SOUTHCHURCH PARK EAST, SOUTHEND-ON-SEA

BIODIVERSITY NET GAIN BASELINE ASSESSMENT

May 2024

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Title of Report	Southchurch Park East, Southend-on-Sea Biodiversity Net Gain Baseline Assessment
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This report has been compiled in accordance with BS 42021:2013 Biodiversity – Code of practice for planning and development, as has the assessment to which it relates.

The information, data, advice and opinions which have been prepared and provided are true and have been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional *bona fide* opinions.

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1. EXECUTIVE SUMMARY

1.1 This report has been prepared by Essex Ecology Ltd., for Southend-on-Sea City Council. It comprises a Biodiversity Net Gain baseline assessment of land at Southchurch Park East, Southend-on-Sea, Essex.

1.2 The assessment was required in order to calculate the number of Biodiversity Units the site currently represents in order to explore opportunities for offsetting.

1.3 As the surveys were undertaken out of the optimal surveying season, a new assessment should be carried out at the optimum time of year to identify with greater accuracy the baseline biodiversity value use of the site prior to its use as a Biodiversity Net Gain offsetting site.

1.4 The site covers approximately 7 hectares (ha) and comprises areas of amenity grassland, some woodland, patches of scrub, urban land, a reedbed and large pond.

1.5 The baseline units for the site's area habitats have been calculated to be **35.29**, with linear habitats amounting to **3.38 units**.

1.6 Enhancement of the site's modified grassland from poor to moderate condition could generate **1 habitat unit** per **0.0268 ha** enhanced (8.59% of the sites modified grassland).

1.7 Enhancement of the site's neutral grassland from poor to moderate condition could generate **1 habitat unit** per **0.134 ha** enhanced (11.16% of the sites neutral grassland).

1.8 Enhancement of the site's Blackthorn scrub from poor to moderate condition could generate **1 habitat unit** per **0.124 ha** enhanced (63.91% of the sites Blackthorn scrub).

1.9 Alternatively, enhancing the sites Blackthorn scrub from poor to good condition could generate **1 habitat unit** per **0.095 ha** enhanced (48.96% of the sites Blackthorn scrub).

1.10 Enhancing all **0.068 ha** of the poor condition Hawthorn scrub to moderate condition would gain **0.55 habitat units**. Alternatively, enhancing it to good condition would gain **0.24 habitat units**.

1.11 Enhancing all **0.019 ha** of the moderate condition mixed scrub to good condition would gain **0.24 habitat units**.

1.12 Enhancing all **0.038 ha** of the poor condition mixed scrub to moderate condition would gain **0.31 habitat units**. Alternatively, enhancing it to good condition would gain **0.4 habitat units.**

1.13 Enhancing all **0.065 ha** of the poor condition broadleaved woodland to moderate condition would gain **0.49 habitat units**. Alternatively, enhancing it to good condition would gain **0.57 habitat units**.

1.14 Enhancement of the site's moderate condition other broadleaved woodland to good condition could generate **1 habitat unit** per **0.084 ha** enhanced (56.45% of the sites broadleaved woodland).

1.15 Enhancing the entire length (**0.088 km**) of the line of trees from moderate to good condition would gain **0.52 habitat units**.

1.16 Habitat creation can also be used to gain habitat units. Creating **0.194 ha** of moderate condition other neutral grassland could generate **1 net habitat unit**.

1.17 Creating **0.136 ha** of moderate condition mixed scrub would also generate **1 net habitat unit**.

1.18 Planting **80** native trees that will reach small size, poor condition within the target time of 30 years to condition will generate **1 habitat unit.**

1.19 Creating **0.272 km** of moderate condition native hedgerow would provide **1 habitat unit**, while creating **0.136 km** of moderate species-rich native hedgerow would provide **1 habitat unit.**

2. INTRODUCTION

2.1 General Introduction

This report has been prepared by Essex Ecology Ltd., for Southend-on-Sea City Council. It comprises a Biodiversity Net Gain baseline assessment of land at Southchurch Park East, Southend-on-Sea. The assessment was required in order to calculate the number of Biodiversity Units the site currently represents in order to explore opportunities for offsetting.

2.2 Site Location and Description

Southchurch Park East is located at Lifstan Way, Southend-on-Sea, Essex. The Ordnance Survey grid reference for the approximate site centre is TQ 90350 85139.

The site covers approximately 7 hectares (ha) and comprises areas of amenity grassland, some woodland, patches of scrub, urban land, a reedbed and large pond.

Surrounding the site is residential housing, while the river Thames is approximately 250 metres south of the site.

See Map 1 for a plan of the site and Appendix 1 for site photographs.

2.3 Objective

The aim of the assessment was to assess the site's biodiversity baseline using the latest Statutory Metric (DEFRA, 2023) for potential future use as a site for habitat creation in relation to offsetting the ecological impacts of development projects elsewhere. Recommendations for habitat creation, enhancement and management are also included in this report.

2.4 Assessment Methodology

Habitats on the site were mapped in line with the UK Habitat Classification, using the methodology detailed in the UK Habitat Classification User Manual, Version 2.0 (UK Habitat Classification Working Group, July 2023) using data collected by Essex

Ecology during site visits conducted on 30th October and 14th December 2023 during suitable weather conditions.

Each habitat (referred to under this system as a Primary Habitat) was classified using an alphanumeric code, with reference to the UK Habitat Classification Version 2.0 (UKHab Ltd. 2023). This method is designed to enable the description of each habitat on a hierarchical basis up to a maximum of five levels, including the identification of Habitats of Principal Importance in England (HPIE) (formerly known as Biodiversity Action Plan (BAP) habitats) and those listed on Annex I of the Conservation of Habitats and Species Regulations 2017 (as amended).

The site was mapped using QGIS. Habitat data was then converted into Biodiversity Units, so that the Statutory Metric could be applied.

Target notes have been used to describe certain areas of habitat, the locations of which are indicated on the habitat maps by use of target note codes (G for grassland, S for scrub and W for woodland etc.).

Attributes that include extent, condition, distinctiveness and Biodiversity Units have been provided.

Habitat condition has been assessed according to the technical guidance provided with the Statutory Metric as well as the surveying ecologist's professional judgement.

Habitats are automatically assigned distinctiveness bands within the Statutory Metric. The distinctiveness bands and criterion thresholds are as follows:

Distinctiveness Band	**Criterion Threshold**
Very High Distinctiveness	Small amount of remaining habitat with a lot of it unprotected by designation. Endangered or Critical European red list habitats.
High Distinctiveness	Remaining Priority Habitats not in very high distinctiveness band and other red list habitats.
Medium Distinctiveness	Non-Priority Habitats with significant wildlife benefit and one replaceable Priority Habitat (arable field margins).

Low Distinctiveness	Agricultural and urban land use of lower biodiversity value.
Very Low Distinctiveness	Urban, with artificial structure, which are un-vegetated, unsealed surface or built linear features of very low biodiversity value.

2.5 Mapping

The site habitat maps were produced using QGIS computer software. The Minimum Mapping Unit (MMU) was employed for this survey where possible. Minimum mapped habitat areas were 25m^2 and minimum mapped linear features were five metres in length. Habitats mapped as areas were digitised using polygons and linear habitats were mapped as lines.

2.6 Competence

Charlotte Smith has been with the company since September 2020 after previously working with Essex Ecology as an intern. She has completed a BSc in Zoology and is a Qualifying Member of the Chartered Institute of Ecology and Environmental Management (CIEEM). She has undertaken numerous ecological site appraisals, habitat assessments and a wide range of protected species surveys, including Great Crested Newt, reptile, bat and Water Vole. She has caried out multiple Biodiversity Net Gain assessments using Natural England Metrics 2.0, 3.0 and 4.0. She has attended a course specific to the Metric and UK Habitat Classification.

2.7 Constraints and Limitations

The habitats present on any site are subject to change over time. All assessments of this kind are based upon the situation as it was at the time the fieldwork upon which the assessment was based was carried out.

