Wood Walk, Hoyland, Barnsley

Biodiversity Net Gain Assessment – Feasibility Stage

Camstead Homes / Yelcon Ltd

December 2023

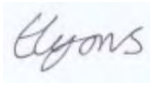
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Executive Summary

Ecus Limited (Ltd) was commissioned by Camstead Homes / Yelcon Ltd to undertake a Biodiversity Net Gain Assessment (BNGA) for land north of Wood Walk, Hoyland, Barnsley (central Ordnance Survey National Grid Reference (OSNGR) SE 37360 01717), hereafter referred to as 'the Site'. This BNGA has been carried out to determine the potential change in biodiversity value of the Site based upon the proposed development and associated post development habitats, using the Department for Environment, Food & Rural Affairs (DEFRA) '*Statutory Biodiversity Metric User Guide (Draft)*' (SBM) (November 2023).

Proposals for the Site are taken from the STEN Architecture '*Planning Layout*' (Drawing Reference: 2351.01, October 2023) and involve construction of 83 dwellings with gardens, in addition to Public Open Space (POS) and an attenuation basin (Sustainable Urban Drainage System (SuDS)) (Appendix 1).

Habitats at the Site were recorded and mapped as part of the Preliminary Ecological Appraisal (PEA) for the Site on 1st December 2023 (Ecus Ltd. '*Preliminary Ecological Appraisal'*, Report Ref: 22693, V1.0, dated January 2023*)*. A previous PEA at the Site was also undertaken by Delta Simons ('*Preliminary Ecological Appraisal*', Report Ref: 16-0406.07, dated August 2021). Habitats in the centre of the Site had been partially cleared at the time of the December 2023 PEA, therefore, baseline habitats recorded within the cleared area during the Delta Simons PEA (August 2021) have been used to inform this report in line with the SBM guidance relating to accounting for degraded habitats.

Based on the current proposals for the Site, the SBM calculated that there is likely to be a total habitat area net loss of -1.88 Habitat Units (HU) and a net percentage loss of -21.60%, and a total linear habitats (hedgerow) net loss of -0.04 Hedgerow Units (HeU) with a net percentage loss of -1.38%. Without changes to the Site layout, it is considered unlikely that an on-Site net gain in HU can be achieved. Off-Site compensation in HU may be required.

It is recommended that Modified Grassland created at the Site is in Good condition, whilst the retained Modified Grassland should be enhanced to Moderate condition through supplementary planting. Mixed Scrub is recommended to be created to compensate for a small loss in Bramble Scrub to satisfy the BNGA trading rules. Creation of a small parcel of Other Woodland; Broadleaved in Moderate condition in place of Modified Grassland and enhancement of the Other Woodland; Broadleaved from Poor to Moderate condition is recommended and is considered achievable. Planting of trees around the Site (in Moderate condition), is also recommended to improve the habitat score. Creation of Native Hedgerow is recommended in the southwest and along the south of the Site in order to achieve a 10% net gain in HeU, which is also considered achievable.

The production of a Biodiversity Enhancement Management Plan (BEMP) is recommended to ensure the Site habitats deliver the habitat scores listed within the final design stage BNGA, to be agreed with the Local Planning Authority, which will also serve to support protected and notable species.

1. Introduction

1.1 Background

1.1.1 Ecus Limited (Ltd) was commissioned by Camstead Homes / Yelcon Ltd to undertake a Biodiversity Net Gain Assessment (BNGA) for land north of Wood Walk, Hoyland, Barnsley (central Ordnance Survey National Grid Reference (OSNGR) SE 37360 01717), hereafter referred to as 'the Site'. This BNGA has been carried out to determine the potential change in biodiversity value of the Site based upon the proposed development and associated post development habitats, using the Department for Environment, Food & Rural Affairs (DEFRA) '*Statutory Biodiversity Metric User Guide (Draft)*' (SBM) (November 2023).

1.1.2 Habitats at the Site were recorded and mapped as part of the Preliminary Ecological Appraisal (PEA) for the Site on 1st December 2023 (Ecus Ltd. '*Preliminary Ecological Appraisal'*, Report Ref: 22693, V1.0, dated January 2023*)*. A previous PEA at the Site was also undertaken by Delta Simons ('*Preliminary Ecological Appraisal*', Report Ref: 16-0406.07, dated August 2021). Habitats in the centre of the Site had been partially cleared at the time of the December 2023 PEA, therefore, baseline habitats recorded within the cleared area during the Delta Simons PEA (August 2021) have been used to inform this report in line with the SBM guidance relating to accounting for degraded habitats.

1.1.3 Proposals for the Site are taken from the STEN Architecture '*Planning Layout*' (Drawing Reference: 2351.01, October 2023) and involve the construction of 83 dwellings and associated gardens, in addition to Public Open Space (POS) and an attenuation basin (Sustainable Urban Drainage System (SuDS)) (Appendix 1).

1.1.4 In accordance with '*British Standard: 8683 (BS:8683) Process for designing and implementing biodiversity net gain – Specification*', this BNGA and all associated condition assessments have been completed by competent, suitability trained and qualified ecologist Tom Lyons BSc (Hons) MRes.

1.1.5 This report details the findings of the BNGA, using the SBM (November 2023) to undertake the biodiversity metric calculations. Calculations have been completed based on the habitats identified during the PEA surveys undertaken by Ecus Ltd and Delta Simons respectively and are detailed within Section 3. The methodologies employed and all survey findings are described along with an evaluation and assessment of the ecological value of the Site. Any recommendations with regard to ensuring BNG are also detailed as required.

1.2 Biodiversity Net Gain

1.2.1 Biodiversity metric calculations provide a numerical score for the current value of the habitats on Site and their likely value post-development, enabling quantitative assessment of the proposed impact.

1.2.2 A BNGA follows the mitigation hierarchy, which sets out that proposals must firstly avoid, secondly minimise and thirdly restore / rehabilitate losses of biodiversity on-site. Only as a last resort are residual losses compensated for through biodiversity offsetting, whereby the loss of biodiversity is compensated for via new habitat creation off-site or by paying a financial sum to an offset provider.

1.2.3 BNGA's account for biodiversity losses which previously could not be fully assessed nor mitigated for, via legal and planning systems. Whilst some species are extensively protected, many and most habitat types are not; with the consequence that development can be 'legally compliant' but still result in biodiversity loss. BNGA guards against this, enabling development to contribute towards the national and global target of halting biodiversity loss ('*Biodiversity 2020: A strategy for England's wildlife and ecosystem services'*, DEFRA, (2011)).

