Condition Sheet	Habitats Assessed
Line of trees	Line of trees
MoRPh River Survey	Other rivers and streams

Distinctiveness

The distinctiveness of each habitat is automatically assigned by the tool, based upon national records of the occurrence and rarity of each habitat. Table 5 provides the basis of the distinctiveness assessment for area habitats.

Table 5 – Distinctiveness Assessment

Distinctiveness Categories		
Category	**Scores**	**Description**
Very High	8	Priority habitats as defined in Section 41 of the Natural Environment and Rural Communities (NERC) Act that are highly threatened, internationally scarce and require conservation action e.g. blanket bog.
High	6	Priority habitats as defined in Section 41 of the NERC Act requiring conservation action e.g. lowland fens.
Medium	4	Semi-natural habitats not classed as a Priority Habitat.
Low	2	Habitat of low biodiversity value. Temporary grass and clover ley; intensive orchard; rhododendron scrub.
Very Low	0	Little or no biodiversity value e.g. hard standing or sealed surface.

Strategic Significance

The idea of strategic significance works at a landscape scale. It gives additional unit value to habitats that are in preferred locations for biodiversity and other environmental objectives. Strategic significance utilises published local plans and objectives to identify local priorities for targeting biodiversity and nature improvement, such Nature Recovery Areas, local biodiversity plans, National Character Area 14 objectives and green infrastructure strategies (see Table 6).

The Railway Land Hogshaw Local Wildlife Site (LWS) is considered High Strategic Significance as it is a non-statutory designated site.

Table 6 – Strategic Significance Assessment

Strategic Significance Categories	
Category	**Score**
High strategic significance High potential & within area formally identified in local policy	1.15
Medium strategic significance Good potential but not in area defined in local policy	1.1

Strategic Significance Categories	
Category	**Score**
Low Strategic Significance Low potential and not in area defined in local policy	1

3.4.3 Post-Development

Post-development habitats are subject to the same condition assessments as baseline habitats, based on information provided by the proposed landscape layout and planting proposals (Appendix 3). Two additional factors are considered within post-development landscapes which are detailed below.

Temporal Multiplier

For post development habitat creation or enhancement, a risk multiplier will be automatically applied by the tool to account for the period of diminished ecological value while the habitat reaches the targeted post development condition. This time and therefore risk multiplier differs between habitat types, if the habitat is being created or enhanced and how the habitat is to be managed. The predetermined multiplier is based on the average time to meet targeted condition assuming good practice principles and appropriate management strategies are applied.

Difficulty Multipliers

A risk multiplier will be automatically applied by the tool to account the 'difficulty' of habitat-specific enhancement or creation. There are two separate difficulty multipliers assigned to each habitat, one for creation and one for enhancement/restoration, recognising that the technical challenges will not necessarily be the same for both.

3.5 MoRPH River Survey

Condition of the linear river habitat present on site was assessed by a Modular River Physical Survey (MoRPh Survey) undertaken by a certified ecologist. Assessment of linear river habitats condition is based on the extent and diversity of a number of physical features within in both the river channel and riparian as well as the extent and type of any human modifications. This assessment is implemented in two parts:

- A field based sub-reach scale assessment that captures channel dimensions, physical features / habitats, vegetation structural features, and human interventions to assess the condition of the river at the development site, taking into account the type of river.
- A desk-based reach-scale assessment to define river type of the homogenous reach of the river to be affected by development.

The field element of the assessment included five MoRPh field surveys conducted on contiguous lengths (modules) of river. Each MoRPh module covers a river length that is approximately twice the river width (10m). These five contiguous modules covered a sub reach of the river 50m in length. Due to the small length of the river present within the redline boundary, (approximately 61m) it was not necessary to survey more than one subreach to assess the condition of the river. The subreach sampled extended outside of the red line boundary as, due to a portion of the stream being culverted, there was an

insufficient length within the boundary to produce a condition score via the MoRPh survey method. Despite this, the allocated condition score is still considered to be accurate as the physical and hydrological characteristics of the stream outside of the site boundary remained consistent with the habitat within the boundary.

