	Poor (1)												
Suggested enhancement interventions to improve condition score													

Notes

Footnote 1 - Professional judgement should be used alongside the UKHab description.

Footnote 2 – For example, this could include small, scattered areas of bare ground allowing for plant colonisation, or localised patches not exceeding 5% cover.

Footnote 3 - Species indicative of suboptimal condition for this habitat type include: creeping thistle *Cirsium arvense* , spear thistle *Cirsium vulgare* , curled dock *Rumex crispus* , broad-leaved dock *Rumex obtusifolius* , common nettle *Urtica dioica* , creeping buttercup *Ranunculus repens* , greater plantain *Plantago major* , white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris* . There may be additional relevant species local to the region and or site.

Footnote 4 – 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, by applying professional judgement.

Footnote 5 – Wildlife and Countryside Act 1981 (as amended).

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)

UK Habitat Classification (UKHab) Habitat Type

Grassland - Modified grassland

Habitat Description

g4 modified grass verges along roadside, subject to regular management and significant damage from vehicles.

ukhab – UK Habitat Classification

On-site or off-site, site name and location	Shaft 6	**Survey date and Surveyor name**	UKHab survey - February 2023
		Survey reference (if relating to a wider survey)	n/a
Limitations (if applicable)	Retrospective condition assessment based on previous (same year) UKHab data and aeriel imagery.		

Condition Assessment Criteria		**Habitat parcel reference**										
		164	234									
		Grid reference										
		SU71292 08196	SU71305 08171									
		Criterion passed (Yes or No)										**Notes (such as justification)**
A	There are 6-8 vascular plant species per m^2 present, including at least 2 forbs (these may include those listed in Footnote 1). **Note - this criterion is essential for achieving Moderate or Good condition.** Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m^2 (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.	N	N									
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	N	N									
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus* agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Y	Y									
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	N	N									> 5 % physcial damage from vehicles.
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)[2].	N	N									
F	Cover of bracken *Pteridium aquilinum* is less than 20%.	Y	Y									
G	There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]).	Y	Y									
	Essential criterion achieved (Yes or No)	N	N									
	Number of criteria passed	3	3									

Condition Assessment Result (out of 7 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**	

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

All trees within amenity grassland parcel.
T212: young common oak, planted
T213: young London plane, planted

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	Shaft 7	**Survey date and Surveyor name**	Survey: November 2023									
		Survey reference (if relating to a wider survey)	n/a									
Limitations (if applicable)	Survey led by FISC 4 surveyor, outside of core growing season.	**Habitat parcel reference**										
		T212	T213	T214	T215							
		Grid reference										
		SU71 63408 253	SU71 67008 265	SU71 68308 272	SU716 88082 82							
Condition Assessment Criteria		**Criterion passed (Yes or No)**										**Notes (such as justification)**
A	The tree is a native species (or at least 70% within the block are native species).	Y	N	N	Y							
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Y	Y	Y	Y							
C	The tree is mature (or more than 50% within the block are mature)[1].	N	N	N	Y							
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Y	Y	Y	Y							
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	N	N	N	N							

F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Y	Y	Y	Y							
	Number of criteria passed	4	3	3	5							

Condition Assessment Result (out of 6 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**									
Passes 5 or 6 criteria	Good (3)				X						
Passes 3 or 4 criteria	Moderate (2)	X									
Passes 2 or fewer criteria	Poor (1)		X	X							
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]

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

Wet woodland w1d associated with Riders Lane stream.

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	Shaft 7	**Survey date and Surveyor name**	Survey: November 2023	**Habitat parcel reference**												
				565	558											
Limitations (if applicable)	Survey led by FISC 4 surveyor, outside of core growing season.	**Survey reference (if relating to a wider survey)**	n/a	**Grid reference**												
				SU71587082 96	SU71760830 5											

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.	2	2									
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	3									
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.	1	1									Cherry laurel present > 10 %
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.	3	3									
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].	3	3									
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].	2	2									

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].	2	2									
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	3									
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	1									
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].	2	2									
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	1									
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	1									
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].	3	3									
				Total Score (out of a possible 39)	27	27									

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

Suggested enhancement interventions to improve condition score

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)

UK Habitat Classification (UKHab) Habitat Type

Grassland - Modified grassland

Habitat Description

g4 modified grassland, amenity grassland.

ukhab – UK Habitat Classification

On-site or off-site, site name and location	Shaft 7	**Survey date and Surveyor name**	UKHab survey: February 2023
		Survey reference (if relating to a wider survey)	n/a
Limitations (if applicable)	Retrospective condition assessment based on previous (same year) UKHab data and aeriel imagery.		

Condition Assessment Criteria		**Habitat parcel reference**										
		340	520									
		Grid reference										
		SU71661 08264	SU71611 08310									
		Criterion passed (Yes or No)										**Notes (such as justification)**
A	There are 6-8 vascular plant species per m^2 present, including at least 2 forbs (these may include those listed in Footnote 1). **Note - this criterion is essential for achieving Moderate or Good condition.** Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m^2 (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.	N	N									
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	N	N									
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus* agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Y	Y									
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Y	Y									
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)[2].	N	N									
F	Cover of bracken *Pteridium aquilinum* is less than 20%.	Y	Y									
G	There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]).	Y	Y									
	Essential criterion achieved (Yes or No)	N	N									
	Number of criteria passed	4	4									

Condition Assessment Result (out of 7 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**	

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

Suggested enhancement interventions to improve condition score

Footnotes

Footnote 1 – Creeping thistle *Cirsium arvense* , spear thistle *Cirsium vulgare* , curled dock *Rumex crispus* , broad-leaved dock *Rumex obtusifolius* , common nettle *Urtica dioica* , creeping buttercup *Ranunculus repens* , greater plantain *Plantago major* , white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris* .

