

Biodiversity Net Gain – Assessment Summary

Site: 7 Starkey Street, Heywood, Barnsley

Client: Factor 9 Design

Date: September 2022



Document Control Sheet

<i>Title</i>	Biodiversity Net Gain – Assessment Summary			
<i>Client</i>	Factor 9 Design			
<i>GC Document Reference</i>	J220984-GC-E-RP-3-001			
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1.0 Introduction

- 1.1 Ground Control Ltd was instructed by Factor 9 Design to undertake a Biodiversity Net Gain assessment for a site located at 7 Starkey Street, Heywood, Barnsley. The proposed scope of works includes the construction of 20 new residential dwellings. It is understood that full site clearance will be required to facilitate the works.
- 1.2 The below document sets out the results of the baseline assessment, post development assessment based on the current scheme proposals and the next steps in terms of biodiversity units.
- 1.3 Calculations for the potential net gains available have been undertaken using the DEFRA Small Sites Biodiversity Metric 1.1 Auditing and accounting for biodiversity Calculation tool.
- 1.4 As the number of proposed dwellings exceeds nine units, typically the main Metric 3.1 would be utilised, however, the small sites metric has been adopted in this scenario as advised and requested by the LPA ecologist. Notwithstanding this, it should be noted that the dwelling quantity has no impact on the Biodiversity units or calculations undertaken using the metric. In order to satisfy the metrics error codes the number of dwellings in this has been entered as '9', with reference to the text above.
- 1.5 The baseline habitats are based on the UK Hab and ecological walkover survey undertaken by Middleton Bell Ecology in January 2021, however, in order to inform this calculator, a secondary photographic walkover survey was undertaken by Factor 9 Design in August 2022.
- 1.6 The proposed habitats for the site are as per the landscape proposals plan enclosed within Appendix B - Soft Landscape Proposals Plan J220424-GC-L-DR-3-001.
- 1.7 A local biological record centre search was carried out as part of the sites initial Preliminary Ecological Appraisal by Middleton Bell Ecology to determine if any non-statutory designated local wildlife sites, notable or protected species are found in the area. The Natural England MAGIC database was also consulted to identify areas which have been given statutory designations. The aforementioned desk study results and site background information is detailed within the Preliminary Ecological Appraisal undertaken by Middleton Bell Ecology (report ref: MBE/ECO/2020/34/2).

2.0 Methodology

- 2.1 The biodiversity metric calculates the scale of an impact or enhancement. To calculate the biodiversity units, which may be achieved post development, risk multipliers are also introduced to account for difficulty of habitat creation (delivery risk); distance of offset from development (spatial risk); and time for created habitats to reach target condition (temporal risk).
- 2.2 The metric comprises:
- Calculation of the baseline number of biodiversity units for the proposed development (Baseline Biodiversity Units);
 - Calculation of the anticipated (future) number of biodiversity units on the proposed development (Post development biodiversity units) using the multipliers provided by Natural England (Natural England, 2021).
 - Subtraction of the baseline biodiversity units from the anticipated (post-construction) biodiversity units to calculate the residual biodiversity units for the site. The calculation can be summarised as:

$$\begin{aligned} &\textbf{Anticipated Biodiversity Units} - \textbf{Baseline Biodiversity Units} \\ &= \textbf{Residual Biodiversity Units} \end{aligned}$$

- 2.3 This is a net change calculation (despite the process being referred to as 'net gain'), as the residual biodiversity units can be: positive, negative or neutral (no-change). If the residual biodiversity number is positive, the development has achieved a net gain in biodiversity. Negative numbers indicate a net loss in biodiversity at the site; with numbers close to zero (including zero) indicating no change in biodiversity.
- 2.4 Survey data collected as part of the PEA undertaken by Middleton Bell Ecology (report ref: MBE/ECO/2020/34/2) alongside a photographic walkover undertaken by the client was used to inform the Biodiversity Metric calculation using the online BNG tool published by Natural England.