1.2.4 In addition to developments being required to follow the mitigation hierarchy, the Chartered Institute for Ecology and Environmental Management (CIEEM), the Construction Industry Research and Information Association (CIRIA) and Institute for Environmental Management and Assessment have set out Biodiversity Net Gain Good Practice Principles '*Biodiversity Net Gain: Good practice principles for development'* (2016) (see Section 4.2) and these should be adhered to as part of the BNGA for any net gain of biodiversity to be considered valid.

1.3 Relevant Legislation

1.3.1 This BNGA has been compiled with reference to the following relevant nature conservation legislation, planning policy and the UK Biodiversity Framework from which the protection of sites, habitats and species is derived in England:

- UK Government's 25 Year Environment Plan (DEFRA, 2018);
- Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services (DEFRA, 2011);
- National Planning Policy Framework (NPPF) (MHCLG, 2019);
- The Natural Environment and Rural Communities (NERC) Act (HMSO, 2006);
- The Environment Act (DEFRA, 2021); and,
- Barnsley Biodiversity Action Plan (no date) (Barnsley Biodiversity Trust).

2. Methodology

2.1 Background

2.1.1 This BNGA uses the industry recognised best practice methodology within the (DEFRA) '*Statutory Biodiversity Metric User Guide (Draft)*' (SBM) (November 2023).

2.1.2 The SBM uses habitat features as a measure for the value and importance to nature. The following information on each habitat are required for the metric inputs:

- Habitat Type;
- Area/Length;
- Distinctiveness (automatically calculated);
- Irreplaceable Habitat;
- Condition; and,
- Strategic Significance.

2.2 Biodiversity Metric Inputs

Habitat Type and Area/Length

Baseline

2.2.1 The Site was surveyed on 1st December 2023 by Assistant Ecologist Tom Lyons BSc (Hons) MRes.

2.2.2 The Site visit included an ecological walkover survey using the UK Habitat Classification (UKHab) system (Butcher *et al*. 2020) and was conducted as part of the PEA survey. The habitats present within the Site were identified and classified according to the UK Habitat Classification system which closely aligns with the SBM. The baseline habitats are displayed in Figure 1.

2.2.3 The SBM uses a classification system based mainly on the UKHab, with input from other systems including the Water Framework Directive (WFD) Lakes Typology (UKTAG, 2003), the European Nature Information System (EUNIS) habitat type hierarchical view (EEA, 2019), Natura 2000 Annex I habitats (JNCC, 2019) and habitats specific to the SBM.

2.2.4 The area/length covered by each habitat type was mapped using the QGIS 3.28.0 Geographical Information System (GIS).

Post-Development

2.2.5 Proposals for the Site have been analysed and habitats present post-development have been based on the current Site Layout (STEN Architecture, October 2023) and using best knowledge of the likely habitats to be created / retained / lost.

2.2.6 The post-development habitats were classified according to the habitat classification system used by the SBM.

Habitat Distinctiveness

2.2.7 For all baseline and post-development habitats the distinctiveness of each habitat type is automatically calculated within the SBM.

Habitat Condition

2.2.8 The condition of a habitat is a measure of the biological 'working-order' of a habitat type judged against the perceived ecological optimum state for that particular habitat. The condition assessments were undertaken using the '*The Statutory Biodiversity Metric -Technical Annex 1: Condition Assessment Sheets and Methodology*' spreadsheet (November 2023).

Baseline

2.2.9 Following the UKHab ecological walkover survey at the Site the condition of each habitat type was assessed and categorised as either Good, Moderate or Poor.

2.2.10 If a habitat type varied in condition within the Site this was recorded and mapped.

Post-development

2.2.11 The condition of habitats post-development has been assigned based on assumptions of likely habitat condition in line with the condition assessment criteria.

Habitat Strategic Significance

2.2.12 The SBM accounts for whether the habitat is situated in an area locally identified as significant for nature.

2.2.13 Data on areas and habitats locally identified as significant for nature were obtained from the following sources:

- Multi-Agency Geographical Information for the Countryside (MAGIC) website for mapped statutory designated sites (https://magic.defra.gov.uk/magicmap.aspx);
- Habitats listed within the Local Biodiversity Action Plan (LBAP) for Barnsley; and,
- Barnsley Local Plan (2019).

2.3 Biodiversity Metric Calculations

2.3.1 Biodiversity metric calculations provide a numerical score for the value of existing habitats on the Site and their likely value post-development in Habitat Units (HU), Hedgerow Units (HeU) and Watercourse Units (WU), in order for the impact of the proposed development to be quantitatively assessed.

2.3.2 Using the SBM, habitat values are calculated based on whether they occur commonly or whether they are rare, their area (ha) (or length (km) for linear features such as hedgerows), condition and

importance within the local area, usually identified from local relevant planning policies or documents. This gives individual baseline HU, HeU and WU.

2.3.3 Individual trees are classified as either Urban Tree or Rural Tree, depending on the extent of urbanisations around them. The size of a tree is either Small, Medium, Large or Very Large, dependent on the diameter at breast height (centimetres). A biodiversity metric area equivalent (hectares) is automatically calculated within the SBM dependent on the tree size, however this area measurement is not included within the total habitat area (in ha) of the Site.

2.3.4 The post-development value can also be calculated for habitats where factors including time to target condition and difficulty of creation/enhancement are also taken into consideration. The values for area habitats and linear habitats are calculated separately. This provides an overall picture of the biodiversity net gain or loss as a result of a development. To achieve biodiversity net gain, all three of HU, HeU and WU are treated separately, the individual gains cannot be combined to form an overall gain for the Site.

2.4 Assumptions

2.4.1 Strategic significance for some habitats has been considered as 'Area/compensation not in local strategy/no local strategy' as they do not qualify as priority habitats and are not identified on any strategic plans. Where habitats are listed as a priority habitat under the NERC Act (2006) but are not included in the Local Biodiversity Action Plan (LBAP), or vice versa, these have been considered to be 'Location ecologically desirable but not in local strategy'. Where habitats are located within strategic plans, these have been considered 'Within area formally identified in local strategy'.

2.4.2 Post-development habitats have been assigned a condition of Moderate or Good (where applicable), which are considered to be at levels which are achievable.

2.4.3 Modified Grassland creation has been designated as 'Location ecologically desirable but not in local strategy' as amenity grassland (which it is assumed will be created post-development) is included within the LBAP, whereas the Modified Grassland within the baseline relate to field margins around a crop field which is not considered to display characteristics of amenity grassland, therefore is designated as 'Area/compensation not in local strategy/no local strategy'.

