Howden Clough, Birstall

High-Level Biodiversity Net Gain Assessment

Report Ref. ER-7306-02

02/04/2024

Rosie Carr

Report reference	**ER-7306-02 – Biodiversity Net Gain Assessment**
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Report duration	In accordance with CIEEM (2019), unless otherwise stated the findings of this report remain valid for a period of 18 months. After this period advice should be sought on the scope of any updating work required.

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Introduction

1. Brooks Ecological Ltd was commissioned by Rosie Carr to carry out a Biodiversity Net Gain (BNG) Assessment of the proposed development Site at Howden Clough, Birstall.
2. The assessment applies to the parcel of land shown in Figure 1 opposite.
3. The assessment is informed by a Preliminary Ecological Appraisal Survey of the Site detailed in our report ER-7306-01.
4. Biodiversity Accounting metrics are used to quantify the value of a site in Biodiversity Units. This helps in assessing the ecological impacts of the proposed development and can help to inform avoidance, or on-Site mitigation levels required; or as a last resort can translate to a direct monetary value where compensation (off-Site) is required.
5. Our assessment has made use of the Statutory Biodiversity Metric Calculation Tool, and extracts from this have been used throughout the report. The full spreadsheet has been provided digitally as file BM-7306-02 and should be submitted as part of the application.
6. At this stage no detailed planting schemes have been decided, so habitats have been classed and mapped on high-level proposals, which could be subject to change once more detailed schemes have been produced.

Figure 1 Extent of BNG assessment (red line boundary).

Part 1

Pre-development baseline

Habitats identified

7. Habitats present on-Site are outlined in Table 1, opposite. These are shown in relation to location and extent in Figure 2 overleaf.

Condition Assessment

8. Habitat condition has been assessed as part of the Preliminary Ecological Appraisal of the Site.
9. Information on condition assessments is provided in the Excel spreadsheet CA-7306-01 provided alongside this report.

Strategic Significance

10. Part of the Site overlaps with habitat designated in the West Yorkshire Wildlife Habitat Network (WHN), and so is mapped as 'formally identified in local strategy'.
11. Part of the Site lies directly adjacent to an area of the WHN, and so is mapped as 'location ecologically desirable but not in local strategy', as stated in the Biodiversity Net Gain Technical Advice Note (Kirklees Council, 2021).

Irreplaceable habitat

12. Irreplaceable habitats have not been found on-Site.

Biodiversity Metric

13. Habitat types, conditions, and areas have been entered into the Statutory Biodiversity Metric Calculation Tool, alongside information on their strategic significance.
14. The Statutory Biodiversity Metric Calculation Tool is provided alongside this assessment, in Excel spreadsheet BM-7306-02, and may be useful in investigating design options for the Site.

Table 1 Habitat types.

Habitat	Label ref.	Irreplaceable?	Distinctiveness	Condition	See Condition Assessment sheet
Other neutral grassland	ONG1	No	Medium	Poor	6B
	ONG2	No	Medium	Poor	6B
Mixed scrub	MS1	No	Medium	Poor	20B
	MS2	No	Medium	Poor	20B
Bramble scrub	BS	No	Medium	Poor (automatically assigned)	N/A
Vegetated garden	-	No	Low	N/A	N/A
Developed land; sealed surface	-	No	Very Low	N/A	N/A
Individual Trees	T1	No	Medium	Moderate	9B
	T2	No	Medium	Moderate	9B

Table 2 Hedgerow types

Hedgerows	Label ref.	Irreplaceable?	Distinctiveness	Condition	See Condition Assessment sheet
Native Hedgerow	H1	No	Low	Good	8B
	H3	No	Low	Moderate	8B
Non-native and ornamental	H2	No	Low	Poor (automatically assigned)	N/A
	H4	No	Low	Poor (automatically assigned)	N/A
	H5	No	Low	Poor (automatically assigned)	N/A

Figure 2 The Site's baseline habitats assigned to types used in the Biodiversity Metric. Labelled codes cross-reference to our condition assessment and description in the PEAR, which should be read in conjunction with this report.

Figure 3 Extract from the Statutory Biodiversity Metric Calculation Tool showing entered information and resultant baseline Habitat Biodiversity Units[1].