3.0 Results

3.1 Baseline Habitat Information and Assessment

The baseline habitats of the site have been recorded as part of the sites Preliminary Ecological Appraisal undertaken by Middleton Bell Ecology in January 2021. An up-to-date validation of these habitats was subsequently undertaken by the client through a photographic walkover in August 2022, of which the initially recorded habitats and extents remain applicable.

Condition assessments of the existing baseline habitats are not required under Natural England's Small Sites Metric and have therefore not been included.

An extract of the baseline habitats description from Middleton Bell Ecology's Preliminary Ecological Appraisal report (MBE/ECO/2020/34/2) has been included below with the Baseline Habitat Plan enclosed within Appendix A.

Habitats

g4 - Modified grassland



Plate 1 & 2: Modified Grassland

*'This habitat constitutes the majority of the site. The areas of modified grassland formerly comprised a lawn which has not been mowed for several years. The outgrown lawn is dominated by perennial ryegrass *Lolium perenne* together with springy turfmoor *Rhytidiadelphus squarrosus*. Frequent species include creeping bent *Agrostis stolonifera* and ragwort *Senecio jacobaea*, with species present in smaller quantities including common bent *Agrostis capillaris*, red fescue *Festuca rubra*, creeping buttercup *Ranunculus repens*, ribwort plantain *Plantago lanceolata*, cocksfoot *Dactylis glomerata*, spear thistle *Cirsium vulgare* and soft rush *Juncus effusus* (secondary code 14).'*

h3d & h3h - Bramble and mixed scrub



Plate 3 & 4: Bramble Scrub by Existing House



Plate 5 & 6: Mixed Scrub to Northern Boundary

'Along the northern boundary is a linear area of mixed scrub containing bramble *Rubus fruticosus*, hawthorn *Crataegus monogyna*, elder *Sambucus nigra* and *Rhododendron ponticum*. There is also a cherry *Prunus avium* which is in excess of 5m (secondary code 11). The area of scrub adjacent to the north and west elevations of the dwelling is dominated by bramble together with occasional sycamore *Acer pseudoplatanus*, holly *Ilex aquifolium*, silver birch *Betula pendula* and butterfly bush *Buddleia davidii*. There are also some moderately large trees (c30 years old) near the western boundary including several wych elm *Ulmus glabra* (one dead) and a sycamore (secondary codes 11 & 159).'

h2b - Other hedgerow



Plate 7 & 8: Existing Leylandii Hedge

'The hedgerows denoted are located on the south and east boundaries and comprises a Leyland cypress *Cupressocyparis leylandii* hedge in excess of 15m high and 2m wide. A similar section along the northern boundary is better described as tall trees whilst a section of the western boundary is dominated by garden privet *Ligustrum ovalifolium*.'

u1b5 - Buildings



Plate 9 & 10: Existing Dwelling and Garages

'Onsite buildings comprise a large, detached dwelling and several garages. The potential of these buildings to support roosting bats is detailed in the species section of the report.'

u1b6 - Other developed land; sealed surface



Plate 11: Existing Moss Covered Tarmac

*'Other developed land/sealed surface, on site comprises tarmac driveways and paved areas within the rear garden. A build-up of a humus layer atop the sealed surfaces now supports areas of springy tuft moss and pioneer grasses such as creeping bent, together with great plantain *Plantago major* and thistles (secondary code 17).'*

w1g6 - Line of trees

'On the northern boundary of the site is a line of very large Leyland cypress in excess of 20m high.

Scattered urban trees are also included along the north, east and western boundaries of the site. Refer to AWA's Arboricultural Report and Impact Assessment (AWA4469) for detail.'

3.2 Baseline Biodiversity Net Gain Score

A plan of the UKHab baseline habitats prepared by Middleton Bell Ecology can be found in Appendix A.

From assessing the existing baseline habitats and inputting these into Small Sites Metric, the site has the following baseline values:

Baseline Value	
Type	Units
Habitat Units	0.9124
Hedgerow Units	0.1631

The existing habitats have been classified as not strategically significant with the site dominated by modified grassland.