Footnote 2 – For example, this could include small, scattered areas of bare ground allowing establishment of new species, or localised patches where not exceeding 10% cover.

Footnote 3 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.

Footnote 4 – Wildlife and Countryside Act 1981 (as amended).

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

All trees within High Lawn damp g3c other neutral grassland.
G003-A, B, C, G, F, E: semi-mature oaks
T012: mature oak

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	Section 9	**Survey date and Surveyor name**	Survey: November 2023
		Survey reference (if relating to a wider survey)	n/a
Limitations (if applicable)	Survey led by FISC 4 surveyor, outside of core growing season.		

		Habitat parcel reference									
		G003-A	G003-B	G003-C	G003-G	G003-F	G003-E	T012			
		Grid reference									
		SU71 50409 036	SU71 51909 033	SU71 52109 029	SU716 98089 05	SU71 68908 896	SU71 67308 912	SU71 53409 009			
Condition Assessment Criteria		**Criterion passed (Yes or No)**									**Notes (such as justification)**
A	The tree is a native species (or at least 70% within the block are native species).	Y	Y	Y	Y	Y	Y	Y			
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Y	Y	Y	Y	Y	Y	Y			
C	The tree is mature (or more than 50% within the block are mature)[1].	Y	Y	Y	Y	Y	Y	Y			
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Y	Y	Y	Y	Y	Y	Y			
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	N	N	N	N	N	N	Y			G003 trees are semi-mature & lack ecological niches.

F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Y	Y	Y	Y	Y	Y	Y				
	Number of criteria passed	5	5	5	5	5	5	6				

Condition Assessment Result (out of 6 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**										
Passes 5 or 6 criteria	Good (3)	X	X	X	X	X	X	X				
Passes 3 or 4 criteria	Moderate (2)											
Passes 2 or fewer criteria	Poor (1)											
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]

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

single parcel of w1f lowland mixed deciduous woodland (455), five parcels of w1g other woodland; broadleaved (515, 519, 517, 563, 564).

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	Section 9	**Survey date and Surveyor name**	Survey: November 2023	**Habitat parcel reference**									
				455	564	563	516	519	517				
Limitations (if applicable)	Field survey led by FISC 4 surveyor, outside of core growing season.	**Survey reference (if relating to a wider survey)**	n/a	**Grid reference**									
				SU714 30908	SU717 20889	SU717 20889	SU715 93089 87	SU715 98089 43	SU71 66308 926				

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.	2	2	2	2	2	2					
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	3	3	3	3	3					
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	3	3	3	3	3					
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.	2	3	3	3	3	3					
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].	3	3	3	3	3	3					
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	3	3	3	3	3					

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].	2	2	2	2	2	2					
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	3	3	2	2	2					
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	1	1	1	1	1					
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].	2	1	1	1	1	1					
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	1	1	1	1	1					
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	1	1	1	1	1					
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].	3	3	3	3	3	3					
				Total Score (out of a possible 39)	29	29	29	28	28	28					

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

Suggested enhancement interventions to improve condition score

Condition Sheet: GRASSLAND Habitat Type (medium, high and very high distinctiveness)

UK Habitat Classification (UKHab) Habitat Types

Grassland - Lowland calcareous grassland
Grassland - Lowland dry acid grassland
Grassland - Lowland meadows
Grassland - Other lowland acid grassland
Grassland - Other neutral grassland
Grassland - Tall herb communities (H6430) [Not to be confused with the Tall forbs secondary code – see UKHab guidance for details.]
Grassland - Upland acid grassland
Grassland - Upland calcareous grassland
Grassland - Upland hay meadows
Sparsely vegetated land - Calaminarian grassland

Habitat Description

Thicket lawn - damp g3c other neutral grassland, with lower grazing pressure than High Lawn. Intersected by public footpaths.

ukhab – UK Habitat Classification

On-site or off-site, site name and location	Section 9	**Survey date and Surveyor name**	UKHab survey: February 2023 NVC survey: July 2023
		Survey reference (if relating to a wider survey)	n/a
Limitations (if applicable)	Retrospective assessment based on previous (same year) NVC and UKHab data and aerial imagery.	**Habitat parcel reference**	453
		Grid reference	SU7158 308971

	Condition Assessment Criteria	**Criterion passed (Yes or No)**	**Notes (such as justification)**
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description).[1] **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	Y	
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Y	
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens[2].	Y	
D	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.	Y	
E	Combined cover of species indicative of suboptimal condition[3] and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species[4] (as listed on Schedule 9 of WCA[5]) are present, this criterion is automatically failed.	Y	

Additional Criterion - must be assessed for all non-acid grassland types

F	There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count). **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**	Y										NVC survey data indicates > 10 vascular species per m2

Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)	Y										
Number of criteria passed	6										

Condition Assessment Result	**Condition Assessment Score**	**Score Achieved ×/✓**										
Acid grassland types (Result out of 5 criteria)												
Passes 5 criteria	Good (3)	X										
Passes 3 or 4 criteria	Moderate (2)											
Passes 2 or fewer criteria	Poor (1)											
Non-acid grassland types (Result out of 6 criteria)												
Passes 5 or 6 criteria, including essential criterion A and additional criterion F.	Good (3)											
Passes 3 - 5 criteria, including essential criterion A.	Moderate (2)											
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.	Poor (1)											

Suggested enhancement interventions to improve condition score

Notes

Footnote 1 - Professional judgement should be used alongside the UKHab description.