The habitat assessment was undertaken during the winter, at a time when many plant species cannot be identified. Therefore, the degree to which certain habitat types could be identified or differentiated from others and the accuracy of habitat condition assessments was limited.

Therefore, a new assessment should be carried out at the optimum time of year to identify with greater accuracy the baseline biodiversity value use of the site prior to its use as a Biodiversity Net Gain offsetting site.

3. ASSESSMENT RESULTS

3.1 Summary

The following UK Habitat Classification habitats are currently present at the site:

Baseline Area Habitats	Area (hectares)
Grassland – Modified grassland	3.1187
Grassland – Other neutral grassland	1.2259
Scrub – Blackthorn scrub	0.194
Scrub – Bramble scrub	0.3583
Scrub – Hawthorn scrub	0.0683
Scrub – Mixed scrub	0.057
Wetland - Reedbed	0.4227
Wetland – Pond (non-priority)	0.4632
Sparsely vegetated land – Tall forbs	0.1028
Urban – Developed land; sealed surface	0.7167
Urban – Built linear features	0.0537
Urban – Introduced shrub	0.0369
Woodland and forest – Other woodland; broadleaved	0.2142
Individual trees	0.4682
Total Habitat Area*:	7.5006

*Total Habitat Area is greater than the size of the site as a proxy for canopy biomass. It is based on the root protection formula derived from The British Standard "Trees in Relation to Design, Demolition and Construction - Recommendations" (BS 5837) (2012).

Baseline Linear Habitats	Length (kilometres)
Line of trees	0.088
Native hedgerow	0.079
Ditch	0.187
Total Length:	**0.354**

See Map 1 for baseline habitats and Maps 2 for habitat parcel reference locations and Map 3 for tree reference locations.

3.2 Strategic significance

The whole of the site is a Protected Green Space under the Southend-on-Sea Local Plan, and is designated for its recreational and amenity value, in addition to its value to biodiversity. Therefore all habitats are assigned a medium strategic significance. Urban habitats are assigned low strategic significance.

3.3 Baseline Area Habitat Conditions

3.3.1 Modified grassland

Vegetation dominated by a few fast-growing grasses on fertile, neutral soils. It is frequently characterised by an abundance of Rye-grass and White Clover.

The majority of the site is amenity grassland G1 and G2, a species-poor grassland is dominated by Perennial Rye-grass, with few herbs including Ribwort Plantain, Common Mallow, Greater Plantain, Dandelion and Yarrow. In the northern field, there are multiple planted small trees throughout.

The grassland G3 is a small area of grass at the entrance of the site, with some scattered conifer trees planted on it. Species include Perennial Rye-grass, Bristly Oxtongue and Dandelion.

Condition Criteria – Low Distinctiveness Grassland						
A	**B**	**C**	**D**	**E**	**F**	**G**
There are 6-8 vascular plant species per m2 present, including at least 2 forbs. **Note - this criterion is essential for achieving Moderate or Good condition.**	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.	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).	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.	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	Cover of bracken *Pteridium aquilinum* is less than 20%.	There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA).

	Condition Assessment = – Low Distinctiveness Grassland								
	A	**B**	**C**	**D**	**E**	**F**	**G**	**Total Passes**	**Condition**
G1	Fail – less than 6-8 vascular plant species*	Fail – all short	Pass	Pass	Pass	Pass	Pass	5	**Poor**
G2	Fail – less than 6-8 vascular plant species*	Fail – all short	Pass	Pass	Fail	Pass	Pass	4	**Poor**
G3	Fail – less than 6-8 vascular plant species*	Fail – all short	Pass	Pass	Fail - lots of areas of bare ground	Pass	Pass	4	**Poor**

*passing this criterion is essential for achieving Moderate or Good condition.

3.3.2 Other neutral grassland

Grasslands on neutral soils, with Perennial Rye-grass likely to be present at <30% with between nine and fifteen further species (m2) also present.

The grassland G4 is an area of rough grassland at the south-western boundary of the site. It has scattered trees and shrubs throughout. Grass species include Red Fescue, False Oat-grass, Perennial Rye, Cock's-foot and Timothy. Other species include Creeping Thistle, Common Nettles, Common Mallow, Bramble, Cleavers, Black Horehound, Creeping Buttercup, Bindweed, Alexanders and Virginia Creeper. The area of grassland at the centre of the southern boundary has scattered scrub and small trees throughout, including the species Elder, Blackthorn and Sycamore.

The grassland G5 is a rough grassland that surrounds the entire pond, with patches of scrub throughout. The grassland is dominated by Common Couch, with Cock's-foot and Red Fescue also present, with Common Reed encroaching into the area from the adjacent reedbed. Other species include Cow Parsley, Common Nettle, Bindweed and Creeping Thistle. There are patches that are dominated by Common Mallow and Common Nettles, with some Cleavers, Bristly Oxtongue, Meadow Barley and Hemlock. Throughout, particularly by the woodland area W1, there are scattered scrub and small trees such as Bramble and Sycamore.

The grassland G6 is a large area to the eastern end of the site, currently managed as a wildflower meadow. At the time of survey it had just been cut and the arisings left, so it was hard to get a true representation of the species present. Grass species present includes False Oat-grass and Cock's-foot, with some Perennial Rye-grass at

the edges. Other species include Cow Parsley, Creeping Buttercup, Creeping Thistle, Meadow Buttercup, Cleavers, Knapweed and Yarrow. There are some scattered planted trees at the edge of the grassland.

The grassland G7 surrounds the ditch D1 that runs along the eastern edge of the site, and where it joins into the reedbed and pond area. Grass species include False Oat-grass, Common Couch and Cock's-foot, with Common Reed dominating. Other species recorded throughout include Common Nettle, Cleavers, Cow Parsley, Great Willowherb, Mugwort and Alexanders. Throughout the grassland, particularly close to the eastern border, is scattered Blackthorn scrub and trees.

G9 is a small area of grassland to the north of the car park, forming part of the bank that surrounds the north-western corner of the site, and is bordered by Bramble scrub. The grassland is dominated by Common Couch, with other species including Cock's-foot, Alexanders, Cow Parsley, Bristly Oxtongue and Common Nettle. There are areas of scattered Bramble and young Hawthorn and Blackthorn.

Condition Criteria – Medium Distinctiveness Grassland					
A	**B**	**C**	**D**	**E**	**F**
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). **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	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.	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens.	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.	Combined cover of species indicative of sub-optimal condition 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 species3 (as listed on Schedule 9 of WCA4) are present, this criterion is automatically failed.	There are 10 or more vascular plant species per m2 present, including forbs that are characteristic of the habitat type. **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**

	Condition Assessment – Medium Distinctiveness Grassland							
	A	**B**	**C**	**D**	**E**	**F**	**Total Passes**	**Condition**
G4	Fail – Few indicator species present	Pass	Pass	Fail – scrub encroachment	Fail	Fail – less than 10 or more vascular plant species per m2 present	2	**Poor**
G5	Fail – Few indicator species present	Fail – all tall	Pass	Fail –scrub encroachment	Pass – however some present such as Common Nettle	Fail – Lots of species across the area but less than 10 per m2	2	**Poor**
G6	Fail – recent cutting and left arising made it hard to count species, may pass on later surveys	Fail – all had been cut short	Pass	Pass	Pass – though some species indicative of suboptimal condition present	Fail – likely more, but hard to find species because of cuttings left on top of grass	3	**Poor**
G7	Pass	Fail – all tall	Fail – bare ground cover 0%	Pass	Fail - species indicative of sub optimal condition such as Common Nettle present in high numbers	Fail – less than 10 or more vascular plant species per m2 present	Pass	**Poor**
G8	Pass	Fail – all tall	Pass	Fail – scrub encroachment	Pass – however Cow Parsley and Common Nettle present	Fail – less than 10 or more vascular plant species per m2 present	3	**Moderate**

3.3.3 Heathland and shrub – Blackthorn scrub

Dense scrub with dominant Blackthorn.