2.4.4 Baseline habitats within the cleared area of the Site have been inferred by the Delta Simons PEA (August 2021) in line with the SBM guidance.

2.4.5 In line with SBM guidance the 'delay in starting habitat creation or enhancement' function for habitats to be created post-development within the cleared area at the centre of the Site has been set at 1. This is based on the assumption that the time (years) between the habitat clearance and

reinstatement will not exceed 1 year.

2.5 Limitations

2.5.1 The UK Habitat Classification survey guidelines were followed with the exception of the timing of the survey, which was conducted outside of the optimal botanical growth season (May to August). As the ecological walkover was undertaken during early December, it is possible that some flowering plants may have been under-recorded/absent and some plants only identified to family or genus level only. However, the habitat classifications recorded are considered to be accurate reflections of the Site given the previously farmed nature of the Site. This is also supported by the Delta Simons PEA (August 2021) which recorded broadly similar habitats at the Site. Therefore re-surveys of vegetated habitats in the optimal botanical season are not considered necessary.

3. Findings and Evaluation

3.1 Baseline Habitats

3.1.1 Baseline habitats were recorded and assessed during the Ecus Ltd PEA undertaken in December 2023. The baseline habitats within the cleared area of the Site have been inferred from the Delta Simons PEA (August 2021), with these habitats being assigned the most closely aligned UKHab habitat classification based on the descriptions provided within the Delta Simons PEA.

3.1.2 Baseline habitats featured on the Site include Cropland – Other Cereal Crops (c1c7), Grassland – Modified Grassland (g4), Woodland and Forest – Other Woodland; Broadleaved (w1g), Heathland and Shrub – Bramble Scrub (h3d), Heathland and Shrub – Mixed Scrub (h3h) and Urban – Artificial Unvegetated Unsealed Surface (u1c). Linear habitats at the Site include Heathland and Shrub – Other Native Hedgerow (h2a6) and Urban – Built Linear Features (u1e) (Fence). Given the negligible habitat and species value of the fence habitat, it is not discussed further in this report.

3.1.3 Some habitats do not convert exactly between the UK Hab classification and the SBM. These are shown in Table 1 and hereafter referred to as the habitat type specified within the SBM.

Table 1. UK Hab to SBM Tool Habitat Conversions

UKHab Habitat Type	SBM Tool Habitat Type
Cropland – Other Cereal Crops	Cereal Crops
Grassland – Modified Grassland	Modified Grassland
Woodland and Forest – Other Woodland; Broadleaved	Other Woodland; Broadleaved
Heathland and Shrub – Bramble Scrub	Bramble Scrub
Heathland and Shrub – Mixed Scrub	Mixed Scrub
Urban – Artificial Unvegetated Unsealed Surface	Artificial Unvegetated Unsealed Surface
Heathland and Shrub – Other Native Hedgerow	Native Hedgerow – Associated with Bank or Ditch
Heathland and Shrub – Other Native Hedgerow	Native Hedgerow

3.1.4 The Site area has been calculated at approximately 3.7 ha. The habitat type, condition, area and HU are provided within Table 2. Baseline area habitats have a biodiversity value of 8.68 HU and baseline linear habitats (hedgerows) have a biodiversity value of 3.19 HeU (as shown in Table 3). Watercourse Habitats (WU) are absent from the Site as although ditches were recorded on Site these were not considered to fulfil Watercourse criteria; therefore, are not included in the metric calculations.

3.1.5 Strategic significance has been assigned as 'Formally identified in local strategy' for the Other Woodland; Broadleaved and one Rural Tree (the mature ash *Fraxinus excelsior* tree in the centre of the Site) as these are included within the Barnsley Local Plan (2019) as habitats expected to be retained within the development.

3.1.6 Strategic significance has been assigned as 'Location ecologically desirable but not in local strategy' for the Bramble Scrub and Mixed Scrub as although not included as NERC Act (2006) priority habitats, the LBAP lists 'Scrub' as a local priority habitat.

3.1.7 Strategic significance has been assigned as 'Area/compensation not in local strategy/no local strategy' for the Cereal Crops, Modified Grassland, Artificial Unvegetated Unsealed Surface and one Rural Tree (the mature sycamore *Acer pseudoplatanus* tree to the southeast of the Site) habitats as these are not listed as priority habitats under the NERC Act (2006) nor are listed as priority habitats under the LBAP.

3.1.8 All hedgerows are listed as 'Location ecologically desirable but not in local strategy' given that hedgerows are included within the LBAP as priority habitats, although they are not considered to qualify as hedgerow priority habitats under the NERC Act (2006).

Table 2. Site Baseline Area Habitats, Condition and Habitat Units

Habitat Type	Condition	Strategic Significance	Area (ha)	Habitat Units
Cereal Crops	Condition Assessment – N/A	Area/compensation not in local strategy/ no local strategy	3.03	6.06
Modified Grassland	Poor	Area/compensation not in local strategy/ no local strategy	0.34	0.68
Other Woodland; Broadleaved	Poor	Formally identified in local strategy	0.17	0.78
Bramble Scrub	Condition Assessment – N/A	Location ecologically desirable but not in local strategy	0.02	0.09
Mixed Scrub	Moderate	Location ecologically desirable but not in local	0.09	0.79

Habitat Type	Condition	Strategic Significance	Area (ha)	Habitat Units
		strategy		
Artificial Unvegetated Unsealed Surface	Condition Assessment – N/A	Area/compensation not in local strategy/no local strategy	0.04	0.00
Rural Tree	Moderate	Formally identified in local strategy	0.03*	0.15
Rural Tree	Moderate	Area/compensation not in local strategy/no local strategy	0.03*	0.13
Total Habitat Units				8.68

*Tree area is calculated within the SBM Tool to provide a habitat score but is not included within the area measurement.

Table 3. The Site Baseline Linear Habitats, Condition and Hedgerow Units

Habitat Type	Condition	Strategic Significance	Area (ha)	Hedgerow Units
Native Hedgerow – Associated with Bank or Ditch	Moderate	Location ecologically desirable but not in local strategy	0.24	2.11
Native Hedgerow	Good	Location ecologically desirable but not in local strategy	0.05	0.33
Native Hedgerow	Moderate	Location ecologically desirable but not in local strategy	0.04	0.18
Native Hedgerow	Moderate	Location ecologically desirable but not in local strategy	0.05	0.22
Native Hedgerow	Moderate	Location ecologically desirable but not in local strategy	0.02	0.09
Native Hedgerow	Moderate	Location ecologically desirable but not in local strategy	0.06	0.26
Total Hedgerow Units				3.19

3.2 Metric Calculations

3.2.1 The following calculations present a version of the completed feasibility biodiversity metric calculations based on the post-development proposals shown in the proposed Site plan (Appendix 1). A summary of the calculations is provided in Appendix 2.