3.3 Post Development Biodiversity Net Gain Score

The post development habitats have been based on the proposals set out in Ground Controls Soft Landscape Proposals Plan J220424-GC-L-DR-3-001, a copy of which can be found in Appendix B.

In order to develop the site all existing habitats will have to be cleared and therefore the Biodiversity Net Gain score has been based on the newly created habitats only rather than enhancements to existing.

The site will see the creation of the following habitat types:

- Introduced Shrub in the form of Ornamental Planting;
- Modified Grassland;
- Developed, Sealed Land in the form of both hard standing (footpaths/ parking areas);
- Buildings;
- Unvegetated, unsealed surface in the form of bark mulch areas;
- Hedgerows – Both native and ornamental; and
- New tree planting.

The proposed habitats have been reviewed and inputted into the Small Sites Metric generating the following post development values:

Post Development Value	
Type	Units
Habitat Units	0.2452
Hedgerow Units	0.4545

3.4 Residual Biodiversity Net Gain Score

From inputting both the baseline and post development habitats to the Small Site metric the following results are concluded:

Biodiversity Net Gain Score – Total Net Unit Change	
Type	Units
Habitat Units	-0.6672
Hedgerow Units	0.2914

Biodiversity Net Gain Score – Total Net % Change	
Type	% Change
Habitat Units	-73.13%
Hedgerow Units	178.68%

It should be noted that an error arises 'Error Check 3 & 4' when inputting area values into the calculator. This is caused by what appears to be a formulaic error in the calculator as the pre and post development area values entered are equal. It has been assessed that this is not a significant error, nor will it affect the overall output in a meaningful way.

The development will result in a loss of 0.6672 habitat units, which is equal to a net habitat loss of 73.13%.

However, a net gain will be seen in regard to Hedgerow units with an increase of 0.2914 units and net gain of 178.68%. The hedgerow units and trading rules are therefore satisfied by the metric with the current proposals.

A summary of the habitat and hedgerow unit change as a result of the development can be seen in the below chart:

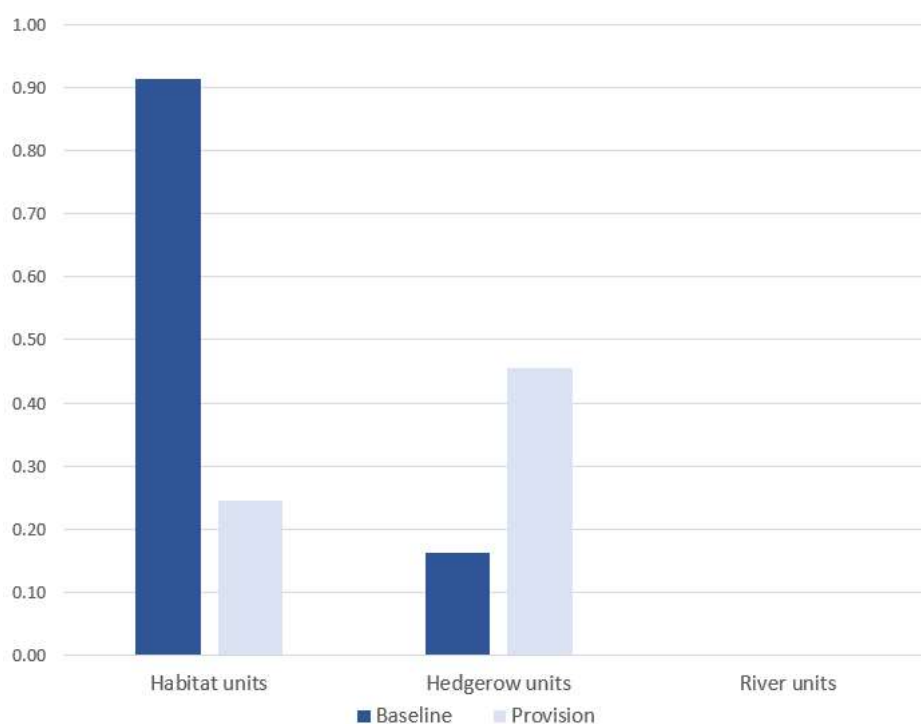


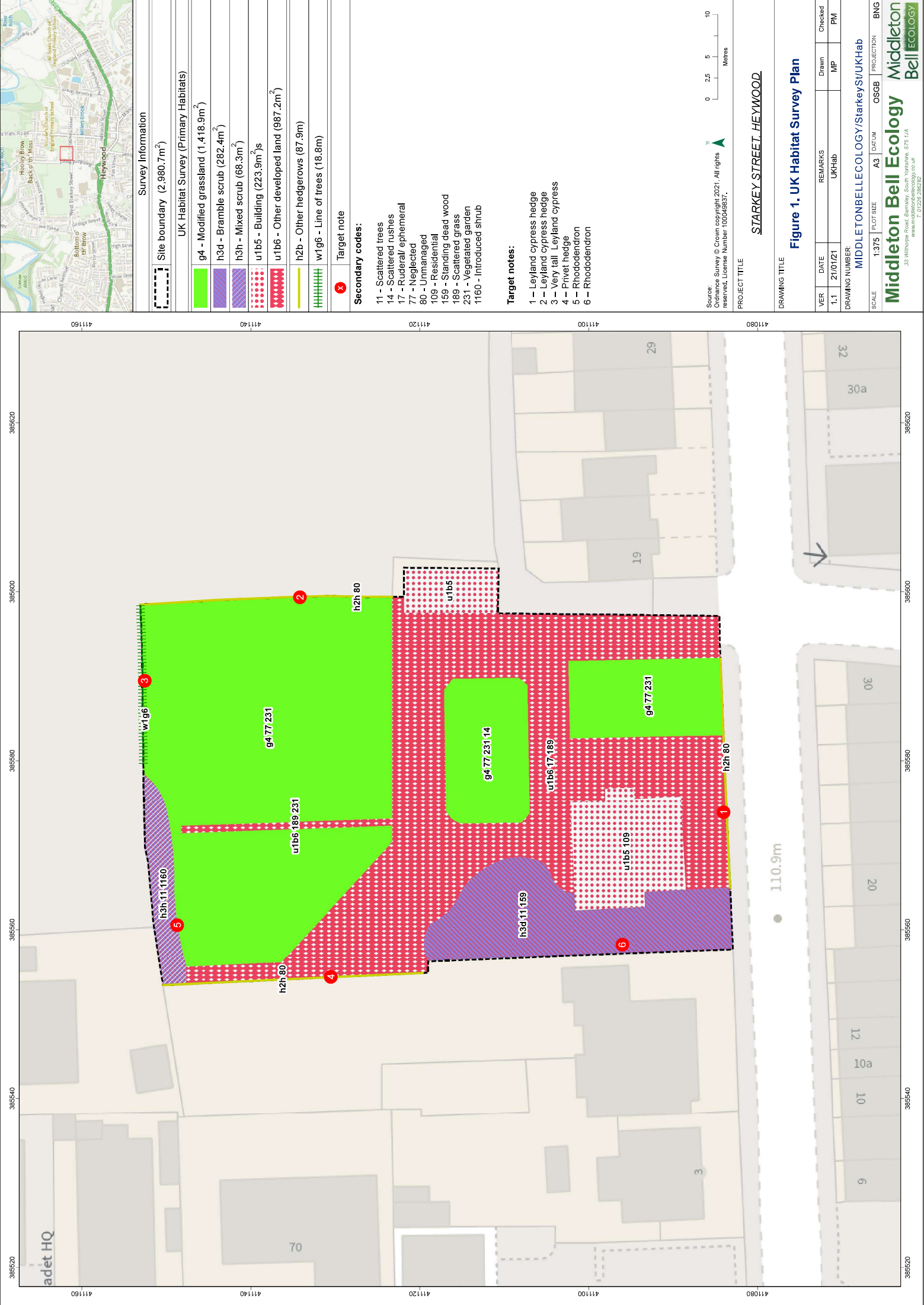
Plate 12: Units Change by Habitat Group

4.0 Analysis and Recommendations

- 4.1 Based on the results of the Biodiversity Net Gain generated by the small sites metric it is clear the site is in deficit of habitat units of which an additional 0.7585 units would be required to meet the 10% net gain target. It should be noted however, the gain in hedgerow units exceeds the minimum required by the metric.
- 4.2 Considering the sites small size, layout, use and appropriate typologies of landscaping surrounding the residential units, it is deemed that the creation of the additional habitats (to meet 10% net gain) on site is unfeasible. Whilst minor amendments to the sites proposals through layout and proposed landscaping changes could be considered; given the nature of the development and the type of landscaping appropriate for the developments use, it has been assessed that amendments of this scope and scale (minor) would not be large enough to achieve a 10% net gain, nor would it provide a meaningful positive impact for local wildlife, whilst maintaining the feasibility of the scheme.
- 4.3 Whilst third-party off-site mitigation/ unit purchase is a consideration, it would be financially impractical to purchase biodiversity credits from a third-party for this scheme, primarily due to the administration and legal fees associated with that transaction.
- 4.4 For that reason, it is recommended that the most appropriate solution for this scheme would be for an agreed financial contribution, in proportion to the calculated habitat loss on site, be made between Factor 9 Design and Local Authority, in compensation for the (habitat areas) Biodiversity Net Gain deficit.

Appendix A – Baseline Habitats Plan

The enclosed plan has been prepared by Middleton Bell Ecology as part of the Preliminary Ecological Appraisal (Document Ref: MBE/ECO/2020/34/02).