Project Name: Howden Clough House, Birstall Map Reference:

A-1 On-Site Habitat Baseline

Condense / Show Columns

Condense / Show Rows

Main Menu

	Existing area habitats				Distinctiveness	Condition	Strategic significance	Required Action to Meet Trading Rules	Ecological baseline
Ref	Broad Habitat	Habitat Type	Irreplaceable habitat	Area (hectares)	Distinctiveness	Condition	Strategic significance		Total habitat units
1	Grassland	Other neutral grassland	No	0.2437	Medium	Poor	Area/compensation not in local strategy/ no local strategy	Same broad habitat or a higher distinctiveness habitat required (≥)	0.97
2	Grassland	Other neutral grassland	No	0.1116	Medium	Poor	Formally identified in local strategy	Same broad habitat or a higher distinctiveness habitat required (≥)	0.51
3	Grassland	Other neutral grassland	No	0.2431	Medium	Poor	Location ecologically desirable but not in local strategy	Same broad habitat or a higher distinctiveness habitat required (≥)	1.07
4	Heathland and shrub	Bramble scrub	No	0.0394	Medium	Condition Assessment N/A	Area/compensation not in local strategy/ no local strategy	Same broad habitat or a higher distinctiveness habitat required (≥)	0.16
5	Heathland and shrub	Mixed scrub	No	0.076	Medium	Poor	Area/compensation not in local strategy/ no local strategy	Same broad habitat or a higher distinctiveness habitat required (≥)	0.30
6	Heathland and shrub	Mixed scrub	No	0.0019	Medium	Poor	Location ecologically desirable but not in local strategy	Same broad habitat or a higher distinctiveness habitat required (≥)	0.01
7	Urban	Developed land; sealed surface	No	0.1711	V.Low	N/A - Other	Area/compensation not in local strategy/ no local strategy	Compensation Not Required	0.00
8	Urban	Developed land; sealed surface	No	0.0003	V.Low	N/A - Other	Location ecologically desirable but not in local strategy	Compensation Not Required	0.00
9	Urban	Vegetated garden	No	0.0377	Low	Condition Assessment N/A	Area/compensation not in local strategy/ no local strategy	Same distinctiveness or better habitat required ≥	0.08
10	Urban	Vegetated garden	No	0.0086	Low	Condition Assessment N/A	Location ecologically desirable but not in local strategy	Same distinctiveness or better habitat required ≥	0.02
11									
12									
13									
14									
15									
		Total habitat area		0.93					3.12
		Site Area (Excluding area of individual trees, green walls, intertidal hard structures)		0.93					

[1] Our report provides an estimate of the Site's value in Biodiversity Units. This is based on thorough assessment at the time of survey and using the information available at this time. In this assessment we have used the Statutory Biodiversity Metric Calculation Tool, the UK Habitats Classification, and relevant guidance. This assessment requires subjective judgments to be made in terms of habitat type and condition and could be open to other interpretations. Reliance on the Unit Score, or conversion of this into a monetary value, would be at the developer's own risk. Where conversion to monetary value is required, it is always advisable to get calculations checked independently.

Figure 4 Extract from the Statutory Biodiversity Metric Calculation Tool showing entered information and resultant baseline Hedgerow Biodiversity Units[2].

Project Name: Howden Clough House, Birstall Map Reference:

B-1 On-Site Hedge Baseline

Condense / Show Columns | Condense / Show Rows

Main Menu

	Existing hedgerow habitats			Distinctiveness		Condition		Strategic significance			Required Action to Meet Trading Rules	Ecological baseline
Ref	Hedge number	Habitat type	Length (km)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic significance multiplier		Total hedgerow units
1		Native hedgerow	0.069	Low	2	Good	3	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.41
2		Native hedgerow	0.017	Low	2	Good	3	Formally identified in local strategy	High strategic significance	1.15	Same distinctiveness band or better	0.12
3		Native hedgerow	0.111	Low	2	Good	3	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	Same distinctiveness band or better	0.73
4		Native hedgerow	0.04	Low	2	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.16
5		Non-native and ornamental hedgerow	0.145	V.Low	1	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.15
6												
7												
8												
9												
10												
			0.38									1.57

[2] Our report provides an estimate of the Site's value in Biodiversity Units. This is based on thorough assessment at the time of survey and using the information available at this time. In this assessment we have used the Statutory Biodiversity Metric Calculation Tool, the UK Habitats Classification, and relevant guidance. This assessment requires subjective judgments to be made in terms of habitat type and condition and could be open to other interpretations. Reliance on the Unit Score, or conversion of this into a monetary value, would be at the developer's own risk. Where conversion to monetary value is required, it is always advisable to get calculations checked independently.