Footnote 2 – For example, this could include small, scattered areas of bare ground allowing for plant colonisation, or localised patches not exceeding 5% cover.

Footnote 3 - Species indicative of suboptimal condition for this habitat type include: creeping thistle *Cirsium arvense* , spear thistle *Cirsium vulgare* , curled dock *Rumex crispus* , broad-leaved dock *Rumex obtusifolius* , common nettle *Urtica dioica* , creeping buttercup *Ranunculus repens* , greater plantain *Plantago major* , white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris* . There may be additional relevant species local to the region and or site.

Footnote 4 – 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, by applying professional judgement.

Footnote 5 – Wildlife and Countryside Act 1981 (as amended).

Condition sheet: HEDGEROW Habitat Types

Habitat Type

Native hedgerow
Native hedgerow - associated with bank or ditch
Native hedgerow with trees
Native hedgerow with trees - associated with bank or ditch
Species-rich native hedgerow
Species-rich native hedgerow - associated with bank or ditch
Species-rich native hedgerow with trees
Species-rich native hedgerow with trees - associated with bank or ditch

Habitat Description

h2a native hedgerow surrounding field south of Middle Park Way.

ukhab – UK Habitat Classification

On-site or off-site, site name and location	Shaft 8	**Survey date and Surveyor name**	Survey: November 2023
Limitations (if applicable)	Survey led by FISC 4 surveyor, outside of core growing season.	**Survey reference (if relating to a wider survey)**	n/a

Condition Assessment Details

A series of ten attributes, representing key physical characteristics are used for this assessment. Each attribute is assigned to one of five functional groups (A – E) and the condition of a hedgerow is assessed according to the number of attributes from these functional groups which pass or fail the 'favourable condition' criteria.

This assessment is based on the Hedgerow Survey Handbook[1] and Favourable Conservation Status document[2]. For further clarification please refer to the Hedgerow Survey Handbook.

Best practice would be to record the species, age, spacing and other key information about all trees present along a hedgerow within the 'Habitat Description' box, as well as other key features of the hedgerow.

Hedgerow favourable condition attributes

Attributes and functional groupings (A, B, C, D and E)		**Criteria - the minimum requirements for 'favourable condition'**	**Criteria description**	**Habitat parcel reference**										
				11	21									
				Grid reference										
				SU71795086 55	SU71885086 12									
Core groups - applicable to all hedgerow types				**Criterion passed (Yes or No)**										**Notes (such as justification)**
A1.	Height	>1.5 m average along length	The average height of woody growth estimated from base of stem to the top of the shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees. Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice). A newly planted hedgerow does not pass this criterion (unless it is >1.5 m height).	Y	Y									
A2.	Width	>1.5 m average along length	The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees. Outgrowths (such as blackthorn *Prunus spinosa* suckers) are only included in the width estimate when they are >0.5 m in height. Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).	N	N									

B1.	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length	This is the vertical 'gappiness' of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth. Certain exceptions to this criterion are acceptable (see page 65 of the Hedgerow Survey Handbook).	Y	Y									
B2.	Gap - hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5 m	This is the horizontal 'gappiness' of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall 'gappiness' but are not subject to the >5 m criterion (as this is the typical size of a gate).	Y	Y									
C1.	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · Measured from outer edge of hedgerow; and · Is present on one side of the hedgerow (at least).	This is the level of disturbance (excluding wildlife disturbance) at the base of the hedgerow. Undisturbed ground is present for at least 90% of the hedgerow length, greater than 1 m in width and must be present along at least one side of the hedgerow. This criterion recognises the value of the hedgerow base as a boundary habitat with the capacity to support a wide range of species. Cultivation, heavily trodden footpaths, poached ground etc. can limit available habitat niches.	N	N									
C2.	Nutrient-enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	The indicator species used are nettles *Urtica* spp., cleavers *Galium aparine* and docks *Rumex* spp. Their presence, either singly or together, does not exceed the 20% cover threshold.	N	N									
D1.	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA[3]) and recently introduced species.	Recently introduced species refer to plants that have naturalised in the UK since AD 1500 (neophytes). Archaeophytes count as natives. For information on archaeophytes and neophytes see the JNCC website[4], as well as the BSBI website[5] where the 'Online Atlas of the British and Irish Flora'[6] contains an up-to-date list of the status of species. For information on invasive non-native species see the GB Non-Native Secretariat website[7].	Y	Y									
D2.	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes. This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (for example, excessive hedgerow cutting).	N	N									
Additional group - applicable to hedgerows with trees only														
E1.	Tree class	There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient[8]), and there is on average at least one mature, ancient or veteran tree present per 20 - 50m of hedgerow.	This criterion addresses if there are a range of age-classes or morphologies which allow for replacement of trees and provide opportunities for different species.											