The River Condition Assessment captures information on sediments, vegetation, morphological and water-related features; and the extent and severity of physical modification within the channel, channel margins, banks, and riparian zone (to 10m from the bank tops).

3.6 Constraints to the Survey

Whilst every effort has been made to provide a comprehensive description of the site, no investigation could ensure the complete characterisation and prediction of the natural environment.

The conclusions and recommendations detailed in this report are based upon the site redline boundary and the development proposals as outlined by the client at the time of writing. Should there be any changes to the site redline boundary or development proposals at a later stage, this assessment should be reviewed to determine whether any amendments or additional survey work is required.

Best possible effort was made during the mapping process to ensure that the habitat map accurately represents the area of habitats present on site. Some margin of error is possible due to the continuous and difficult to define nature of habitat boundaries, however this margin of error has been minimised using professional opinion of two experienced ecologists and up to date aerial imagery. As such this is not expected to be a significant constraint and affect the overall Biodiversity Net Gain Calculation provided within this report.

4 Baseline Habitat Assessment

Baseline habitat condition was assessed following the methodology outlined in Section 3.4. Habitat descriptions and the results of this assessment are provided below. The habitats have been given reference numbers for clarity regarding in-text and the metric calculation (Urban Green, 2024c) illustrates the numerical data. Full habitat descriptions can be found in the PEA (Urban Green, 2023).

4.1 Area Habitats

4.1.1 1) Grassland – Modified grassland (P1)

The majority of the site comprised various areas of modified grassland in use as agricultural grazing land separated by a number of fence lines. There were five parcels of modified grassland on site.

Parcel 1 comprised land grazed by sheep with short sward heights and contained perennial rye grass (*Lolium perenne*), with occasional cock's foot (*Dactylis glomerata*), dandelion (*Taraxacum agg.*), creeping buttercup (*Ranunculus repens*), ribwort plantain (*Plantago lanceolata*), common sorrel (*Rumex acetosa*), and creeping thistle (*Cirsium arvense*). Unmanaged areas at the edges of the fields included common nettle (*Urtica dioica*), curly dock (*Rumex crispus*), Yorkshire fog (*Holcus lanatus*) and occasional broad-leaved dock (*Rumex obtusifolius*). Stands of Japanese knotweed (*Reynoutria japonica*) and Himalayan balsam (*Impatiens glandulifera*) were also present within this parcel along its southern periphery.

Photograph 1 – Modified grassland parcel 1, grazed area

Table 7 – Condition Assessment for Modified Grassland

UK Hab Classification	Modified Grassland				
Condition Sheet	Grassland (Low)				
Condition Criteria 1.	There must be 6-8 species per m2. If a grassland has 9 or more species per m2 it should be classified as a medium distinctiveness grassland habitat type.	Fail	Condition Criteria 5.	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	Pass
Condition Criteria 2.	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,	Fail	Condition Criteria 6.	Cover of bracken less than 20%.	Pass

	birds and small mammals to live and breed.				
Condition Criteria 3.	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area.	Pass	Condition Criteria 7.	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).	Fail
Condition Criteria 4.	Physical damage is evident in less than 5% of total grassland area.	Pass			
Condition	Poor	Passes 4 of 7 criteria and fails essential criterion 1.			
Distinctiveness		Low			

4.1.2 2 & 3) Grassland – Modified grassland (P2 and 3)

The second and third parcels are located in the centre of the site and the south of the site and are similar to the grazed section in Parcel 1, exhibiting a short sward height with a similar species composition. These parcels had a large presence of rabbit burrows and droppings.