Post-Development Proposals

3.2.2 Based on the current proposals, post-development habitats will involve the total loss of the Cereal Crops and Artificial Unvegetated Unsealed Surface; and small sections of Bramble Scrub and Other Native Hedgerow, whilst the Modified Grassland, Other Woodland; Broadleaved, Mixed Scrub, Rural Trees and remaining Native Hedgerows being retained in full. The Cereal Crops and Artificial Unvegetated Unsealed Surface baseline habitats form the cleared area of the Site.

3.2.3 Habitats created at the Site post-development will include Urban – Developed Land; Sealed Surface, Urban – Vegetated Gardens, Urban – Sustainable Drainage System and Grassland – Modified Grassland.

3.2.4 The habitat type, condition, area and HU/HeU of the post-development habitats are provided within Tables 4, and 5 respectively. Post-development, the area-based habitats estimated a biodiversity value of 6.81 HU and the linear habitats produced a biodiversity value of 3.15 HeU

Table 4. The Site Post-development Area-based Habitats, Condition and Habitat Units

Habitat Type	Condition	Strategic Significance	Area (ha)	Habitat Units
Lost				
Cereal Crops	Condition Assessment – N/A	Area/compensation not in local strategy/no local strategy	3.03	6.06
Bramble Scrub	Condition Assessment – N/A	Location ecologically desirable but not in local strategy	0.01	0.04
Artificial Unvegetated Unsealed Surface	Condition Assessment – N/A	Area/compensation not in local strategy/ no local strategy	0.04	0.00
Retained				
Modified Grassland	Poor	Area/compensation not in local strategy/ no local strategy	0.34	0.68
Other Woodland; Broadleaved	Poor	Formally identified in local strategy	0.17	0.78
Bramble Scrub	Condition Assessment – N/A	Location ecologically desirable but not in local strategy	0.01	0.04
Mixed Scrub	Moderate	Location ecologically desirable but not in local strategy	0.09	0.79
Rural Tree	Moderate	Formally identified in local strategy	0.03*	0.15
Rural Tree	Moderate	Area/compensation not in local	0.03*	0.13

Habitat Type	Condition	Strategic Significance	Area (ha)	Habitat Units
		strategy/ no local strategy		
Created				
Developed Land; Sealed Surface[1]	Condition Assessment – N/A	Area/compensation not in local strategy/ no local strategy	1.36	0.00
Vegetated Garden	N/A	Location ecologically desirable but not in local strategy	1.13	2.32
Sustainable Drainage System	Moderate	Location ecologically desirable but not in local strategy	0.23	0.59
Modified Grassland	Moderate	Location ecologically desirable but not in local strategy	0.36	1.33
Total Habitat Units				6.81

*Tree area is calculated within the SBM Tool to provide a habitat score but is not included within the area measurement.

[1]Developed Land; Sealed Surface includes Buildings and Hardstanding/Other Developed Land.

Table 5. The Site Post-development Linear Habitats, Condition and Hedgerow Units

Habitat Type	Condition	Strategic Significance	Area (ha)	Hedgerow Units
Lost				
Native Hedgerow	Moderate	Location ecologically desirable but not in local strategy	0.01	0.04
Retained				
Native Hedgerow – Associated with Bank or Ditch	Moderate	Location ecologically desirable but not in local strategy	0.24	2.11
Native Hedgerow	Good	Location ecologically desirable but not in local strategy	0.05	0.33
Native Hedgerow	Moderate	Location ecologically desirable but not in local strategy	0.04	0.18
Native Hedgerow	Moderate	Location ecologically desirable but not in local strategy	0.05	0.22
Native Hedgerow	Moderate	Location ecologically desirable but not in local strategy	0.01	0.04

Habitat Type	Condition	Strategic Significance	Area (ha)	Hedgerow Units
Native Hedgerow	Moderate	Location ecologically desirable but not in local strategy	0.06	0.26
Total Hedgerow Units				3.15

3.2.5 Based on the current proposals for the Site there is likely to be a total habitat area net loss of 1.88 HU and a net percentage change of -21.60%, and a total linear habitats (hedgerow) net loss of 0.04 HeU with a net percentage change of -1.38%, as detailed in Table 6.

Table 6. Summary of Biodiversity Metric Calculations

	Baseline Units	Proposed Units	Change in Units	% Change in Units
Habitat Units (HU)	8.68	6.81	-1.88*	-21.60
Hedgerow Units (HeU)	3.19	3.15	-0.04	-1.38
Watercourse Units (WU)	N/A	N/A	N/A	N/A

*This value is as calculated within the SBM tool and differs from the sum in Table 6 by 0.01.

4. Discussion & Recommendations

4.1.1 The current proposals result in a -21.60% net change for HU and a -1.38% net change for HeU.

4.1.2 The creation of Modified Grassland, Vegetated Gardens and the SuDS is not sufficient in habitat value to compensate for the loss of the entire Cereal Crops habitat at the Site; this is due to the much lower area-based composition of these habitats whilst Developed Land; Sealed Surface produces a total score of 0.00 HU irrespective of area.

4.1.3 No new hedgerow planting has been proposed as part of the new development whilst a small section to the southwest will be removed to facilitate a new access road to the Site.

4.1.4 It is recommended that topsoil to be reinstated within the proposed soft landscaping areas of the Site should be tested to determine the feasibility of the new proposed habitats and their likelihood of their long-term viability.

4.1.5 Without changes to the Site layout, it is considered unlikely that an on-Site net gain in HU can be achieved. However, the following recommendations in Section 4.2 would result in an increase of HU on Site.

4.1.6 The production of a Biodiversity Enhancement Management Plan (BEMP) is recommended to ensure the Site habitats deliver the habitat scores listed within the final design stage BNGA, to be agreed with the LPA, which will also serve to support protected and notable species. This includes management of post-development habitats to the condition required to deliver the BNG score specified in accordance with the condition assessment methodology. The BEMP is also recommended to include provision for the installation of bat and bird boxes within the new dwellings, installation of bee bricks and insect towers to support invertebrates and placement of hedgehog houses to provide new sheltering habitat for hedgehog *Erinaceus europaeus,* as well as “hedgehog highways” to facilitate movement through gardens for hedgehogs to commute, forage and seek shelter and hibernacula.

4.2 Recommended Changes

Area-based Habitats

4.2.1 To further increase the habitat scores at the Site based on the current Site proposals, habitat creation and enhancement measures are suggested to be undertaken.