E2.	Tree health	At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	This criterion identifies if the trees are subject to damage which compromises the survival and health of the individual specimens.													

The hedgerow condition assessment generates a weighting (score) ranging from 1 - 3, which is used within the Statutory Biodiversity Metric. The scores for each are set out in the tables below.

Condition categories for hedgerows without trees		
Category	**Category Requirements**	**Metric Score**
Good	No more than 2 failures in total; **AND** No more than 1 failure in any functional group.	3
Moderate	No more than 4 failures in total; **AND** Does not fail both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and C2 = Moderate condition).	2
Poor	Fails a total of more than 4 attributes; **OR** Fails both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and B2 = Poor condition).	1
	Score achieved:	2

Condition categories for hedgerows with trees		
Category	**Category Requirements**	**Metric score**
Good	No more than 2 failures in total; **AND** No more than 1 failure in any functional group.	3
Moderate	No more than 5 failures in total; **AND** Does not fail both attributes in more than one functional group (for example, fails attributes A1, A2, B1, C2 and E1 = Moderate condition).	2
Poor	Fails a total of more than 5 attributes; **OR** Fails both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and B2 = Poor condition).	1
	Score achieved:	N/A

Suggested enhancement interventions to improve condition score

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

Rough grassland grazed by sheep and cattle. Two oak trees atop a small rise in the field (T027, T028). T028 is a veteran/notable tree with decayed heartwood rot and white rot. G031-A, B. Individual tree grouped due to similar age class, all common oak.
T032: Semi-mature oak

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	Shaft 8	**Survey date and Surveyor name**	Survey: November 2023								
		Survey reference (if relating to a wider survey)	n/a								
Limitations (if applicable)	Survey led by FISC 4 surveyor, outside of core growing season	**Habitat parcel reference**									
			T028	T027	G031	T032	T034	T035	T036	T037		
		Grid reference										
			SU71 85408 754	SU71 88908 755	SU71 94108 691	SU721 12087 74	SU72 04608 764	SU72 04808 761	SU71 96208 703	SU71 96808 701		
Condition Assessment Criteria		**Criterion passed (Yes or No)**										**Notes (such as justification)**
A	The tree is a native species (or at least 70% within the block are native species).		Y	Y	Y	Y	N	Y	Y	Y		
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).		Y	Y	Y	Y	Y	Y	Y	Y		
C	The tree is mature (or more than 50% within the block are mature)[1].		Y	Y	Y	N	Y	Y	Y	Y		
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.		Y	Y	Y	Y	Y	Y	Y	Y		
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.		Y	Y	N	N	Y	Y	Y	Y		

F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Y	Y	Y	Y	Y	Y	Y	Y			
	Number of criteria passed	6	6	5	4	5	6	6	6			

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)										
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]

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

Single parcel of w1f wet woodland (147) fed by an ephemeral stream into Riders Lane stream. Two parcels of lowland mixed deciduous woodland (455, 95) which are epart of Great Copse 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	Shaft 8	**Survey date and Surveyor name**	Survey: November 2023	**Habitat parcel reference**										
				147	455	95								
Limitations (if applicable)	Survey led by FISC 4 surveyors outside of core growing season.	**Survey reference (if relating to a wider survey)**	n/a	**Grid reference**										
				SU71837086 81	SU71430908	SU71740864								

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.	2	2	2							
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	3	3							
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	3	3							
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.	3	2	2							
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].	3	3	3							
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	3	3							

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].	2	2	2								
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].	2	3	3								
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	1	1								
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].	2	2	2								
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	1	3								
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	1	3								
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].	2	3	2								
				Total Score (out of a possible 39)	29	29	32								

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

Suggested enhancement interventions to improve condition score

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)

UK Habitat Classification (UKHab) Habitat Type

Grassland - Modified grassland

Habitat Description

g4 modified grassland, amenity grassland bordered by residential housing.

ukhab – UK Habitat Classification

On-site or off-site, site name and location	Shaft 8	**Survey date and Surveyor name**	UKHab survey - February 2023
		Survey reference (if relating to a wider survey)	n/a
Limitations (if applicable)	Retrospective condition assessment based on previous (same year) UKHab data and aerial imagery.	**Habitat parcel reference**	560
		Grid reference	SU71750 871

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

Condition Assessment Result (out of 7 criteria)	Condition Assessment Score	Score Achieved ×/✓	

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

Suggested enhancement interventions to improve condition score

Footnotes

Footnote 1 – Creeping thistle *Cirsium arvense* , spear thistle *Cirsium vulgare* , curled dock *Rumex crispus* , broad-leaved dock *Rumex obtusifolius* , common nettle *Urtica dioica* , creeping buttercup *Ranunculus repens* , greater plantain *Plantago major* , white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris* .

Footnote 2 – For example, this could include small, scattered areas of bare ground allowing establishment of new species, or localised patches where not exceeding 10% cover.

Footnote 3 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.

Footnote 4 – Wildlife and Countryside Act 1981 (as amended).