The scrub patch S2 is an area of dense Blackthorn scrub along the southern border of the site.

The Blackthorn scrub patches S9 all border the northern edge of the reedbed and pond. All scrub is of approximately the same age. There is some rough grassland surrounding most of the patches of scrub.

The scrub patch S11 borders the western edge of the car park, within the grassland field G2. It is made up almost entirely of Blackthorn, with some Rose, Hazel and Field Maple.

Condition Criteria – Scrub				
A	**B**	**C**	**D**	**E**
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). - At least 80% of scrub is native, - There are at least three native woody species, - No single species comprises more than 75% of the cover (except hazel *Corylus avellana*, common juniper *Juniperus communis*, sea buckthorn *Hippophae rhamnoides* or box *Buxus sempervirens*, which can be up to 100% cover).	Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present.	There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA) and species indicative of sub-optimal condition make up less than 5% of ground cover.	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	There are clearings, glades or rides present within the scrub, providing sheltered edges.

	Condition Assessment – Blackthorn scrub						
	A	**B**	**C**	**D**	**E**	**Total Passes**	**Condition**
S2	Fail – Single species comprises more than 75% of the cover	Fail	Pass	Fail	Fail – No clearings, glades or rides present within the scrub	1	**Poor**
S9	Fail – Single species comprises more than 75% of the cover	Fail	Pass	Pass	Fail – No clearings, glades or rides present within the scrub	2	**Poor**
S11	Fail – Single species comprises more than 75% of the cover	Fail	Pass`	Fail	Fail – No clearings, glades or rides present within the scrub	1	**Poor**

3.3.4 Heathland and shrub - Bramble scrub

Dense scrub with dominant Bramble.

Dense Bramble scrub was recorded in multiple locations, including S3 along the southern boundary next to the woodland area W3. The Bramble scrub patch S6 was recorded in the north-eastern corner of the site. S8 is a large band of scrub that runs along the north-western corner of the site, bordering the western side of the car park. It has scattered trees throughout, including willow.

S10 is a small area of Bramble scrub between the north-eastern corner of the reedbed, and the northern amenity grassland field.

Bramble scrub is automatically given a low condition score, ‘poor’, due to the dominance of that single species.

3.3.5 Heathland and shrub – Hawthorn scrub

Dense scrub with dominant Hawthorn.

S1 is a group of Hawthorn scrub patches at the south-western corner of the pond. They are dominated by Hawthorn, with some Elder and Blackthorn. The scrub is covered in Ivy.

S5 is an area of mainly Hawthorn scrub at the north-eastern corner of the site, between the eastern boundary fence and the ditch. Other species include Elder, Buddleia, Bramble, Rose and Ivy.

	Condition Assessment – Hawthorn scrub						
	A	**B**	**C**	**D**	**E**	**Total Passes**	**Condition**
S1	Fail – Single species comprises more than 75% of the cover	Fail	Pass	Pass	Fail – No clearings, glades or rides present within the scrub	2	**Poor**
S5	Fail – Single species comprises more than 75% of the cover	Fail	Pass	Pass	Fail – No clearings, glades or rides present within the scrub	2	**Poor**

3.3.6 Heathland and shrub - Mixed scrub

Dense scrub with mixed scrub.

There are multiple areas of mixed scrub, S4, within the northern end of the grassland G6. Species include Field Maple, Rose, Hawthorn, Sycamore, Rowan, Buddleia and Blackthorn.

S7 is an area of mixed scrub with some small trees at the northern boundary of the site. Species include Hawthorn, Elder, Ash, Silver Birch and Blackthorn, with Bramble at the edges.

	Condition Assessment – Hawthorn scrub						
	A	**B**	**C**	**D**	**E**	**Total Passes**	**Condition**
S4	Pass	Fail	Pass	Pass	Fail – Gaps too large between scrub patches	3	**Moderate**
S7	Pass	Fail	Pass	Fail – no well-developed edge to amenity grassland	Fail – No clearings, glades or rides present within the scrub	2	**Poor**

3.3.7 Wetland - Reedbed

R1 is a large area of reedbed surrounding the pond, P1. It encroaches into the surrounding grassland, G5.

Condition Criteria – Reedbed						**Additional Criterion - for Reedbed habitats only:**
A	**B**	**C**	**D**	**E**	**F**	**I**
The water table is at, or near the surface throughout the year - this could be open water or saturation of soil at the surface. There is no artificial drainage, unless specifically to maintain water levels as specified above. **Note - this criterion is essential for achieving Good condition.**	The parcel represents a good example of its specific habitat type - the appearance and composition of the vegetation closely matches its UKHab description, with vascular and non-vascular characteristic indicator species consistently present.	The water supplies (groundwater, surface water and or rainwater) to the wetland are of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution.	Cover of scrub and scattered trees are less than 10%.	Cover of bare ground is less than 5%.	There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA3) and species indicative of suboptimal condition make up less than 5% of ground cover.	The reedbed has a diverse structure with between 60% and 80% reeds Phragmites australis. Other areas may include open water (at least 10%), species-rich fen and or wet woodland.

	Condition Assessment – Reedbed								
	A	**B**	**C**	**D**	**E**	**F**	**I**	**Total Passes**	**Condition**
R1	Pass	Pass	Pass	Pass – scrub mainly present in the grassland fringe around the reedbed	Pass	Pass	Pass	6	**Good**

3.3.8 Pond (non-priority)

A pond is a body of water less than 2 ha.

P1 is the large pond in the centre of the site. It is surrounded by the reedbed R1. Water flows into it through the ditch, D1.

Condition Criteria – Ponds		
Condition Criteria		**Habitat Parcel Reference**
		P1
A	The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock.	Fail – pond water not clear
B	There is semi-natural habitat (moderate distinctiveness or above) completely surrounding the pond, for at least 10 m from the pond edge for its entire perimeter.	Pass – almost entirely, except for a small section in the south-western corner.

C	Less than 10% of the water surface is covered with duckweed Lemna spp. or filamentous algae.	Pass
D	The pond is not artificially connected to other waterbodies, such as agricultural ditches or artificial pipework.	Pass
E	Pond water levels can fluctuate naturally throughout the year. No obvious artificial dams, pumps or pipework.	Fail
F	There is an absence of listed non-native plant and animal species.	Pass
G	The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities.	Pass
H	Emergent, submerged or floating plants (excluding duckweed) cover at least 50% of the pond area which is less than 3 m deep.	Fail
I	The pond surface is no more than 50% shaded by adjacent trees and scrub.	Pass
	Total	6
	Condition	Moderate

3.3.9 Tall forbs

To the east of the site, between the grassland G6, the woodland W3 and the eastern boundary is a band of tall forbs, TF1. Species include mainly Hemlock and Ivy, with some Bindweed.

There is an area of tall forbs (TF2) along the north-eastern border of the site underneath the line of trees LT1. It is dominated by Common Mallow and Bindweed. Some young Elder scrub is scattered throughout.

Condition Assessment: Tall forbs		**Habitat Parcel Reference**	
Condition Criteria		**TF1**	**TF2**
A	Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.	Pass	Pass
B	The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.	Fail – few species present	Fail – few species present
C	Invasive non-native plant species (listed on Schedule 9 of WCA) and others which are to the detriment of native wildlife (using professional judgement) cover less than 5% of the total vegetated area. Note - to achieve Good condition, this criterion must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).	Pass	Pass
	Total:	**2**	**2**
	Condition:	**Moderate**	**Moderate**

3.3.10 Urban - Developed land; sealed surface

Soil surface sealed with impervious materials as a result of urban development and infrastructure construction.

The main carpark is an area of hardstanding to the north-western end of the site.

Condition assessments are not applicable to this urban feature.

3.3.11 Urban – Built linear features

Surfaced paths.

There are multiple hard standing paths at the north-western end of the site.

Condition assessments are not applicable to this urban feature.