Photograph 2 – Modified grassland parcel 2

Photograph 3 -Modified grassland parcel 3

Table 8 – Condition Assessment for Modified Grassland

UK Hab Classification	Modified Grassland				
Condition Sheet	Grassland (Low)				
Condition Criteria 1.	There must be 6-8 species per m2. If a grassland has 9 or more species per m2 it should be classified as a medium distinctiveness grassland habitat type.	Fail	Condition Criteria 5.	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	Pass
Condition Criteria 2.	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	Fail	Condition Criteria 6.	Cover of bracken less than 20%.	Pass

	mammals to live and breed.				
Condition Criteria 3.	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area.	Pass	Condition Criteria 7.	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).	Pass
Condition Criteria 4.	Physical damage is evident in less than 5% of total grassland area.	Pass			
Condition	Poor	Passes 5 of 7 criteria and fails essential criterion 1.			
Distinctiveness		Low			

4.1.3 4) Grassland – Modified grassland (P4)

Parcel 4 was unmanaged with a tall sward height and contained cock's foot, creeping thistle, and Yorkshire fog were also present with occasional creeping buttercup, bramble (*Rubus fruticosus agg.*), greater plantain (*Plantago major*), and cow parsley (*Anthriscus sylvestris*). Scattered trees were also present within the parcel comprising occasional cherry (*Prunus avium*), horse chestnut (*Aesculus hippocastanum*), and spruce (*Picea* spp.). Large stands of Japanese knotweed were also present. This area of grassland also fell within the Railway Land Hogshaw LWS, therefore it has been allocated a high strategic significance.

Photograph 4 – Modified grassland parcel 4

Table 9 – Condition Assessment for Modified Grassland

UK Hab Classification	Modified Grassland				
Condition Sheet	Grassland (Low)				
Condition Criteria 1.	There must be 6-8 species per m2. If a grassland has 9 or more species per m2 it should be classified as a medium distinctiveness grassland habitat type.	Fail	Condition Criteria 5.	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	Pass
Condition Criteria 2.	Sward height is varied (at least 20% of the sward is	Fail	Condition Criteria 6.	Cover of bracken less than 20%.	Pass

	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.				
Condition Criteria 3.	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area.	Pass	Condition Criteria 7.	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).	Fail
Condition Criteria 4.	Physical damage is evident in less than 5% of total grassland area.	Pass			
Condition	Poor	Passes 4 of 7 criteria and fails essential criterion 1.			
Distinctiveness	Low				

4.1.4 5) Grassland – Modified grassland (P5)

Parcel 5 contained an abundance of rosebay willowherb (*Chamaenerion angustifolium*), common nettle and creeping thistle, with occasional Yorkshire fog, perennial rye grass, bramble, and ribwort plantain.

Photograph 5 – Modified grassland parcel 5

Table 10 – Condition Assessment for Modified Grassland

UK Hab Classification	Modified Grassland				
Condition Sheet	Grassland (Low)				
Condition Criteria 1.	There must be 6-8 species per m2. If a grassland has 9 or more species per m2 it should be classified as a medium distinctiveness grassland habitat type.	Fail	Condition Criteria 5.	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	Pass
Condition Criteria 2.	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	Pass	Condition Criteria 6.	Cover of bracken less than 20%.	Pass

	for insects, birds and small mammals to live and breed.				
Condition Criteria 3.	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area.	Fail	Condition Criteria 7.	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).	Pass
Condition Criteria 4.	Physical damage is evident in less than 5% of total grassland area.	Pass			
Condition Poor	Passes 5 of 7 criteria and fails essential criterion 1.				
Distinctiveness	Low				

4.1.5 6) Woodland - Other Woodland; Broadleaved

The north-western corner of the site comprised successional broadleaved woodland, which was an extension of an established area of woodland to the south. Species composition includes occasional ash (*Fraxinus excelsior*), goat willow (*Salix caprea*), wych elm (*Ulmus glabra*), cherry, sycamore (*Acer pseudoplatanus*), crack willow (*Salix fragilis*), and silver birch (*Betula pendula*). The ground layer included frequent bramble and rosebay willowherb and rare Japanese knotweed. This area of woodland was also within the Railway Land Hogshaw LWS, therefore it has been allocated a high strategic significance.