Condition Sheet: GRASSLAND Habitat Type (medium, high and very high distinctiveness)

UK Habitat Classification (UKHab) Habitat Types

Grassland - Lowland calcareous grassland
Grassland - Lowland dry acid grassland
Grassland - Lowland meadows
Grassland - Other lowland acid grassland
Grassland - Other neutral grassland
Grassland - Tall herb communities (H6430) [Not to be confused with the Tall forbs secondary code – see UKHab guidance for details.]
Grassland - Upland acid grassland
Grassland - Upland calcareous grassland
Grassland - Upland hay meadows
Sparsely vegetated land - Calaminarian grassland

Habitat Description

Both parcel g3c other neutral grassland.
Land south of Middle Park Way (459) - amenity grassland, frequented by dog walkers
High Lawn - pastorally grazed field (545)

ukhab – UK Habitat Classification

On-site or off-site, site name and location	Shaft 8	**Survey date and Surveyor name**	UKHab survey - February 2023 NVC survey - July 2023									
		Survey reference (if relating to a wider survey)	n/a									
Limitations (if applicable)	Retrospective assessment based on previous (same year) UKHab and NVC data and aerial imagery.	**Habitat parcel reference**										
		459	545									
Condition Assessment Criteria		**Grid reference**										
		SU7179 508645	SU719140 8754									
		Criterion passed (Yes or No)										**Notes (such as justification)**
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description).[1] **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	Y	Y									
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Y	Y									
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens[2].	Y	Y									
D	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.	Y	Y									
E	Combined cover of species indicative of suboptimal condition[3] and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species[4] (as listed on Schedule 9 of WCA[5]) are present, this criterion is automatically failed.	Y	Y									

Additional Criterion - must be assessed for all non-acid grassland types

F	There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count). **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**	N	N									
Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)		N	N									
Number of criteria passed		5	5									

Condition Assessment Result	**Condition Assessment Score**	**Score Achieved ×/✓**									
Acid grassland types (Result out of 5 criteria)											
Passes 5 criteria	Good (3)										
Passes 3 or 4 criteria	Moderate (2)										
Passes 2 or fewer criteria	Poor (1)										
Non-acid grassland types (Result out of 6 criteria)											
Passes 5 or 6 criteria, including essential criterion A and additional criterion F.	Good (3)										
Passes 3 - 5 criteria, including essential criterion A.	Moderate (2)	X	X								
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.	Poor (1)										

Suggested enhancement interventions to improve condition score

Notes

Footnote 1 - Professional judgement should be used alongside the UKHab description.

Footnote 2 – For example, this could include small, scattered areas of bare ground allowing for plant colonisation, or localised patches not exceeding 5% cover.

Footnote 3 - Species indicative of suboptimal condition for this habitat type include: creeping thistle *Cirsium arvense* , spear thistle *Cirsium vulgare* , curled dock *Rumex crispus* , broad-leaved dock *Rumex obtusifolius* , common nettle *Urtica dioica* , creeping buttercup *Ranunculus repens* , greater plantain *Plantago major* , white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris* . There may be additional relevant species local to the region and or site.

Footnote 4 – 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, by applying professional judgement.

Footnote 5 – Wildlife and Countryside Act 1981 (as amended).

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

Two mature oak trees within an amenity grassland dog park.

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	Emergency discharge chamber	**Survey date and Surveyor name**	Survey: November 2023									
		Survey reference (if relating to a wider survey)	N/A									
Limitations (if applicable)	Survey led by FISC 4 surveyor, outside of core growing season.	**Habitat parcel reference**										
		T114	T113									
		Grid reference										
		SU70 90707 674	SU70 90207 667									
Condition Assessment Criteria		**Criterion passed (Yes or No)**										**Notes (such as justification)**
A	The tree is a native species (or at least 70% within the block are native species).	Y	Y									
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Y	Y									
C	The tree is mature (or more than 50% within the block are mature)[1].	Y	Y									
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Y	Y									
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	N	N									

F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Y	Y									
	Number of criteria passed	5	5									

Condition Assessment Result (out of 6 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**									
Passes 5 or 6 criteria	Good (3)	X	X								
Passes 3 or 4 criteria	Moderate (2)										
Passes 2 or fewer criteria	Poor (1)										
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]

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

300 - small woodland block (lowland mixed deciduous woodland, w1f) surrounded by amenity grassland < 1 ha.
527 - small woodland block (lowland mixed deciduous woodland, w1f) adjacent to watercourse < 1 ha.

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	Emergency discharge chamber	**Survey date and Surveyor name**	Survey: November 2023	**Habitat parcel reference**												
				300	527											
Limitations (if applicable)	Field survey led by FISC 4 surveyor, outside of core growing season.	**Survey reference (if relating to a wider survey)**	n/a	**Grid reference**												
				SU70930076 16	SU709960751											

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.	2	2									
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	3									
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	3									
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.	3	3									
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].	3	3									
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].	2	3									Based on woodland being < 10 ha with < 10 % open space.