3.3.12 Urban – Introduced shrub

Non-native tall phanerophytes, mid phanerophytes or low phanerophytes planted in a garden or park setting.

There is an area of introduced shrub which has been newly planted around the car park area, along with some planted trees.

Condition assessments are not applicable to this urban feature.

3.3.13 Woodland and forest – Other woodland; broadleaved

Vegetation dominated by trees that are more than 5 metres high when mature, which form distinct, although sometimes open canopy with a canopy cover greater than 25%.

The woodland area W1 is located at the south-eastern corner of the reedbeds. The woodland is made up of Hornbeam, Lime, Field Maple and a large Weeping Willow. The understorey is mainly Ivy, with bare earth paths cutting through the area.

W2 is made up of several areas of woodland at the southern end of the field G6. Tree species include Field Maple, Hawthorn, Rose, oak, Dogwood, Blackthorn, Willow and Rowan. The trees are all young and dense. Alexanders is frequent in the visible understorey.

W3 is a larger area of woodland in the south-eastern corner of the site. Tree species include oak, Ash, willow, Sycamore and Holm Oak. There are some young oak saplings and young elm at the edges. The understorey is mainly Ivy, with denser areas of Bramble.

Condition Criteria – Other woodland; broadleaved						
	Features					
A	**Age Distribution of trees**					
	3 pts	3 age classes	**2 pts**	2 ages classes	**1 pt**	1 age class
B	**Wild, domestic and feral herbivore damage**					
	3 pts	none	**2 pts**	<40% of woodland	**1 pt**	>40% of woodland
C	**Invasive plant species**					
	3 pts	none	**2 pts**	<10% cover AND no Rhododendron or Cherry laurel	**1 pt**	>10% cover OR Rhododendron or Cherry Laurel
D	**Number of native tree species**					
	3 pts	five or more	**2 pts**	3-4 species	**1 pt**	0-2 species
E	**Cover of native tree and shrub species**					
	3 pts	>80% of canopy and understorey	**2 pts**	50-80% of canopy and understorey	**1 pt**	<50% of canopy and understorey
F	**Open space within woodland**					
	3 pts	10-20% temporary open space	**2 pts**	20-40% temporary open space	**1 pt**	>40% temporary open space
G	**Woodland regeneration**					
	3 pts	all three classes	**2 pts**	one or two classes	**1 pt**	no classes or coppice regrowth in woodland
H	**Tree health**					
	3 pts	<10% mortality and no pests/diseases/dieback	**2 pts**	10-25% mortality and/or dieback, low risk pests/disease present;	**1 pt**	>25% mortality or high risk pests/disease present
I	**Vegetation and ground flora**					
	3 pts	ancient woodland indicators	**2 pts**	recognisable NVC community	**1 pt**	no recognisable NVC community
J	**Woodland vertical structure**					
	3 pts	3+ storeys	**2 pts**	2 storeys	**1 pt**	0-1 storeys
K	**Veteran trees**					
	3 pts	2+/ha	**2 pts**	1/ha	**1 pt**	none
L	**Amount of deadwood**					
	3 pts	50%	**2 pts**	25-50%	**1 pt**	<25%
M	**Woodland disturbance**					
	3 pts	no enrichment/damage	**2 pts**	<1 ha enriched OR <20% area damaged ground	**1 pt**	>1 ha enriched OR >20% are damaged ground

Habitat type:	Condition Assessment - Other woodland; broadleaved														
Scores of '1' '2' or '3' are allocated against each criteria assessed.															
	Criterion													TOTAL	Condition
Parcel Ref	A	B	C	D	E	F	G	H	I	J	K	L	M		
W1	2	3	3	2	2	3	1	3	1	1	1	1	2	25	Poor
W2	1	3	3	3	3	3	1	3	1	1	1	1	2	26	Moderate
W3	2	3	3	2	3	3	2	2	1	2	1	1	2	27	Moderate

3.3.14 Individual trees

The broad habitat type 'Individual trees' may be used where a tree (or a group of trees) over 7.5cm in stem diameter at breast height (DBH) does not meet or contribute towards the definition of another broad habitat type, such as woodland.

43 trees were recorded individually across the site, focused mainly along the edges of the grasslands. A range of species were recorded, including Elder, oak, Field Maple, Hornbeam and Weeping Willow.

16 trees were recorded as good condition and 27 as moderate condition.

Condition Criteria – Individual trees
A: The tree is a native species (or at least 70% within the block are native 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).
C: The tree is mature (or more than 50% within the block are mature).
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.
E: Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.
F: More than 20% of the tree canopy area is oversailing vegetation beneath.

Habitat type:	Individual Trees - rural							
	Criterion (P -Pass, F-Fail)						TOTAL	Condition
Parcel Ref	A	B	C	D	E	F		
T1	P	P	F	P	P	P	5	Good
T2	P	P	F	P	P	P	5	Good
T3	P	P	F	P	P	P	5	Good
T4	P	P	F	P	P	P	6	Good
T5	P	P	P	P	F	P	5	Good
T6	F	P	F	P	F	P	3	Moderate
T7	F	P	F	P	F	P	3	Moderate
T8	P	P	P	P	F	P	5	Good
T9	F	P	F	P	F	P	3	Moderate
T10	P	P	P	P	P	F	5	Good
T11	P	P	F	P	F	P	4	Moderate
T12	P	P	F	P	F	P	4	Moderate
T13	P	P	P	P	P	P	6	Good
T14	P	P	P	P	F	P	5	Good
T15	F	P	F	P	F	P	3	Moderate
T16	P	P	F	P	F	P	4	Moderate
T17	P	P	F	P	F	P	4	Moderate
T18	F	P	P	P	P	P	5	Good
T19	F	P	P	P	P	P	5	Good
T20	F	P	P	P	P	P	5	Good
T21	P	P	F	P	F	P	4	Moderate
T22	P	P	F	P	F	P	4	Moderate
T23	P	P	F	P	F	P	4	Moderate
T24	P	P	F	P	F	P	4	Moderate
T25	P	P	P	P	P	P	6	Good
T26	P	P	F	P	F	P	4	Moderate
T27	P	P	F	P	F	P	4	Moderate
T28	P	P	F	P	F	P	4	Moderate
T29	F	P	F	P	F	P	3	Moderate
T30	P	P	F	P	F	P	4	Moderate
T31	P	P	F	P	F	P	4	Moderate
T32	F	P	F	P	F	P	3	Moderate
T33	P	P	F	P	F	P	4	Moderate
T34	P	P	F	P	F	P	4	Moderate
T35	F	P	P	P	F	P	4	Moderate
T36	P	P	F	P	F	P	4	Moderate
T37	F	P	F	P	F	P	3	Moderate
T38	F	P	P	P	F	P	4	Moderate
T39	F	P	F	P	P	P	4	Moderate

T40	F	P	F	P	F	P	3	Moderate
T41	P	P	P	P	P	P	6	Good
T42	F	P	P	P	P	P	5	Good
T43	P	P	F	P	F	P	4	Moderate

3.4 Baseline Linear Habitat Conditions

3.4.1 Ditch

The ditch D1 runs from the north-eastern corner of the site to the pond. At the time of survey it was wet, and full of Common Reed and Common Nettle.

Condition Assessment: Ditch		**Habitat Parcel Reference**
Condition Criteria		**D1**
A	The ditch is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution.	Pass
B	A range of emergent, submerged and floating-leaved plants are present. As a guide >10 species of emergent, floating or submerged plants present in a 20 m ditch length.	Fail
C	There is less than 10% cover of filamentous algae and or duckweed Lemna spp. (these are signs of eutrophication).	Pass
D	A fringe of aquatic marginal vegetation is present along more than 75% of the ditch.	Pass
E	Physical damage is evident along less than 5% of the ditch, with examples of damage including: excessive poaching, damage from machinery use or storage, or any other damaging management activities.	Pass
F	Sufficient water levels are maintained - as a guide a minimum summer depth of approximately 50 cm in minor ditches and 1 m in main drains.	-
G	Less than 10% of the ditch is heavily shaded.	Pass
H	There is an absence of non-native plant and animal species.	Pass
	Total:	**6**
	Condition:	**Moderate**

3.4.2 Native hedgerow

A hedgerow with >80% canopy cover of UK native or archaeophyte woody species.