Photograph 6 – Other woodland, broadleaved

Table 11 – Condition Assessment for other woodland, broadleaved

UK Hab Classification	Other woodland; Broadleaved		
Condition Sheet	Woodland		
Indicator 1. Age distribution of trees	One age class present (Poor – 1 Point)	Indicator 8. Tree health	Tree mortality less than 10%, no pests or diseases and no crown dieback (Good – 3 Points)
Indicator 2. Wild, domestic, and feral herbivore damage	No significant browsing damage evident in woodland (Good – 3 Points)	Indicator 9. Vegetation and ground flora	No recognisable NVC community (Poor – 1 Point)
Indicator 3. Invasive plant species	Rhodendron or laurel not present, rosebay willowherb and Japanese knotweed covers <10% (Moderate – 2 Points)	Indicator 10. Woodland vertical structure	One or less storey across all survey plots (Poor - 1 Point)

Indicator 4. Number of native tree species	Five or more native tree or shrub species across woodland parcel (Good – 3 Points)	Indicator 11. Veteran trees	No veteran trees present in woodland (Poor - 1 Point)
Indicator 5. Cover of native tree and shrub species	>80% of canopy trees and >80% of understory shrubs are native (Good – 3 Points)	Indicator 12. Amount of deadwood	Between 25% and 50% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps (Moderate - 2 Points)
Indicator 6. Open space within woodland	More than 40% of woodland has areas of temporary open space (Poor – 1 Point)	Indicator 13. Woodland disturbance	No nutrient enrichment or damaged ground evident (Good – 3 Points)
Indicator 7. Woodland regeneration	No classes or coppice regrowth present in woodland (Poor – 1 Point)		
Condition Poor	Scores 25 (<26 = Poor)		
Distinctiveness	Medium		

4.1.6 7) Urban – Urban Trees

Four urban trees were present on the site along the western boundary. Three were early-mature goat willow and one was an early-mature silver birch. All four trees were within the Railway Land Hogshaw LWS, therefore they have been allocated a high strategic significance.

Table 12 – Condition Assessment for Urban Trees

UK Hab Classification	Urban tree				
Condition Sheet	Urban tree				
Condition Criteria 1.	The tree is a native species (or more than 70% within the block are native species).	Pass	Condition Criteria 4.	There is little or no evidence of an adverse impact on tree health by anthropogenic activities such as vandalism or herbicide use. There is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Pass
Condition Criteria 2.	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).	Pass	Condition Criteria 5.	Micro-habitats for birds, mammals and insects are present e.g. presence of deadwood, cavities, ivy or loose bark	Pass
Condition Criteria 3.	The tree is mature or veteran (or more than 50% within the block are mature or veteran).	Fail	Condition Criteria 6.	More than 20% of the tree canopy area is oversailing vegetation beneath.	Pass
Condition Good	Passes 5 of 6 criteria				
Distinctiveness	Medium				

4.1.7 8) Urban - Artificial Unvegetated, Unsealed Surface

A single footpath runs through parcel 5 of the modified grassland and is comprised of compact gravel substrate that classes as artificial unvegetated, unsealed surface. This is classified as artificial unvegetated, unsealed surface, which has a predetermined condition of **N/A** within the metric.

Photograph 8 – Footpath

4.1.8 9) Urban - Buildings (Developed land; sealed surface)

Two sheds used as chicken coops (photograph 9) were present to the east of the site. Buildings are classified as developed land; sealed surface which has a predetermined condition score of **N/A** within the metric.

Photograph 9 – Buildings used as chicken coops

4.2 Linear Hedgerow Habitats

Four lines of trees are present on site associated with the areas of modified grassland and generally confined to field boundaries.

4.2.1 L1) Line of Trees 1

The first line of trees is present within the north of the site adjacent to the eastern boundary, located in Parcel 1 of the modified grassland. It runs north to south for approximately 120m and is comprised of dominant sycamore with occasional ash and hawthorn (*Crataegus monogyna*). The majority of specimens are mature with some young mature trees also present.

Photograph 10 – Line of Trees 1

Table 13 – Condition Assessment for Line of Trees

UK Hab Classification	Line of Trees				
Condition Sheet	Line of Trees				
Condition Criteria 1.	More than 70% of trees are native species.	Pass	Condition Criteria 4.	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 anthropogenic operations.	Fail
Condition Criteria 2.	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Fail	Condition Criteria 5.	At least 95% of the 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.	Pass
Condition Criteria 3.	Includes one or more mature or veteran tree.	Pass			
Condition	Moderate	Passes 3 of 5 criteria.			
Distinctiveness	Low				

4.2.2 L2) Line of Trees 2

The second of line of trees is located in the south-western extent of the site adjacent the field boundary between parcel 2 and parcel 4 of modified grassland. It runs north to south for approximately 35m and is comprised of dominant silver birch and occasional cherry. This line of trees fell within the Railway Land Hogshaw LWS, therefore it has been allocated a high strategic significance.