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].	2	2									
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	3									
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	1									
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].	2	2									
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	1									
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	1									
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].	3	3									
				Total Score (out of a possible 39)	30	30									

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

Suggested enhancement interventions to improve condition score

Condition Sheet: GRASSLAND Habitat Type (medium, high and very high distinctiveness)

UK Habitat Classification (UKHab) Habitat Types

Grassland - Lowland calcareous grassland
Grassland - Lowland dry acid grassland
Grassland - Lowland meadows
Grassland - Other lowland acid grassland
Grassland - Other neutral grassland
Grassland - Tall herb communities (H6430) [Not to be confused with the Tall forbs secondary code – see UKHab guidance for details.]
Grassland - Upland acid grassland
Grassland - Upland calcareous grassland
Grassland - Upland hay meadows
Sparsely vegetated land - Calaminarian grassland

Habitat Description

six parcels of g3c other neutral grassland, all part of amenity grassland dog-walking park.

ukhab – UK Habitat Classification

On-site or off-site, site name and location	Emergency discharge chamber	**Survey date and Surveyor name**	UKHab survey: February 2023
		Survey reference (if relating to a wider survey)	n/a
Limitations (if applicable)	Retrospective condition assessment based on previous (same year) UKHab data and aerial imagery.		

Condition Assessment Criteria		**Habitat parcel reference**										
		146	291	304	361	362	209					
		Grid reference										
		Criterion passed (Yes or No)										**Notes (such as justification)**
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description).[1] **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	Y	Y	Y	Y	Y	Y					
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	N	N	N	N	N	N					
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens[2].	Y	Y	Y	Y	Y	Y					
D	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.	Y	Y	Y	Y	Y	Y					
E	Combined cover of species indicative of suboptimal condition[3] and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species[4] (as listed on Schedule 9 of WCA[5]) are present, this criterion is automatically failed.	N	N	N	N	N	N					> 5 % coverage of speciesindicative of sub-optimal condition.

Additional Criterion - must be assessed for all non-acid grassland types

F	There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count). **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**	N	N	N	N	N	N					
Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)		N	N	N	N	N	N					
Number of criteria passed		3	3	3	3	3	3					
Condition Assessment Result	**Condition Assessment Score**	**Score Achieved ×/✓**										
Acid grassland types (Result out of 5 criteria)												
Passes 5 criteria	Good (3)											
Passes 3 or 4 criteria	Moderate (2)											
Passes 2 or fewer criteria	Poor (1)											
Non-acid grassland types (Result out of 6 criteria)												
Passes 5 or 6 criteria, including essential criterion A and additional criterion F.	Good (3)											
Passes 3 - 5 criteria, including essential criterion A.	Moderate (2)	X	X	X	X	X	X					
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.	Poor (1)											

Suggested enhancement interventions to improve condition score

Notes

Footnote 1 - Professional judgement should be used alongside the UKHab description.

Footnote 2 – For example, this could include small, scattered areas of bare ground allowing for plant colonisation, or localised patches not exceeding 5% cover.

Footnote 3 - Species indicative of suboptimal condition for this habitat type include: creeping thistle *Cirsium arvense* , spear thistle *Cirsium vulgare* , curled dock *Rumex crispus* , broad-leaved dock *Rumex obtusifolius* , common nettle *Urtica dioica* , creeping buttercup *Ranunculus repens* , greater plantain *Plantago major* , white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris* . There may be additional relevant species local to the region and or site.

Footnote 4 – 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, by applying professional judgement.

Footnote 5 – Wildlife and Countryside Act 1981 (as amended).

Appendix D. River Condition Assessment data

Table D-1 – BNG Reaches and MoRPh survey locations

Watercourse	BNG Reach	Survey midpoint location (NGR)	MoRPh site reference	Length of channel surveyed (m)	MoRPh River Type[41]	Overall condition score	Overall condition class
Lake Stream	1	SU 71710 08901	Site 9 – Lake Stream Pipeline Crossing	50	K - Straight/sinuous, coarsest SA, average SI	0.664	Moderate
Riders Lane Stream	2	SU 71382 09059	Site 6 – Southern Edge of Havant Thicket Reservoir	50	H - Straight/sinuous, coarsest GP, average SA	1.328	Moderate
	5 & 6	SU 71765 08625	Site 10 – Riders Lane Stream Downstream of Middle Park Way	50	K - Straight/sinuous, coarsest SA, average SI	0.838	Moderate
	Outside of site boundary. Closest to BNG reach 7*.	SU 71698 08465	Site 7 – Copse Wood	50	K - Straight/sinuous, coarsest SA, average SI	1.506	Fairly good
	12 & 13	SU 71264 08114	Site 11 – Riders Lane Stream Downstream of Dunsbury Way	50	K - Straight/sinuous, coarsest SA, average SI	0.449	Moderate
	20	SU 71027 07524	Site 12 – Riders Lane Stream Upstream of Hermitage Stream Confluence	50	K - Straight/sinuous, coarsest SA, average SI	-0.385	Fairly poor
Hermitage Stream	22	SU 71002 07511	Site 13 – Emergency Discharge Chamber	100	K - Straight/sinuous, coarsest SA, average SI	-0.830	Fairly poor
	25	SU 71248 07185	Site 8 – Stockheath	100	K - Straight/sinuous, coarsest SA, average SI	-1.623	Poor
	26/27	SU 70709 06325	Site 15 - Bedhampton	100	K - Straight/sinuous, coarsest SA, average SI	-1.583	Poor

			Site 16 – Hermitage Stream	100	K - Straight/sinuous, coarsest SA, average SI	-1.632	Poor
	28a	SU 70602 06255	Site 14 - Bedhampton	100	K - Straight/sinuous, coarsest SA, average SI	-0.996	Fairly poor
	28b	SU 70495 06235	Site 17 - Bedhampton	100	F - Straight/sinuous, coarsest CO, average GP	1.223	Moderate
	29	SU 70380 06200	Site 19 - Bedhampton	150	F - Straight/sinuous, coarsest CO, average GP	0.381	Fairly poor

Table D-2 – BNG Reaches and ascribed river condition (note that reaches in the 'underground-only' work locations (the drilled sections) are also included in this table).