There is one native hedgerow present at the site, H1, which runs along the south-western border of the site from the southern boundary to the entrance to the car park.

The hedgerow is made up of Hornbeam, with an Ivy understorey.

Condition Assessment : Linear Features: Hedgerows		Habitat Parcel Reference
Condition Criteria		**H1**
A1: Height	>1.5 m average along length	Pass
A2: Width	>1.5 m average along length	Pass
B1: Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length	Pass
B2: Gap - hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5 m	Pass
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).	Pass
C2: Nutrient-enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	Pass
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 WCA3) and recently introduced species.	Pass
D2: Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	Pass – but is has been heavily managed
	Total:	**8**
	Condition:	**Good**

3.4.3 Line of trees

A line of trees, LT1, runs along the northern edge of the site within the area TF2. The trees are mainly Sycamore.

Condition Assessment- Linear Features: Line of Trees		Habitat Parcel Reference
Condition Criteria		**LT1**
A	At least 70% of trees are native species.	Fail – mainly Sycamore
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.	Pass
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.	Pass – Ivy on some trees
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	Fail – Almost, backs onto residential

	veteran trees are present, root protection areas should follow standing advice.	housing to the north
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.	Pass
	Total:	**3**
	Condition:	**Moderate**

4. BASELINE BIODIVERSITY UNIT CALCULATIONS

4.1 Baseline Biodiversity Units

The baseline Biodiversity Unit (BU) site values are presented in the following tables. Habitats that are of the same type and condition have been grouped together.

Area Habitat Type	Distinctiveness Score		Condition Score		Baseline Biodiversity Units (BU)
Grassland – Modified grassland	Low	2	Poor	1	6.86
Grassland – Other neutral grassland	Medium	4	Moderate	2	0.23
Grassland – Other neutral grassland	Medium	4	Poor	1	5.28
Heathland and shrub – Blackthorn scrub	Medium	4	Poor	1	0.85
Heathland and shrub – Bramble scrub	Medium	4	Condition Assessment N/A	1	1.58
Heathland and shrub – Hawthorn scrub	Medium	4	Poor	1	0.30
Heathland and shrub – Mixed scrub	Medium	4	Moderate	2	0.17
Heathland and shrub – Mixed scrub	Medium	4	Poor	1	0.17
Wetland - Reedbed	High	6	Good	3	8.37
Wetland – Pond (non-priority)	Medium	4	Moderate	2	4.08
Sparsely vegetated land – Tall forbs	Low	2	Moderate	2	0.45
Urban – Developed land; sealed surface	Very low	0	Condition Assessment N/A	0	0
Urban – Built linear features	Very low	0	Condition Assessment N/A	0	0
Urban – Introduced shrub	Low	2	Condition Assessment N/A	1	0.07
Other woodland; broadleaved	Medium	4	Moderate	2	1.31
Other woodland; broadleaved	Medium	4	Poor	1	0.29
Individual trees – rural trees	Medium	4	Good	3	3.49
Individual trees – rural trees	Medium	4	Moderate	2	1.79

Total:	**35.29***

*Note the sum of columns may differ from the total units stated. This is due to rounding and is not considered significant. The totals stated reflect those calculated within the Biodiversity Metric Calculator Tool.

Linear Habitat Type	Distinctiveness Score		Condition Score		Baseline Biodiversity Units (BU)
Line of trees	Low	2	Moderate	2	0.39
Hedgerow	Low	2	Good	3	0.52
Ditch	Medium	4	Good	3	2.47
				Total:	**3.38**

All calculations were put through the Biodiversity Net Gain Metric 'Off-site habitats' tabs.

The total baseline biodiversity units present at the site is **38.67.**

5. POTENTIAL HABITAT UNIT UPLIFT

5.1 Overview

Habitat units can be gained by enhancing the current habitats to higher condition or higher value habitat type or creating new habitats. The following habitat creation and enhancement measures are suggested. Recommendations are based on the site's current habitats and their condition, the relative feasibility of potential enhancement measures and the need to take other site use, including public use, into account.

5.1.1 Temporal Risk Multiplier

The temporal risk is the 'time to target condition' for any habitat and determines how long a particular habitat type is likely to take to reach the desired condition score.

If habitats are to be enhanced/created in advance, then the temporal risk will need to be changed accordingly which will impact the level of biodiversity units provided.

5.2 Habitat Enhancement

The best way to gain habitat units would be to enhance the current habitats to higher condition. As the majority of the site is currently poor condition modified grassland, improving this to a higher condition is considered to be the easiest way to gain habitat units from the site. This would involve enhancing the current poor condition modified grassland to moderate condition.

Enhancing areas of poor and moderate condition neutral grasslands and broadleaved woodland areas will also gain habitat units.

Below is a table showing various enhancement options. The areas given are what is required to achieve **1 habitat unit**.

Current habitat		**Size of area to be enhanced (ha)**		**Proposed habitat**		**% of habitat used**
Habitat	**Condition**			**Habitat**	**Condition**	
Modified grassland	Poor	**0.268**	→	Modified grassland	Moderate	**8.59**

Other neutral grassland	Poor	**0.134**	→	Other neutral grassland	Moderate	**11.16**
Blackthorn scrub	Poor	**0.124**	→	Blackthorn scrub	Moderate	**63.91**
		0.095	→	Blackthorn scrub	Good	**48.96**
Other broadleaved woodland	Moderate	**0.084**	→	Other broadleaved woodland	Good	**56.45**

The following habitats were too small to gain 1 habitat unit from enhancement.

- Enhancing all 0.068 ha of the poor condition Hawthorn scrub to moderate condition would gain **0.55 habitat units**. Alternatively, enhancing it to good condition would gain **0.72 habitat units**.

- Enhancing all 0.019 ha of the moderate condition mixed scrub to good condition would gain **0.24 habitat units.**

- Enhancing all 0.038 ha of the poor condition mixed scrub to moderate condition would gain **0.31 habitat units**. Alternatively, enhancing it to good condition would gain **0.4 habitat units.**

- Enhancing all 0.065 ha of the poor condition broadleaved woodland to moderate condition would gain **0.49 habitat units**. Alternatively, enhancing it to good condition would gain **0.57 habitat units.**

5.2.1 Linear habitats

As the current hedgerow H1 is already of good condition, there is no option to achieve additional habitat units by enhancement, instead it should be maintained at good condition.

The line of trees, LT1, is currently moderate condition and enhancement to good condition is considered possible. Enhancing the whole length to moderate condition would gain **0.52 habitat units.**

5.3 Habitat Creation

5.3.1 Grassland and scrub

Another way to gain habitat units would be to create a habitat of higher distinctiveness, and therefore value. Creating moderate condition neutral grassland and/or mixed scrub would be the easiest way to achieve habitat units. Either would add greater habitat diversity to the site, but consideration will need to be given to public opinion as scrub while extremely valuable for wildlife, is often not favoured by the public.

Creation of moderate condition neutral grassland and/or mixed scrub would entail the loss of an area of modified grassland, but, as the new habitats are of higher distinctiveness and condition, its creation would achieve a higher number of habitat units once it has reached target condition, so creating a net gain.

The area given in the table below is that required to achieve **1 net habitat unit** (accounting for the loss of units from the modified grassland to be lost to make way for the habitat creation) at this site with the creation of higher distinctiveness, moderate condition grassland and/or mixed scrub.

Habitat	Distinctiveness	Condition	Size of habitat creation area (ha)	% of habitat used
Other neutral grassland	Medium	Moderate	0.194	6.22
Mixed scrub	Medium	Moderate	0.136	4.36

5.3.2 Tree planting

If considered appropriate for the site, tree planting can be used to attain further habitat units. The table below shows the number of native trees that could be planted to achieve **1 habitat units**. This is with the assumption that new whips would be planted instead of more mature trees.