Survey Information

Site boundary (2,980.7m²)

UK Habitat Survey (Primary Habitats)

g4 - Modified grassland (1,418.9m²)

h3d - Bramble scrub (282.4m²)

h3h - Mixed scrub (68.3m²)

u1b5 - Building (223.9m²)s

u1b6 - Other developed land (987.2m²)

h2b - Other hedgerows (87.9m)

w1g6 - Line of trees (18.8m)

Target note

Secondary codes:

- 11 - Scattered trees
- 14 - Scattered rushes
- 17 - Ruderal/ ephemeral
- 77 - Neglected
- 80 - Unmanaged
- 109 - Residential
- 159 - Standing dead wood
- 189 - Scattered grass
- 231 - Vegetated garden
- 1160 - Introduced shrub

Target notes:

- 1 - Leyland cypress hedge
- 2 - Leyland cypress hedge
- 3 - Very tall Leyland cypress
- 4 - Privet hedge
- 5 - Rhododendron
- 6 - Rhododendron

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PROJECT TITLE

STARKEY STREET, HEYWOOD

DRAWING TITLE

Figure 1, UK Habitat Survey Plan

VER	DATE	REMARKS	Drawn	Checked
1.1	21/07/21	UKHab	MP	PM
DRAWING NUMBER: MIDDLETONBELLECOLOGY/StarkeyS/UKHab				
SCALE	1:375	PLOT SIZE	A3	DATUM
		OSGB	PROJECTION	BNG
Middleton Bell Ecology Middleton Bell Ecology				
33 Whitcombe Road, Barnsley, South Yorkshire, S75 1JA				
www.middletonbell.co.uk				
T: 01225 286282				

Appendix B – Proposed Soft Landscaping Plan

The enclosed plan (J220424-GC-L-DR-3-001) has been prepared by Ground Control and sets out the Soft Landscape Proposals for the site.

Planting Schedule

NOTES:

1.0 DRAWING INFORMATION

- 1.1 Drawing based on the following drawings:
 - 65030313-SWEZ-2007-08-Q0105 Rev. P02, Surface & Fod
 - Water Drainage Layout, SWEZCO
 - ACS Consulting Tree Survey Plan.
- 1.2 Hard landscape works specified by others.
- 1.3 Planting has been specified based on installation during the planting season (November to April) and no scheme is to be implemented during the winter months (May to October) (R8) stock to be used to plant (R8) stock to be used to plant to conform with plan.