4.2.2 It is recommended that the Other Woodland; Broadleaved is enhanced from Poor to Moderate condition. This is considered achievable as out of 39 criteria points, the woodland failed to achieve a score of 26 by one point (Moderate condition is set between 26– 32). Enhancement is considered achievable through planting, in which a 'Recognisable woodland NVC [National Vegetation Classification] plant community at ground level present'. Species to be incorporated include meadow grasses *Poa sp*., creeping buttercup *Ranunculus repens*, red campion *Silene dioica* and wood avens *Geum urbanum*. Selective thinning and creation of open spaces within this woodland will also serve to enhance the condition of the woodland.

4.2.3 The POS to the west of the Site should be created to become Modified Grassland in Good condition. No higher quality habitat is considered practical due to the likely impacts of public use as well as likelihood of poor soil quality. The POS to the northeast of the Site is also recommended to be created as Modified Grassland in Good condition.

4.2.4 Mixed Scrub in Moderate condition is recommended to be create around the northern boundary of the Site, surrounding the parking spaces and the dwellings (Figure 2). To the southeast of the Site near T2 (Figure 1), this should also be created as Mixed Scrub in Moderate condition (Figure 2). In order to satisfy trading rules as set out in the SBM, the loss of 0.01 ha of Bramble Scrub is required to be compensated with '*Same broad habitat or a higher distinctiveness habitat required*'. This suggested Mixed Scrub creation will satisfy the trading rules here.

4.2.5 A minimum of 35 individual trees which would be assigned as 'Small' in Moderate condition are also recommended to be planted at the Site to help improve the area-based HU score. These are to be planted within the suggested areas of created Modified Grassland and Mixed Scrub (Figure 2).

4.2.6 Creation of Other Woodland; Broadleaved to the east of the Site in place of approximately 0.03 ha of the existing Modified Grassland (Figure 2) is recommended to improve habitat connectivity and improve the biodiversity score. This would be created in Moderate condition.

4.2.7 Enhancement of the existing Modified Grassland to Moderate condition is recommended through supplementary planting to increase species diversity with a rotational mowing regime to provide a varied sward height.

4.2.8 With these changes, a 10% net gain in HU is still not considered achievable however represents

an improvement on the current post-development assumptions. These suggestions will result in a net 0.18 HU increase and 2.02% net gain on the baseline. These suggestions are summarised in Table 7 and shown in Figure 2.

Table 7. Post-development Additional Suggested Changes and Habitat Units

Habitat Type	Condition	Distinctiveness	Area (ha)	Habitat Units
Retained				
Bramble Scrub	N/A	Medium	0.01	0.04
Mixed Scrub	Moderate	Medium	0.09	0.79
Rural Tree	Moderate	Medium	0.03*	0.15
Rural Tree	Moderate	Medium	0.03*	0.13
Maintained (from Post-Development plans)				
Developed Land; Sealed Surface	N/A	Very Low	1.36	0.00
Vegetated Garden	N/A	Low	1.13	2.32
Sustainable Drainage System	Moderate	Low	0.23	0.59
Lost				
Modified Grassland	Poor	Low	0.03	0.06
Created				
Modified Grassland	Good	Low	0.31	1.54
Mixed Scrub	Moderate	Medium	0.05	0.36
Rural Tree	Moderate	Medium	0.14*	0.42
Other Woodland; Broadleaved	Moderate	Medium	0.03	0.14
Enhanced				
Modified Grassland	Moderate	Low	0.31	1.05
Other Woodland; Broadleaved	Moderate	Medium	0.17	1.33

Total Habitat Units	**8.86**

*Tree area is calculated within the SBM Tool to provide a habitat score but is not included within the area measurement.

4.2.9 Given the proximity of a woodland between the northern boundary of the Site and the Dearne Valley Parkway road, this could be considered suitable for off-Site habitat enhancement should an on-Site 10% BNG be considered unachievable following review of the Site layout.

4.2.10 Consultation with the LPA is recommended should this option be required, and a baseline habitat survey of this woodland would be required to determine its current area, condition and suitability for enhancement.

Hedgerow-based Habitats

4.2.11 To compensate for the small loss of hedgerow to the southwest of the Site and in order to achieve a 10% net gain in HeU, it is recommended that a minimum of 0.32 km of Native Hedgerow in Moderate condition is created. It is also recommended that hedgerows are created in the southwest of the Site to join up H6 and the Bramble Scrub, as well as along the south of the Site. H2 will be extended westwards, and H3 will be extended eastwards until they meet the proposed property boundaries. This will total a net increase of 0.40 HeU of Native Hedgerow from the baseline, a net gain of 12.59% and will also satisfy the Trading Rules. This will both improve the linear features of the Site for aesthetics and support additional habitat for foraging and commuting bats, harvest mouse *Micromys minutus*, hedgehog, nesting birds and reptiles. These changes are illustrated in Table 8 and shown in Figure 2.

Table 8. Post-development Additional Suggested Changes and Hedgerow Units

Habitat Type	Condition	Distinctiveness	Length (km)	Hedgerow Units
Lost				
Native Hedgerow	Moderate	Low	0.01	0.04
Retained				
Native Hedgerow – Associated with Bank or Ditch	Moderate	Medium	0.24	2.11
Native Hedgerow	Good	Low	0.05	0.33
Native Hedgerow	Moderate	Low	0.04	0.18

Native Hedgerow	Moderate	Low	0.05	0.22
Native Hedgerow	Moderate	Low	0.01	0.04
Native Hedgerow	Moderate	Low	0.06	0.26
Created				
Native Hedgerow (H2 extension)	Moderate	Medium	0.023	0.08
Native Hedgerow (H3 extension)	Moderate	Medium	0.048	0.18
Native Hedgerow (H7)	Moderate	Medium	0.050	0.18
Total Hedgerow Units				**3.59 ***

*This value is as calculated within the SBM tool and differs from the sum in Table 8 by 0.01.

4.2.12 An increase in HeU could also be achieved by enhancing the existing hedgerows in Moderate Condition to Good condition, or by creating a higher quality hedgerow habitat, such as Native Hedgerow with Trees by supplementary tree planting. However, the recommended hedgerow planting locations and habitat type will serve to enhance habitat connectivity at the Site and achieve a 10% net gain in HeU.

4.3 Net Change in Biodiversity

4.3.1 The minimum HU and HeU required at the Site to achieve a 10% net gain are shown below in Table 9.

Table 9. Required Biodiversity Units for 10% Net Gain

	Baseline Units	10% of the Baseline	10% Biodiversity Net Gain Units
Habitat Units (HU)	8.68	0.87	9.55
Hedgerow Units (HeU)	3.19	0.32	3.51

4.3.2 The calculated net change in the biodiversity value of the Site for the proposed development based on the current proposals and the suggested changes is summarised in Table 10 and Appendix 3.