Tree Planting						
Habitat	**Tree size within 30 years**	**Native/non-native**	**Condition**	**No. of trees**	**Metric area equivalent (ha)**	**Habitat units achieved**

Individual tree – rural	Small (greater than 7cm and less than or equal to 30cm diameter at breast height)	Native	Poor	80	0.3257	**1**

5.4 Linear Habitat Creation

There is the potential, subject to feasibility, that the site could be used to plant more hedgerows. Planting hedgerows along the pathways that cross the site would provide habitat corridors for wildlife.

- Planting 0.136 km of moderate condition **species-rich** native hedgerow would provide **1 habitat unit.**
- Planting 0.272 km of moderate native hedgerow would provide **1 habitat unit.**

To be considered species rich, a hedgerow has to be planted with five or more native species.

5.5 Management

5.5.1 Overview

In order to achieve the habitat enhancements and creations within the 30-year timeframe, the habitats will have to be managed to achieve the condition targets. Management advice is listed below for each suggested scenario (see section 5.2 – 5.4).

5.5.2 Modified grassland enhancement

To achieve the target enhancement of the current poor condition modified grassland to moderate condition, certain criteria in the condition assessments will have to be achieved by changing the management and mowing regime.

Currently the grassland fails criteria A and B, with a pass of A required for moderate to good condition modified grassland.

- Criteria A: "There are 6-8 vascular plant species per m2 present, including at least 2 forbs."

- Criteria 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."

To achieve moderate condition, an increase in species per m2 is required. Examples of ways to increase the biodiversity of plants in a grassland include:

- Less frequent cutting
- Cutting in early spring to knock back dominant grasses, and an autumn cut
- Reducing nutrients by removing grass cuttings
- Consider native seeding to add species
- Varying the sward height

5.5.3 Neutral grassland enhancement

Currently most areas of neutral grassland, G4-G6, fail criteria A and F, with a pass of A required for moderate to good condition other neutral grassland, and a pass of F for good condition.

- Criteria 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)."
- Criteria F: "There are 10 or more vascular plant species per m2 present, including forbs that are characteristic of the habitat type."

To achieve moderate condition, an increase in species per m2 is required. The management suggestions given in section 5.5.2 above would also achieve this for other neutral grassland.

Preventing scrub encroaching will also contribute to enhancing the condition of the grassland areas.

5.5.4 Blackthorn scrub enhancement

To enhance poor condition Blackthorn scrub to moderate or good condition, the following management prescriptions can be used:

- Creating more open space to encourage greater structural diversity and sheltered edges
    - Clearing areas to create glades, clearings and rides within areas of dense scrub
    - Trimming of scrub edges to develop a graded margin down to field layer
- Encouraging a varied age structure throughout the scrub patches by selective thinning and coppicing to promote regeneration of seedlings and saplings
- Preventing dominance of one species (>75%) to create more biodiversity
- Clearing areas of scrub to allow other species to regenerate
- Planting of different native species
- Removing species indicative of sub-optimal condition such as Cotoneaster

5.5.5 Line of trees enhancement

The line of trees currently fails most of the condition criteria, including having more than 70% native species and having naturally vegetated habitat on both sides of the trees. To reach moderate condition, improving one of these features would be necessary. The best way to achieve this would be by planting more native trees in the larger gaps between trees – doing this will likely increase the native trees to over 70% while also reducing the gaps, leading to a pass of both features.

5.5.6 Grassland creation

Other neutral grassland is defined as a grassland where ‘Perennial Rye-grass *Lolium perenne* is likely to be present at <30% with between 9 and 15 further species (m2) also present.’

To create other neutral grassland, it is crucial that nutrients are removed from the soil to encourage the growth of a greater variety of plant species. The same recommendations mentioned above in 5.5.2 are recommended here, with the addition of greater measures to reduce the nutrient levels, such as:

- Removing the nutrient rich topsoil layer by turf stripping or, for a gentler approach, scarification.
- Planting Yellow rattle to control dominant grasses.

To reach the target condition of moderate, it is essential that the grassland passes Criteria A of the medium-high distinctiveness grassland condition assessment:

"The grassland is a good representation of the habitat type it has been identified as, based on its UKHab description - the appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type. Indicator species listed by UKHab for the specific grassland habitat type are consistently present. "

Other management needed to maintain condition includes:

- Preventing scrub encroachment
- Preventing bare ground from exceeding 5 % cover
- Preventing species indicative of sub-optimal condition from exceeding 5% cover, such as Creeping Thistle, White Clover and Greater Plantain

5.5.7 Scrub creation

There are multiple ways to create areas of scrub within the grassland. Scrub will grow in unmanaged areas close to areas of trees and shrubs, where there is an existing seed source. This can be alongside hedgerows or alongside a wood edge, to create a transition between wood and open ground.

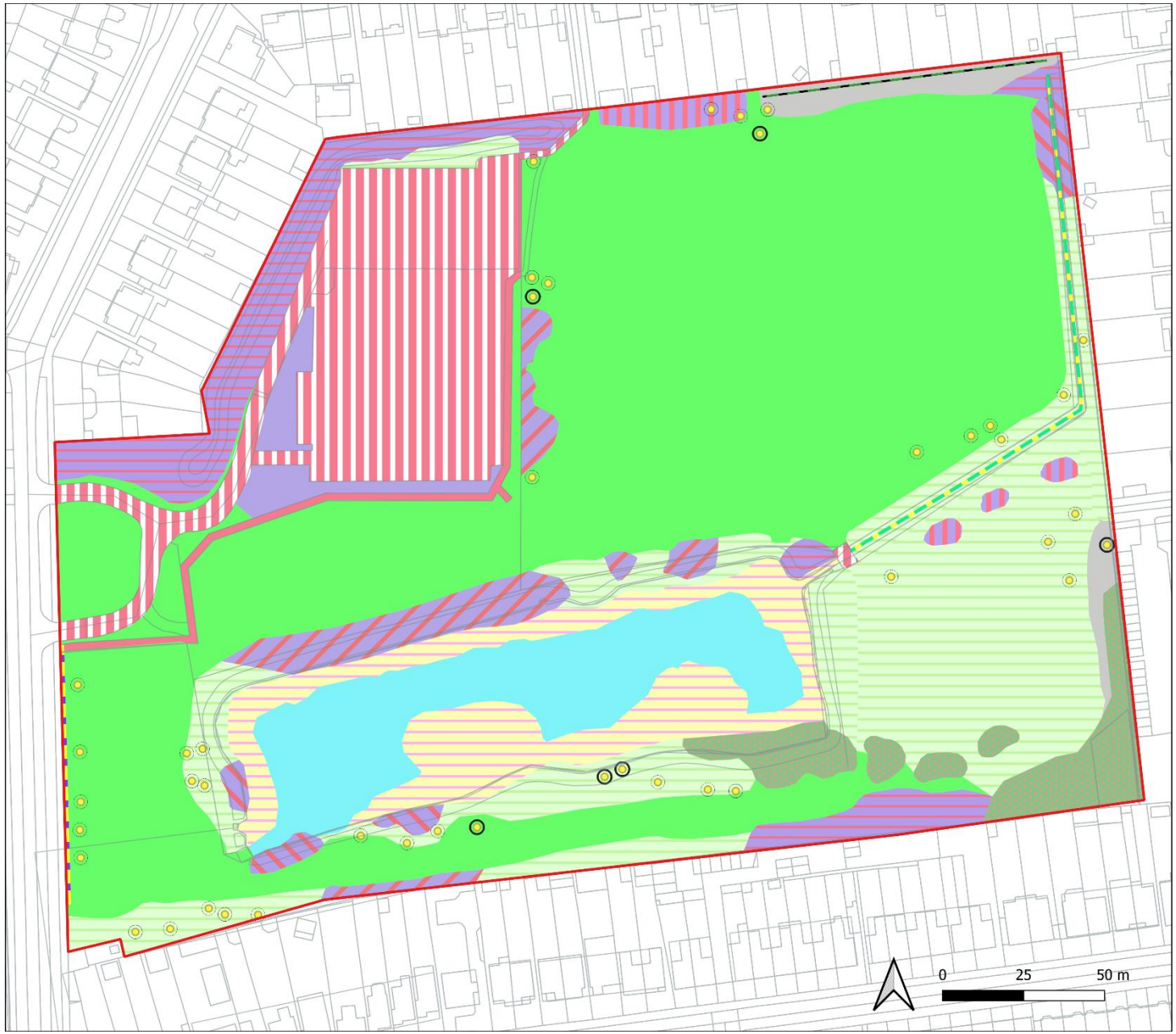
The simplest way would be to allow for natural regeneration, but some planting may be needed and will help increase the diversity of species. The scrub should be planted in clumps instead of lines to recreate a more natural establishment, with unplanted gaps left to create open ground as part of the mosaic. Cuttings or the use of Layering from nearby mature scrub could be used.