Watercourse	BNG Reach	MoRPh site used to determine BNG Reach condition (either coincident or proxy site)	Overall condition class applied to BNG Reach
Lake Stream	1	Site 9 – Lake Stream Pipeline Crossing	Moderate
Riders Lane Stream	2	Site 6 – Southern Edge of Havant Thicket Reservoir	Moderate
Riders Lane Stream	3	Site 9 – Lake Stream Pipeline Crossing	Moderate
Riders Lane Stream	4	N/A - culvert	Poor
Riders Lane Stream	5	Site 10 – Riders Lane Stream Downstream of Middle Park Way	Moderate
Riders Lane Stream	6	Site 10 – Riders Lane Stream Downstream of Middle Park Way	Moderate
Riders Lane Stream	7	Site 11 – Riders Lane Stream Downstream of Dunsbury Way	Moderate
Riders Lane Stream	8	Site 11 – Riders Lane Stream Downstream of Dunsbury Way	Moderate
Riders Lane Stream	9	Site 11 – Riders Lane Stream Downstream of Dunsbury Way	Moderate
Riders Lane Stream	10	Site 11 – Riders Lane Stream Downstream of Dunsbury Way	Moderate
Riders Lane Stream	11	N/A - culvert	Poor

[41] Information on MoRPh River Type can be found in: Gurnell, A.M., England, J., Scott, S.J. and Shuker, L.J. (2020) A guide to assessing river condition. Part of the Rivers and Streams Component of the Biodiversity Net Gain Metric. Beta test version: March 2020.

Watercourse	BNG Reach	MoRPh site used to determine BNG Reach condition (either coincident or proxy site)	Overall condition class applied to BNG Reach
Riders Lane Stream	12	Site 11 – Riders Lane Stream Downstream of Dunsbury Way	Moderate
Riders Lane Stream	13	Site 11 – Riders Lane Stream Downstream of Dunsbury Way	Moderate
Riders Lane Stream	14	Site 11 – Riders Lane Stream Downstream of Dunsbury Way	Moderate
Riders Lane Stream	15	N/A - culvert	Poor
Riders Lane Stream	16	Site 11 – Riders Lane Stream Downstream of Dunsbury Way	Moderate
Riders Lane Stream	17	Site 11 – Riders Lane Stream Downstream of Dunsbury Way	Moderate
Riders Lane Stream	18	N/A - culvert	Poor
Riders Lane Stream	19	Site 11 – Riders Lane Stream Downstream of Dunsbury Way	Moderate
Riders Lane Stream	20	Site 12 – Riders Lane Stream Upstream of Hermitage Stream Confluence	Fairly poor
Hermitage Stream	21	Site 13 – Emergency Discharge Chamber	Fairly poor
Hermitage Stream	22	Site 13 – Emergency Discharge Chamber	Fairly poor
Hermitage Stream	23	Site 13 – Emergency Discharge Chamber	Fairly poor
Hermitage Stream	24	Site 8 – Stockheath	Poor
Hermitage Stream	25	Site 8 – Stockheath	Poor
Hermitage Stream	26	Site 16 - Bedhampton	Poor
Hermitage Stream	27	Site 16 - Bedhampton	Poor
Hermitage Stream	28a	Site 14 - Bedhampton	Fairly poor
Hermitage Stream	28b	Site 17 - Bedhampton	Moderate
Hermitage Stream	29	Site 19 - Bedhampton	Fairly poor

Table D-3 – MoRPh survey photographs

MoRPh site reference	Photographs	
Site 9 – Lake Stream Pipeline Crossing		
Site 6 – Southern Edge of Havant Thicket Reservoir		
Site 10 – Riders Lane Stream Downstream of Middle Park Way		

MoRPh site reference	Photographs	
Site 7 – Copse Wood		
Site 11 – Riders Lane Stream Downstream of Dunsbury Way		
Site 12 – Riders Lane Stream Upstream of Hermitage Stream Confluence		

MoRPh site reference	Photographs	
Site 13 – Emergency Discharge Chamber		
Site 8 – Stockheath		
Site 14 - Bedhampton		

MoRPh site reference	Photographs	
Site 15 - Bedhampton		
Site 16 - Bedhampton		
Site 17 - Bedhampton		

MoRPh site reference	Photographs	
Site 18 - Bedhampton		
Site 19 - Bedhampton		

Table D-4 – Indicator scores calculated from MoRPh surveys (positive indicators bold, *negative indicators in italic font*).