Table 10. Summary of Biodiversity Net Gain Calculations

		Baseline Units	Proposed Units	Change in Units	% Change in Units	Meets Trading Rules
Current proposals	***Habitat Units (HU)***	8.68	6.81	-1.88*	-21.60%	No
	Hedgerow Units (HeU)	3.19	3.15	-0.04	-1.38%	No
With Suggested Changes Incorporated	***Habitat Units (HU)***	8.68	8.86	+0.18	+2.02%	Yes
	Hedgerow Units (HeU)	3.19	3.59	+0.40	+12.59%	Yes

*This value is as calculated within the SBM tool and differs from the sum in Table 10 by 0.01.

4.3.3 Once this BNGA report has been reviewed and a final design plan with soft landscaping is produced, an update to this report should be undertaken.

4.4 BNG Principles

4.4.1 Table 11 below details/discusses the actions recommended in order for the proposed development to adhere to each of the BNG good practice principles (CIEEM, CIRIA, IEMA, 2016).

4.4.2 If followed, the recommended actions in Table 11 will enable the proposed habitat enhancements to achieve a quantitative and qualitative net gain in biodiversity.

Table 11. Recommended Actions for Proposed Development to Comply with BNG Good Practice Principles

Principle	Description	Recommended Action
1. Apply the mitigation hierarchy	Do everything possible to first avoid and then minimise impacts on biodiversity. Only as a last resort, and in agreement with external decision-makers where possible, compensate for losses that cannot be avoided. If compensating for losses within the development footprint is not possible or does not generate the most benefits for nature conservation, then offset biodiversity losses by gains	Where possible habitats will be retained and enhanced. The Other Woodland; Broadleaved will be subjected to understory planting to improve the structural vegetative diversity which will also improve the condition score of this habitat.

Principle	Description	Recommended Action
	elsewhere.	
2. Avoid losing biodiversity that cannot be offset by gains elsewhere	Avoid impacts on irreplaceable biodiversity – these impacts cannot be offset to achieve No Net Loss or Net Gain.	Not applicable - no irreplaceable habitats are lost by the proposed development.
3. Be inclusive and equitable	Engage stakeholders early, and involve them in designing, implementing, monitoring and evaluating the approach to Net Gain. Achieve Net Gain in partnership with stakeholders where possible, and share the benefits fairly among stakeholders.	The approach taken to achieve BNG will involve relevant stakeholders regularly throughout delivery. This has and will continue to include consultation and involvement with the finalised BNG design and management.
4. Address risks	Mitigate difficulty, uncertainty and other risks to achieving Net Gain. Apply well-accepted ways to add contingency when calculating biodiversity losses and gains in order to account for any remaining risks, as well as to compensate for the time between the losses occurring and the gains being fully realised.	The approach taken to achieve BNG for the proposed development, has been assessed using the Statutory Metric, which uses industry recognised risk multipliers. Where possible and feasible to do so, habitat enhancement should be undertaken first before habitat clearance/alterations. Any machinery, where possible and applicable, should be excluded from the area during the enhancement works.
5. Make a measurable Net Gain contribution	Achieve a measurable, overall gain for biodiversity and the services ecosystems provide while directly contributing towards nature conservation priorities.	The current proposals will achieve an overall loss in HU and HeU on Site. A 10% BNG is not considered achievable based on the current layout and without off-Site compensation. This is line with legislation changes proposed in the Environment Act (DEFRA, 2021).
6. Achieve the best outcomes for	Achieve the best outcomes for biodiversity by using robust, credible evidence and local knowledge to make	The proposals for the Site will involve a net loss of habitat and hedgerow units without sufficient habitat creation and

Principle	Description	Recommended Action
biodiversity	clearly-justified choices when: • Delivering compensation that is ecologically equivalent in type, amount and condition, and that accounts for the location and timing of biodiversity losses; • Compensating for losses of one type of biodiversity by providing a different type that delivers greater benefits for nature conservation; • Achieving Net Gain locally to the development while also contributing towards nature conservation priorities at local, regional and national levels; • Enhancing existing or creating new habitat; • Enhancing ecological connectivity by creating more, bigger, better and joined areas for biodiversity.	enhancement. The loss of a small section of Bramble Scrub must be compensated with same broad habitat or higher distinctiveness band habitats; therefore creation of a scrub habitat is considered most appropriate to satisfy the Trading Rules. The Trading Rules regarding delivery of compensation that is of the of the 'Same broad habitat or higher distinctiveness', will be met for Bramble Scrub loss if replaced with Mixed Scrub as suggested. The approach to achieve BNG should contribute to the conservation of habitats and species listed in the LBAP and contribute to ecological connectivity across green spaces within the local area/District, where possible. The approach used to achieve BNG must be assessed using the Statutory Metric, which requires users to compensate any habitat loss with the creation of habitats of the same or better distinctiveness and includes temporal and spatial risk multipliers.
7. Be additional	Achieve nature conservation outcomes that demonstrably exceed existing obligations (i.e. do not deliver something that would occur anyway).	The current proposals will achieve this.
8. Create a Net Gain legacy	Ensure Net Gain generates long-term benefits by: • Engaging stakeholders and jointly agreeing practical solutions that	A Biodiversity Enhancement and Management Plan (BEMP) will be produced that details a long-term (30 Years minimum or the lifetime of the development) monitoring and management regime for

Principle	Description	Recommended Action
	secure Net Gain in perpetuity; • Planning for adaptive management and securing dedicated funding for long-term management; • Designing Net Gain for biodiversity to be resilient to external factors, especially climate change; • Mitigating risks from other land uses; • Avoiding displacing harmful activities from one location to another; • Supporting local-level management of Net Gain activities.	enhanced /created habitats on Site, in order to achieve the required biodiversity value. The relevant stakeholders should be engaged for the implementation of the BEMP and dedicated funding should be secured for this programme.
9.Optimise sustainability	Prioritise Biodiversity Net Gain and, where possible, optimise the wider environmental benefits for a sustainable society and economy.	This BNG assessment should be used to inform the design of the proposed development to provide better outcomes for biodiversity. The BNG activities should be compatible with the sustainability strategy of the development.
10. Be transparent	Communicate all Net Gain activities in a transparent and timely manner, sharing the learning with all stakeholders.	The approach to achieve BNG is subjected to a BNG assessment (reporting) and should be shared with relevant stakeholders throughout its delivery.