Species to use should include:

- Hawthorn

- Blackthorn
- Hazel
- Dog Rose
- Field Rose

Further management should include rotational cutting – the best scrub is when there is a mosaic of different heights and ages, and therefore it should not all be cut at once when established.



Map 1. Southchurch Park East,
Southend-on-Sea,
Baseline Habitats

Red Line Boundary

Habitats Baseline
- Blackthorn scrub
- Bramble scrub
- Hawthorn scrub
- Mixed scrub
- Built linear features
- Developed land; sealed surface
- Introduced shrub
- Modified grassland
- Other neutral grassland
- Other woodland; broadleaved
- Ponds (non-priority habitat)
- Reedbeds
- Tall forbs

Hedgerow Baseline
- Line of trees
- Native hedgerow

Watercourse Baseline
- Ditches

Individual tree Baseline
- Existing Large Rural Tree
- Existing Medium Rural Tree
- Existing Small Rural Tree

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Map 2. Southchurch Park East,
Southend-on-Sea,
Habitat Reference Locations

Red Line Boundary

Area Habitats
- Blackthorn scrub
- Bramble scrub
- Hawthorn scrub
- Mixed scrub
- Built linear features
- Developed land; sealed surface
- Introduced shrub
- Modified grassland
- Other neutral grassland
- Other woodland; broadleaved

- Ponds (non-priority habitat)
- Reedbeds
- Tall forbs

Linear Habitats
- Line of trees
- Native hedgerow

Watercourse Baseline
- Ditches

Habitat Reference

G - Grassland	TF - Tall forbs
S - Scrub	P - Pond
W - Woodland	R - Reedbed

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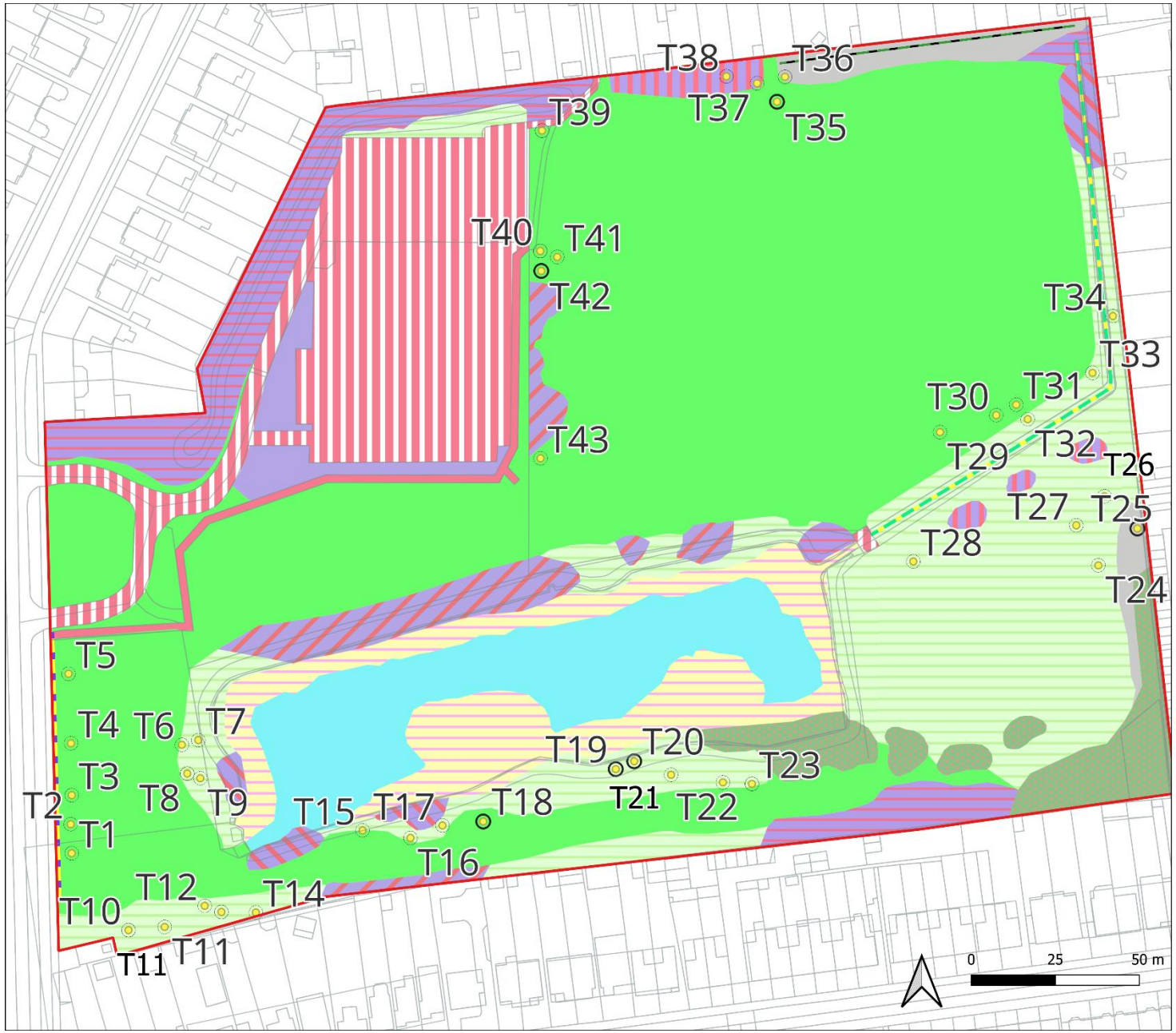