2.0 SITE PREPARATION

- ## 2.1 EXCAVATION
- The following areas are to be excavated to the following depths prior to top-soiling :

1. Shrub planting - 450mm
2. Grass areas - 150mm

3. Trees – Tree pit should be no deeper than the existing root ball or container depth and should have a diameter of at least 75mm greater than that of the root system in accordance with the BS 5545:2014.

2.2 TOPSOIL

- | | |
|-------|--|
| 2.2.1 | Imported topsoil to meet BS3682:2015 'Multi-purpose' classification standards. |
| 2.2.2 | Site Wen topsoil to be tested in accordance with BS 3682:2015 |
| 2.2.3 | Soil test for suitability for intended use. Soil to be approximately 50mm below any existing surface prior to planting and mulching. |
| 2.2.4 | Remaining landscape areas to be graded 15cm with existing/unimproved levels. |
| 2.2.5 | All topsoiled areas to be clear of rocks and rubble larger than 60mm and any other debris that may interfere with the |

establishment of pla

- 2.3 EXISTING TREES TO BE RETAINED**
Refer to AVIA Tree Consultants, Arboricultural Report & Impact Assessment (AVIA4159) & Tree Constraints and Protection Plan for details of tree protection methods.

3.0 PLANTING

- 3.1 GENERAL**
- 3.1.1** All proposed species shall be true to type and supplied in accordance with HTA 'National Plant Specification'.
- 3.1.2** All planting to be handled, stored, transported and planting in accordance with HTA 'Handling and establishing landscape

3.1.3 All planting to be with plants' guidance

- 3.2 ORNAMENTAL SHRUB, HERBACEOUS PLANTING & ORNAMENTAL HEDGE: Lavender, Choisya ternata, Viburnum 'Five Prince' & Hoba

3.2.1 Topsoil to all shrub p

- 3.2.2 Planting seeds to be **cultivated** to 300mm depth incorporating composted soil improver (detailed above) and **slow release** fertilizer to manufacturers recommended rates.
- 3.2.3 All planting to be planted at scheduled densities and in

3.2.4 Ornamental hedges

- will not need regular pruning. *Chiosya* hedge may be topped and maintained at 1.2m height and *Veurnum* hedge to be topped and maintained at 1.8m height.

3.3 NATIVE HEDGE PL

- 3.3.2 All plants to be notch planted at scheduled density of 5 linear m.
3.3.3 Plants to be set out in double staggered parallel rows 450mm apart.

3.4 TREE PLANTING

- 3.4.1 At time of planting, compost and **slow release fertilizer** to be incorporated into backfill material at manufacturers recommended rates.
- 3.4.2 Trees to be secured using proprietary ratchet and dead man underground cabling system.

3.4.3 All trees to be installed planting, Greentech

- Cap for ring to sit 50mm above top of finished mulch layer.
- | 4.0 | MULCH |
|-----|--|
| 4.1 | All tree and shrub areas to be mulched over. Mulch to be medium grade bark mulch laid to depth of 75mm |

4.2 Tree planting in grass

- Car parking bays to have 3.0mm wide bark mulch strip out strip as indicated on the plan to a depth of 75mm.

5.2 Saw a proprietary 'As



Clerk

- Factor 9 Design

7 Storkov S

- Heywood
Rochdale

- # Soft Landscape Proposals Plan

- | | | | |
|-----------|----------------|------------------|--------------------|
| July 2022 | Drawn by
MK | Checked by
RA | Scale
1:200 @ A |
|-----------|----------------|------------------|--------------------|

Learning Goals

- | | | |
|---------------------|---|----------|
| J22024-GCJ-DR-3-001 | - | Planning |
|---------------------|---|----------|

Soft Landscape Proposals Plan





Ecology
Arboriculture
GIS and mapping
Landscape Architecture

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