Photograph 11 – Line of Trees 2

Table 14 – Condition Assessment for Line of Trees

UK Hab Classification		Line of Trees				
Condition Sheet		Line of Trees				
Condition Criteria 1.		More than 70% of trees are native species.	Pass	Condition Criteria 4.	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 anthropogenic operations.	Fail
Condition Criteria 2.		Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Pass	Condition Criteria 5.	At least 95% of the 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.	Pass
Condition Criteria 3.		Includes one or more mature or veteran tree.	Pass			
Condition	Moderate	Passes 4 of 5 criteria.				
Distinctiveness		Low				

4.2.3 L3) Line of Trees 3

The third line of trees is located just south of the second line of trees on site and is approximately 20m in length. This line of trees is exclusively comprised of sycamore. This line of trees fell within the Railway Land Hogshaw LWS, therefore it has been allocated a high strategic significance.

Photograph 12 – Line of Trees 3

Table 15 – Condition Assessment for Line of Trees

UK Hab Classification		Line of Trees				
Condition Sheet		Line of Trees				
Condition Criteria 1.		More than 70% of trees are native species.	Pass	Condition Criteria 4.	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 anthropogenic operations.	Fail
Condition Criteria 2.		Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Pass	Condition Criteria 5.	At least 95% of the 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.	Pass
Condition Criteria 3.		Includes one or more mature or veteran tree.	Pass			
Condition	Moderate	Passes 4 of 5 criteria.				
Distinctiveness		Low				

4.2.4 L4) Line of Trees 4

The fourth line of trees is located in the central extent of the site adjacent the eastern boundary. It runs north to south for approximately 50m and is comprised exclusively of sycamore.

Photograph 13 – Line of Trees 4

Table 16 – Condition Assessment for Line of Trees

UK Hab Classification		Line of Trees				
Condition Sheet		Line of Trees				
Condition Criteria 1.		More than 70% of trees are native species.	Pass	Condition Criteria 4.	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 anthropogenic operations.	Fail
Condition Criteria 2.		Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Fail	Condition Criteria 5.	At least 95% of the 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.	Pass
Condition Criteria 3.		Includes one or more mature or veteran tree.	Pass			
Condition	Moderate	Passes 3 of 5 criteria.				
Distinctiveness		Low				

4.2.5 5) Built linear features

Various built linear features were present on site that form the site boundary and separate the different parcels on site. The features comprise fence lines and dry-stone walls. These features are classified as built linear features, which have a predetermined condition of **N/A** within the metric.

Photograph 14 – Dry-stone wall

Photograph 15 – Fence line

4.3 Linear River Habitats

4.3.1 1) Other rivers and streams (Nun Brook)

Nun Brook is present on site within the south-western extent and the woodland detailed in Section 4.1.6. The brook is culverted through the majority of the woodland and comes to the surface in its southern extent and extends further to the south of the site.

At the time of survey, the water levels within the brook were high and lots of silt was being carried within the brook. Vegetation was present on the embankments either side and within the brook itself comprising occasional pendulous sedge (*Carex pendula*), cock's foot, Yorkshire fog, creeping buttercup, and curly dock. Nun Brook also fell within the Railway Land Hogshaw LWS, therefore it has been allocated a high strategic significance.

Photograph 16 – Nun Brook, culvert

Photograph 17 – Nun Brook

Table 17 – Condition Assessment for Other Rivers and Streams

Name	**Nun Brook**		
UK Hab Classification	**Other Rivers and Streams Type**		
Condition Assessment	**River MoRPH Survey**		
River Category	Other	Reach Valley Gradient	0.011
Braiding Index	1	Bedrock Reach	No
Sinuosity Index	1.04	Coarsest Bed Material	Gravel-Pebble