*MoRPh survey sites are listed in order from upstream to downstream.**NNIPs – non-native invasive plant species

Location	Indicator Code	Indicator Description	Site 9*	Site 6	Site 10	Site 7	Site 11	Site 12	Site 13	Site 8	Site 15	Site 16	Site 14	Site 17	Site 18	Site 19
Bank top	**B1**	**Bank top vegetation structure**	**2**	**2**	**3**	**3**	**4**	**2**	**1**	**3**	**2**	**2**	**2**	**2**	**2**	**2**
	B2	**Bank top tree feature richness**	0	**1**	**2**	**2**	0	**1**	0	0	**2**	**2**	**1**	**2**	**2**	**1**
	B3	**Bank top water-related features**	0	0	0	0	0	0	0	**1**	0	0	0	0	**1**	**1**
	B4	*Bank top NNIPS** cover*	0	0	0	0	0	*-2*	0	0	0	0	0	0	0	0
	B5	*Bank top managed ground cover*	0	0	*-2*	0	*-4*	*-2*	*-3*	*-3*	*-4*	*-2*	*-3*	*-2*	*-2*	*-2*
Bank face	**C1**	**Bank face riparian vegetation structure**	0	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**1**	0	**2**	**1**	**2**	**1**
	C2	**Bank face tree feature richness**	**1**	**1**	**3**	**1**	**1**	0	**2**	**1**	0	0	**2**	**1**	**1**	0
	C3	**Bank face natural bank profile extent**	**3**	**3**	**1**	**3**	**3**	**1**	**3**	0	0	**1**	0	**3**	**3**	**2**
	C4	**Bank face natural bank profile richness**	**2**	**4**	**4**	**4**	**3**	**2**	**4**	0	0	**1**	0	**4**	**4**	**3**
	C5	**Bank face natural bank material richness**	**2**	**2**	**1**	**2**	**2**	**1**	**1**	0	0	0	**1**	**1**	**2**	**1**
	C6	**Bank face bare sediment extent**	**1**	**3**	**4**	**3**	**4**	**3**	**2**	0	0	0	**3**	**1**	**3**	**4**
	C7	*Bank face artificial bank profile extent*	0	*-3*	*-4*	0	*-3*	*-4*	0	*-4*	*-4*	*-4*	*-4*	0	*-3*	*-3*
	C8	*Bank face reinforcement extent*	0	0	*-2*	0	*-2*	*-3*	*-3*	*-4*	*-4*	*-4*	*-4*	*-1*	0	*-4*
	C9	*Bank face reinforcement material severity*	0	0	*-2*	0	*-3*	*-4*	*-4*	*-4*	*-4*	*-4*	*-4*	*-2*	0	*-4*
	C10	*Bank face NNIPS cover*	0	0	0	0	0	*-3*	0	*-1*	0	0	0	0	0	0
Channel – water margin	**D1**	**Channel margin aquatic vegetation extent**	0	**1**	**2**	**1**	**2**	**1**	**2**	**1**	0	0	**1**	0	**1**	**2**
	D2	**Channel margin aquatic morphotype richness**	0	0	**2**	0	**1**	**1**	**1**	0	0	0	0	0	**1**	**2**

	D3	**Channel margin physical feature extent**	**1**	**2**	**2**	**3**	**2**	**0**	**2**	**1**	0	0	**1**	**2**	**2**	**3**
	D4	**Channel margin physical feature richness**	**1**	**2**	**1**	**2**	**1**	0	**2**	**1**	0	0	**1**	**2**	**2**	**2**
	D5	*Channel margin artificial features*	0	0	*-1*	0	*-1*	0	*-4*	*-1*	0	*-1*	*-3*	0	0	0
Channel Bed	**E1**	**Channel aquatic morphotype richness**	0	**1**	0	0	0	0	**1**	0	0	0	**2**	**2**	0	**3**
	E2	**Channel bed tree features richness**	**1**	**3**	**3**	**2**	0	0	**3**	0	0	0	**1**	**1**	**2**	0
	E3	**Channel bed hydraulic features richness**	**1**	0	**2**	0	**2**	**2**	**1**	**1**	0	**1**	**3**	**2**	**2**	**2**
	E4	**Channel bed natural features extent**	0	**3**	0	**1**	**1**	0	**1**	0	0	0	**1**	**3**	**2**	**2**
	E5	**Channel bed natural features richness**	0	**2**	0	**1**	**1**	0	**1**	0	0	0	**1**	**2**	**1**	**1**
	E6	**Channel bed material richness**	**2**	**2**	0	**3**	0	**3**	**2**	**2**	0	0	0	**3**	**3**	**3**
	E7	*Channel bed siltation*	*-2*	*-1*	0	*-3*	0	0	*-4*	0	0	0	0	*-1*	*-1*	0
	E8	*Channel bed reinforcement extent*	0	0	0	0	0	0	*-4*	*-4*	*-4*	*-4*	*-3*	0	0	0
	E9	*Channel bed reinforcement severity*	0	0	0	0	0	0	-4	-4	-4	-4	-3	0	0	0
	E10	*Channel bed artificial features severity*	0	*-2*	0	0	*-1*	0	*-2*	*-1*	0	*-3*	*-4*	0	0	*-3*
	E11	*Channel bed NNIPS extent*	0	0	0	0	0	0	0	0	0	0	0	0	0	-3
	E12	*Channel bed filamentous algae extent*	*-1*	0	0	0	0	0	*-4*	*-4*	0	0	0	0	0	0