Trading Rules

15. As part of delivering a Net Gain for biodiversity, the BNG process requires that trading rules are complied with, such that loss of habitats is compensated for in a like-for-like or like-for-better fashion. This is based on habitat distinctiveness.
16. Once trading rules are complied with, the 'gain' component can come from any distinctiveness category.

Habitat Unit Score

17. The Site has been assessed as having a baseline score of 3.12 Habitat Units and 1.57 Hedgerow Units. These break down as shown in Table 3, below.

Table 3 Habitat Units broken down by distinctiveness at this Site.

Distinctiveness	Units	Approach to compensation if lost
Very Low	0	No compensation required.
Low	0.09	Can be replaced with any habitat of the same distinctiveness (low) or any habitat from a higher distinctiveness (Medium, High or Very High)
Medium	3.03	Cannot be replaced with habitats from a lower distinctiveness. Compensation needs to be like for like, or like for better. This means it can only be replaced by habitat from the same broad categories in Medium distinctiveness (in this case Grassland, and Heathland and Shrub), or any habitat from a higher distinctiveness category (High or Very High).
High	0	Can only be replaced with the same habitat.
Very High	0	Can only be replaced with the same habitat; bespoke compensation required.
Irreplaceable	0	Bespoke compensation required, outside of BNG.

Hedgerow Unit Score

18. The Site has been assessed as having a baseline score of 1.57 Hedgerow Units. These break down as shown in Table 4, below.

Table 4 Hedgerow Units broken down by distinctiveness at this Site.

Distinctiveness	Units	Approach to compensation if lost
Very Low	0.15	Can be replaced with any hedgerow of the same or higher distinctiveness.
Low	1.42	Can be replaced with any hedgerow of the same or higher distinctiveness.
Medium	0	Can be replaced with any hedgerow of the same or higher distinctiveness.
High	0	Can be replaced with the same hedgerow type, or one of Very High distinctiveness.
Very High	0	Can only be replaced with the same hedgerow type.

Part 2

Post-development value

19. This section calculates the Biodiversity Unit value of the post-development Site and quantifies any gain or shortfall in Units.

Proposed habitats

20. Habitats present on-Site post-development have been based on the Proposed Site Tree & Boundary Plan (Figure 5, opposite) dwg. 2848-(100)07 (Acumen Designers & Architects, March 2024).
21. High level planting types mapped in the Proposed Site Plan have been assigned a UK Habitat classification description that best fits the target habitat.
22. Habitats assigned are shown in Figure 6 overleaf.

Condition assessment

23. The condition assessment for each proposed habitat is based on what is realistic and achievable for the Site, based on the Proposed Plan.
24. Achieving these conditions scores will be reliant on specific, ecologically-driven management recommendations. These should be outlined in a Biodiversity Enhancement and Management Plan (BEMP) or similar once finalised landscaping schemes have been decided.

Figure 5 Proposed Site Tree & Boundary Plan dwg. 2848-(100)07 (Acumen Designers & Architects, March 2024).

Post-development habitats

Habitat Score

25. The Site has been assessed as having a post-development score of 2.17 Habitat Units and 0.45 Hedgerow Units.
26. This score is based on our interpretation of the Proposed Site Plan, as shown in Figure 6 opposite.
27. Calculations for the change in Habitat Units have been based on the entire Site being cleared of existing habitats and land reprofiled, which results in the loss of all 3.12 Habitat Units present pre-development.
28. Areas identified by the client as not privately owned, can therefore be incorporated into a management plan and mapped as other neutral grassland in Moderate condition, and proposed trees mapped.
29. Retained hedgerows and proposed trees within privately owned gardens have not been mapped as the retention of these features cannot be guaranteed.
30. Calculations for the change in Hedgerow Units have been based on retention of c.100m of hedgerows, including *native hedgerows* and *non-native ornamental hedgerows*.
31. Post-development calculations include Habitat Units gained through the creation of small areas of grassland and vegetated gardens.
32. Roads, driveways, footpaths, houses and patios have all been mapped as *developed land; sealed surface*, which contribute no Habitat Units to the post-development score.

Figure 6 Post-development habitats and hedgerows.