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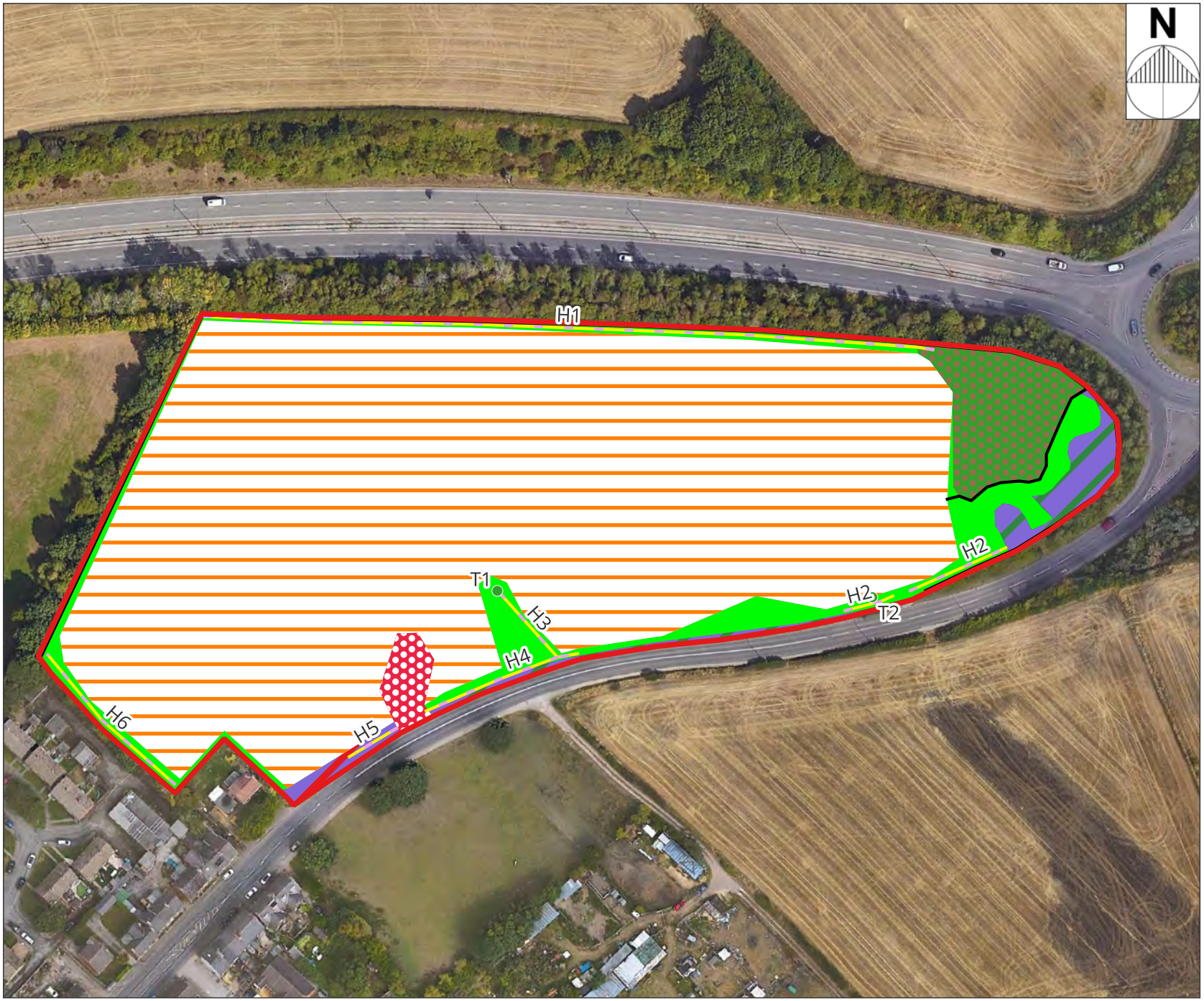
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Figure 1: UK Habitat Classification Map (Baseline)



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Key

- Site Boundary
- h2a6 - Other Native Hedgerow
- u1e - Built Linear Feature
- Scattered Trees
- g4 - Modified Grassland
- w1g - Other Woodland; Broadleaved
- h3d - Bramble Scrub
- h3h - Mixed Scrub
- c1c7 - Other Cereal Crops
- u1c - Artificial Unvegetated Unsealed Surface

0 20 40 60 80 100 m

Camstead Homes / Yelcon Ltd

Wood Walk, Hoyland, Barnsley - Biodiversity Net Gain Assessment Feasibility Stage

Figure 1
UK Habitat Classification Map (Baseline)

A	12/12/2023	TL	PFP	-
Rev	Date	Drawn by	Checked by	Revision Comments

Site centred on:	SE 37360 01717

Imagery ©2023 Airbus, Getmapping plc, Infoterra Ltd & Bluesky, Maxar Technologies, The GeoInformation Group, Map data ©2023

December 2023 | Scale: 1:1,800 @A4 | Drg.Ref: 22693 - ECO - 1 - A

Figure 2. Suggested Habitat Creation Plan



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Key

- Site Boundary
- Native Tree Planting (x 35) in Moderate Condition
- Native Hedgerow Creation in Moderate Condition
- Mixed Scrub Creation in Moderate Condition
- Modified Grassland Creation in Good Condition
- Other Woodland; Broadleaved Creation in Moderate Condition

0 20 40 60 80 m

Camstead Homes / Yelcon Ltd

Wood Walk, Hoyland, Barnsley - Biodiversity Net Gain Assessment Feasibility Stage

Figure 2
Suggested Habitat Creation Plan

A	12/12/2023	TL	PFP	-
Rev	Date	Drawn by	Checked by	Revision Comments

Site centred on:	SE 37360 01717

Plan supplied by STEM Architecture (2023) | December 2023 | Scale: 1:1,650 @A4 | Drg.Ref: 22693 - ECO - 2 - A

Appendix 1. Proposed Site Plan

YELCON CONSTRUCTION

CAMSTEAD HOMES

Scaled @ 1:500

0 10m 20m 50m

N

Notes:

This drawing, design and concept are copyright of STEN Architecture.

All Dimensions are to be verified on site before any work commences. If any discrepancies, errors or emissions are noted, these are to be reported to STEN Architecture immediately.

If any other drawings are referenced within this layout, please refer to the specific detailed drawing for design, materials and specific working practices.