Map 3. Southchurch Park East,
Southend-on-Sea,
Tree Reference Locations

Red Line Boundary

T1-T43 - Tree Target Notes

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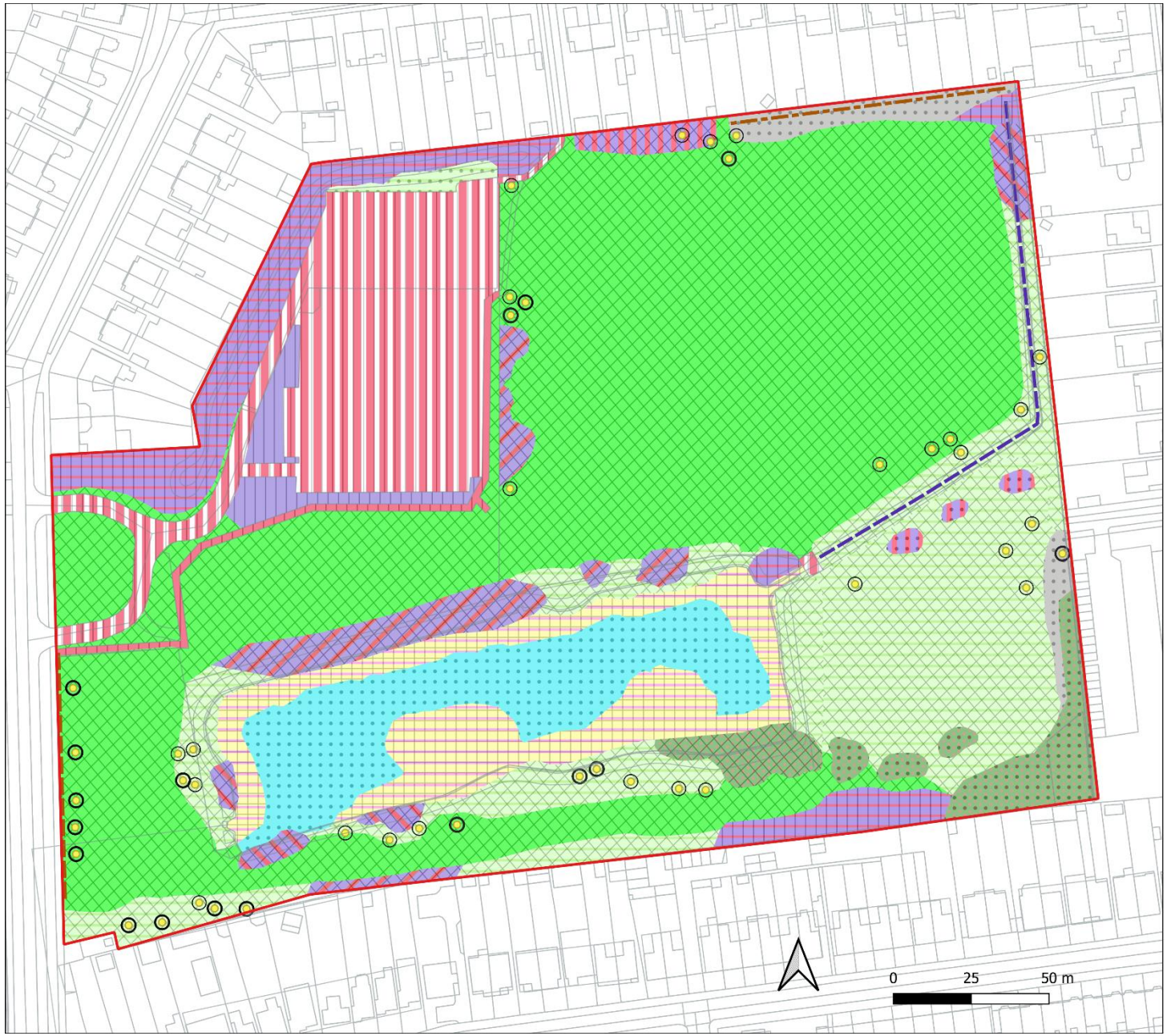

Map 4. Southchurch Park East,
Southend-on-Sea,
Habitat Conditions

Red Line Boundary

Baseline Habitat Condition
- Good
- Moderate
- Poor
- N/A - Other
- Condition Assessment N/A

Baseline Hedgerow Condition
- Good
- Moderate

Baseline Watercourse Condition
- Good

Baseline Individual tree Condition
- Moderate
- Good

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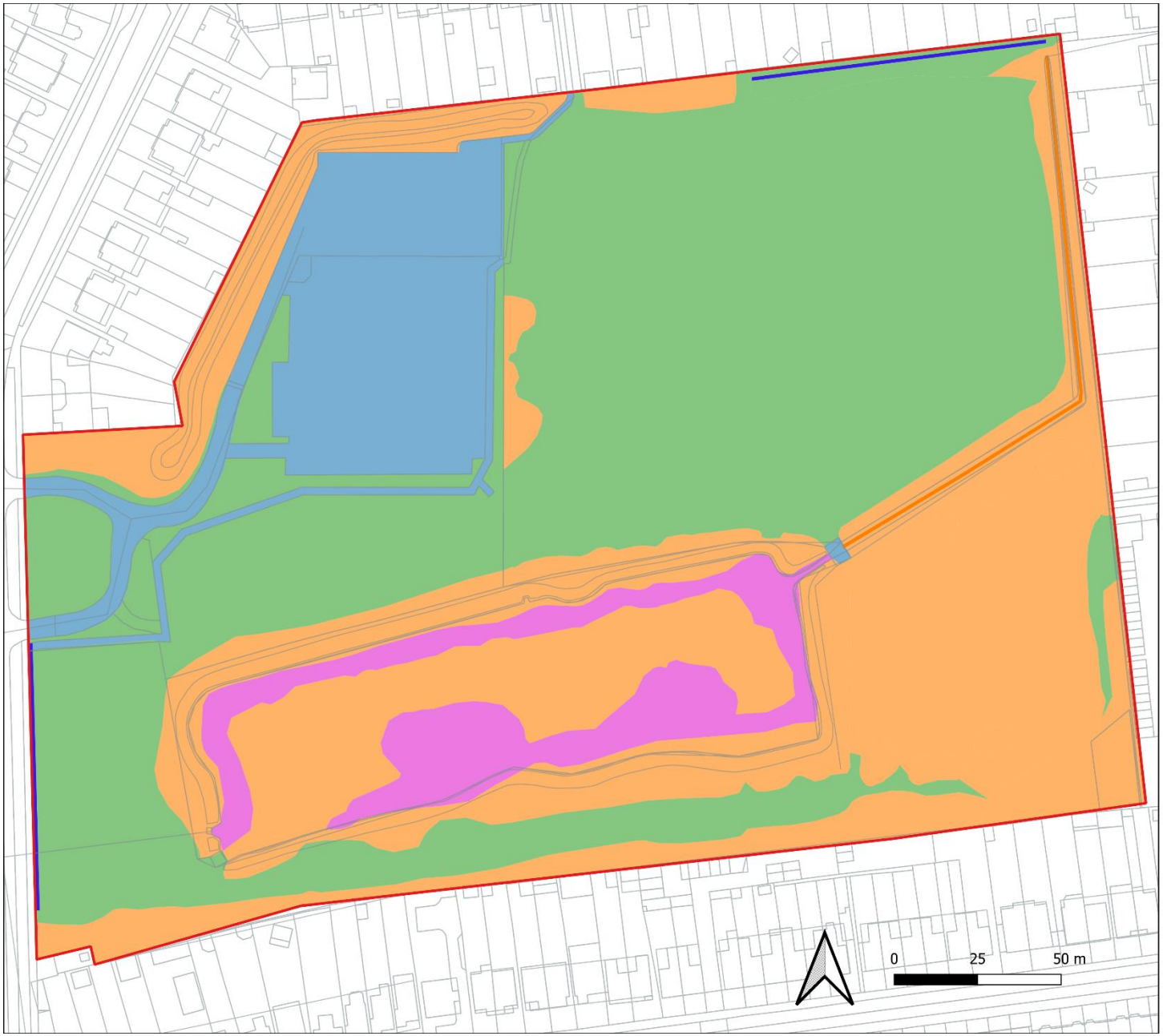

Map 5. Southchurch Park East,
Southend-on-Sea,
Habitat Distinctiveness

Red Line Boundary

Baseline Habitat Distinctiveness
- High
- Medium
- Low
- V.Low

Baseline Hedgerow Distinctiveness
- Low

Baseline Watercourse Distinctiveness
- Medium

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Bibliography and References

The Statutory Biodiversity Metric (DEFRA) November 2023

UKHab Ltd (July 2023). UK Habitat Classification 2.0 (at https://www.ukhab.org)

Appendix 1: Photographs

Photograph 1. Grassland G2.

Photograph 2. Grassland G8.

Photograph 3. Grassland G7.

Photograph 4. Grassland G5.

Photograph 5. Grassland G6.

Photograph 6. Scrub patch S9.

Photograph 7. The area of tall forbs, TF2.

Photograph 8. The pond, P1.

Photograph 9. Reedbed, R1.

Photograph 10. Grassland G7 and ditch D1.

Photograph 11. Scrub patch S7.

Photograph 12. Woodland W3.