DEFRA Metric[3] (Post-development)

33. This metric sets out the predicted score for the Site following the completion of development. This is based on the Proposed Site Plan provided by the client.

Figure 7 On-Site habitat creation.

Project Name: Howden Clough House, Birstall Map Reference:

A-2 On-Site Habitat Creation

Condense / Show Columns

Condense / Show Rows

Main Menu

Area habitat summary	
Total Net Unit Change	-0.95
Total Net % Change	-30.57%
Trading Rules Satisfied	No - check trading summaries ▲
Area Check	Area Acceptable ✓

				Post intervention habitats						
				Distinctiveness	Condition	Strategic significance	Temporal multiplier		Difficulty	
Ref	Broad Habitat	Proposed habitat	Area (hectares)	Distinctiveness	Condition	Strategic significance	Standard or adjusted time to target condition	Final time to target condition (years)	Final difficulty of creation	Habitat units delivered
1	Grassland	Other neutral grassland	0.1902	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	5	Low	1.27
2	Urban	Developed land; sealed surface	0.3758	V.Low	N/A - Other	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	0	Low	0.00
3	Urban	Developed land; sealed surface	0.0489	V.Low	N/A - Other	Formally identified in local strategy	Standard time to target condition applied	0	Low	0.00
4	Urban	Vegetated garden	0.2558	Low	Condition Assessment N/A	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	1	Low	0.49
5	Urban	Vegetated garden	0.0627	Low	Condition Assessment N/A	Formally identified in local strategy	Standard time to target condition applied	1	Low	0.14
6	Individual trees	Urban tree	0.085501586	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	27	Low	0.26
7										
8										
9										
10										
11										
		Total habitat area	1.02							2.17
		Site Area (Excluding area of individual trees, green walls, intertidal hard structures)	0.93							

[3] Our report provides an estimate of the Site's value in Biodiversity Units. This is based on thorough assessment at the time of survey and using the information available at this time. In this assessment we have used the Statutory Biodiversity Metric Calculation Tool, the UK Habitats Classification, and relevant guidance. This assessment requires subjective judgments to be made in terms of habitat type and condition and could be open to other interpretations. Reliance on the Unit Score, or conversion of this into a monetary value, would be at the developer's own risk. Where conversion to monetary value is required, it is always advisable to get calculations checked independently.

Figure 8 On-Site hedgerow creation.

Project Name: Howden Clough House, Birstall Map Reference:

B-1 On-Site Hedge Baseline

Condense / Show Columns | Condense / Show Rows | Main Menu

Hedgerow summary	
Total Net Unit Change	-1.12
Total Net % Change	-71.38%
Trading Rules Satisfied	No - check trading summary ▲

	Existing hedgerow habitats			Distinctiveness		Condition		Strategic significance				Ecological baseline		
Ref	Hedge number	Habitat type	Length (km)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic significance multiplier	Required Action to Meet Trading Rules	Total hedgerow units	Length retained	Length enhanced
1		Native hedgerow	0.069	Low	2	Good	3	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.41	0.069	0
2		Native hedgerow	0.017	Low	2	Good	3	Formally identified in local strategy	High strategic significance	1.15	Same distinctiveness band or better	0.12	0	0
3		Native hedgerow	0.111	Low	2	Good	3	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	Same distinctiveness band or better	0.73	0	0
4		Native hedgerow	0.04	Low	2	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.16	0	0
5		Non-native and ornamental hedgerow	0.145	V.Low	1	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.15	0.035	0
6														
7														
8														
9														
10														
			0.38									1.57	0.10	0.00

Final Results

34. The Statutory Metric has been used to calculate the net unit change for the Site, this predicts an overall net loss of 0.95 Habitat Units (-30.57%) and of 1.12 Hedgerow Units (-71.38%).

35. A copy of the Statutory Biodiversity Metric Calculation Tool Excel spreadsheet (ref. BM-7306-02) and Condition Assessment sheets (CA-7306-01) have been provided with this report and should be submitted digitally as part of the application.

36. There is a mandatory requirement for all developers to demonstrate at least a 10% net gain in each unit measurement, as well as to satisfy Trading rules. To achieve 10% in the two unit types impacted a total of 1.27 Habitat Units and 1.28 Hedgerow Units are required.

Trading Rules

37. Habitat types are separated out into distinctiveness categories (Very low to Very High) which dictate what mitigation / compensation is required for their loss. This assessment is separate to the 'net unit change' score quoted above – both must be satisfied.