DEARNE VALLEY PARKWAY

WOMBWELL WOOD ROUNDABOUT

Existing woodland

Open space

3m wide access track

Attenuation basin

WOOD WALK

WOMBWELL ROAD

Police Station House

134.6m

20m from proposed access

PLANNING LAYOUT KEY:

Boundary treatments

- Masonary wall
- Acoustic fence
- Close boarded timber fence
- Estate Railings
- Knee height railing

General

- BCP — Bin collection point (bin collection day only)
- Indicative electric charging point.
- Affordable Dwelling
- Timber cycle store (If seperate store not shown, cycle storage to be provided within detached or integral garage of associated plot.
- Trees/Vegetation - Retained
- Trees/Vegetation - Removed
- Root protection area

Accommodation Schedule - Wood Walk, Hoyland

Private Dwellings						
Name	Floor Area Sq Ft	Beds	No.	Total	% Mix	% Beds
Beamsley	767	2	6	4602	8.0%	8.0%
Lilac	921	3	8	7368	10.7%	66.7%
Inglebrough	962	3	16	15392	21.3%	
Whernside	1013	3	4	4052	5.3%	
Bedale	1042	3	4	4168	5.3%	
Malham	1108	3	10	11080	13.3%	
Aston	1145	3	8	9160	10.7%	
Sandringham	1350	4	3	4050	4.0%	25.3%
Chevin	1360	4	4	5440	5.3%	
Winterley	1374	4	4	5496	5.3%	
Woodale	1378	4	6	8268	8.0%	
Bickden	1422	4	2	2844	2.7%	
Subtotal			75	81920	100.00%	

Private Dwellings						
Name	Floor Area Sq Ft	Beds	No.	Total	% Mix	% Beds
Eastern	690	2	3	2070	3.6%	9.6%
Kelham	734	2	3	2202	3.6%	
Beamsley	767	2	2	1534	2.4%	
Subtotal			8	5806	9.64%	

Grand total	83	87726
Average private house type		1057

	m2	hectares	acres	
Approx gross area	36057.00	3.61	8.91	
Usable open space	5348.00	0.53	1.32	
Woodland	2499.00	0.25	0.62	
Attenuation Basin	2906.00	0.29	0.72	
Total POS	10753.00	1.08	2.66	29.8%
Approx Private Nett Area	22889.00	2.29	5.66	
Coverage	Units P/H =	36.26	15509.98	

REV:	DESCRIPTION:	BY:	DATE:

STEN ARCHITECTURE

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CLIENT: Camstead Homes
3 The Gateway North
Marsh Lane
Leeds LS9 8AX

SITE: Wood Walk
Hoyland

TITLE: Planning Layout

SCALE AT A1:	DATE:	DRAWN:	CHECKED:
1:500	26.10.23	TS	SL

PROJECT NO:	DRAWING NO:	REVISION:
2351	2351.01	--

Appendix 2. Biodiversity Metric Calculations Summary

Wood Walk, Hoyland, Barnsley

Headline Results

Return to results menu

Scroll down for final results ⚠

On-site baseline	*Habitat units*	8.68		
	Hedgerow units	3.19		
	Watercourse units	0.00		
On-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	6.81		
	Hedgerow units	3.15		
	Watercourse units	0.00		
On-site net change (units & percentage)	*Habitat units*	-1.88	-21.60%	On-site net gain is less than target set ⚠
	Hedgerow units	-0.04	-1.38%	On-site net gain is less than target set ⚠
	Watercourse units	0.00	0.00%	
Off-site baseline	*Habitat units*	0.00		
	Hedgerow units	0.00		
	Watercourse units	0.00		
Off-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	0.00		
	Hedgerow units	0.00		
	Watercourse units	0.00		
Off-site net change (units & percentage)	*Habitat units*	0.00	0.00%	
	Hedgerow units	0.00	0.00%	
	Watercourse units	0.00	0.00%	
Combined net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	-1.88		
	Hedgerow units	-0.04		
	Watercourse units	0.00		
Spatial risk multiplier (SRM) deductions	*Habitat units*	0.00		
	Hedgerow units	0.00		
	Watercourse units	0.00		

FINAL RESULTS

Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	-1.88	
	Hedgerow units	-0.04	
	Watercourse units	0.00	
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	-21.60%	Total net gain achieved is less than target set ▲
	Hedgerow units	-1.38%	Total net gain achieved is less than target set ▲
	Watercourse units	0.00%	
Trading rules satisfied?		No - Check Trading Summaries ▲	

Unit Type	Target	Baseline Units	Units Required	Unit Deficit	
Habitat units	10.00%	8.68	9.55	2.74	
Hedgerow units	10.00%	3.19	3.51	0.36	
Watercourse units	10.00%	0.00	0.00	0.00	No additional watercourse units required to meet target ✓

Input errors/rule breaks present in metric ▲

Appendix 3. Biodiversity Metric Calculations Suggested Changes Summary

Wood Walk, Hoyland, Barnsley				
Headline Results	Return to results menu			
Scroll down for final results ⚠				
On-site baseline	*Habitat units*	8.68		
	Hedgerow units	3.19		
	Watercourse units	0.00		
On-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	8.86		
	Hedgerow units	3.59		
	Watercourse units	0.00		
On-site net change (units & percentage)	*Habitat units*	0.18	2.02%	On-site net gain is less than target set ⚠
	Hedgerow units	0.40	12.59%	
	Watercourse units	0.00	0.00%	
Off-site baseline	*Habitat units*	0.00		
	Hedgerow units	0.00		
	Watercourse units	0.00		
Off-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	0.00		
	Hedgerow units	0.00		
	Watercourse units	0.00		
Off-site net change (units & percentage)	*Habitat units*	0.00	0.00%	
	Hedgerow units	0.00	0.00%	
	Watercourse units	0.00	0.00%	
Combined net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	0.18		
	Hedgerow units	0.40		
	Watercourse units	0.00		
Spatial risk multiplier (SRM) deductions	*Habitat units*	0.00		
	Hedgerow units	0.00		
	Watercourse units	0.00		
FINAL RESULTS				
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	0.18		
	Hedgerow units	0.40		
	Watercourse units	0.00		
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	2.02%	Total net gain achieved is less than target set ▲	
	Hedgerow units	12.59%		
	Watercourse units	0.00%		
Trading rules satisfied?	Yes ✓			

Unit Type	Target	Baseline Units	Units Required	Unit Deficit	
Habitat units	10.00%	8.68	9.55	0.69	
Hedgerow units	10.00%	3.19	3.51	0.00	No additional hedgerow units required to meet target ✓
Watercourse units	10.00%	0.00	0.00	0.00	No additional watercourse units required to meet target ✓

Input errors/rule breaks present in metric ▲

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