38. To satisfy Trading Rules for this development, compensatory units will need to be generated from the following broad Habitat Types, as outline in the Table 5, opposite.

39. A total of 1.75 Habitat Units of will need to be generated to satisfy Trading rules. 1.28 Units of Medium Distinctiveness grassland and 0.47 Units of Scrub habitat.

40. In satisfying Trading Rules, the required 10% net gain in habitat units will be achieved.

41. A total of 1.28 Hedgerow Units will need to be generated to satisfy Trading rules. 1.12 Units of very low or low distinctiveness hedgerow.

42. A further 0.16 units of any hedgerow type will be required to deliver a 10% net gain.

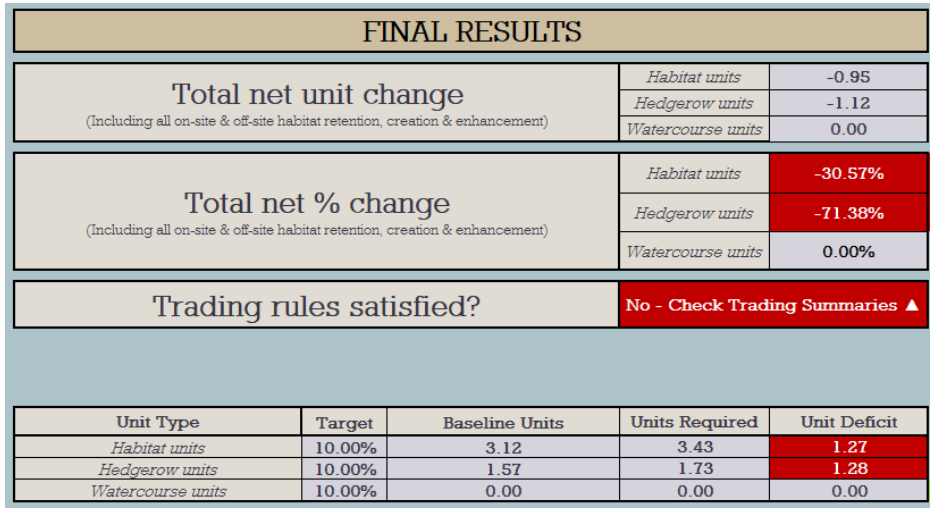
Requirements for Planning

43. A standard planning condition will be imposed that will require the development to demonstrate (i) a minimum 10% net gain and (ii) that Trading rules have been satisfied. To achieve this **1.75 Habitat Units** and **1.28 Hedgerow Units** will need to be generated within the broad habitats shown in Table 5, with an **1.12 Hedgerow Units** generated from hedgerows of any distinctiveness.

44. These Units will need to be secured through offsetting, with offsite land Registered with Natural England. Once this offsetting has been secured, the Biodiversity Metric will need to be finalised (ref. BM-7306-02) before submission to the LPA.

45. A Net Gain Plan and Habitat Monitoring and Management Plan will also be required in order to discharge the planning condition that will be imposed.

Figure 9 Biodiversity Metric Summary.



FINAL RESULTS

Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	-0.95
	Hedgerow units	-1.12
	Watercourse units	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	-30.57%
	Hedgerow units	-71.38%
	Watercourse units	0.00%
Trading rules satisfied?		No - Check Trading Summaries ▲

Unit Type	Target	Baseline Units	Units Required	Unit Deficit
Habitat units	10.00%	3.12	3.43	1.27
Hedgerow units	10.00%	1.57	1.73	1.28
Watercourse units	10.00%	0.00	0.00	0.00

Table 5 Trading rule summary

Distinctiveness	Broad Habitat Type	Units required
Medium	Grassland	1.28
Medium	Heathland and Shrub	0.47
	Total Habitat Units	**1.75 Units**
Very Low	Non-Native Ornamental Hedgerow	1.01
Low	Native Hedgerow	0.11
	Total Units	**1.12 Units**

* Compensation for habitats of medium distinctiveness must be in the same broad habitat type, or any habitat type in a higher distinctiveness category.

References

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Appendices

The following reports/digital documents have been provided alongside this report and should be read in conjunction with it:

- BM-7306-02 – Statutory Biodiversity Metric Calculation Tool
- CA-7306-01 – Statutory Biodiversity Metric Condition Assessments
- ER-7306-01 – Preliminary Ecological Appraisal