

Biodiversity Net Gain Assessment
Land off New Smithy Avenue, Thurlstone

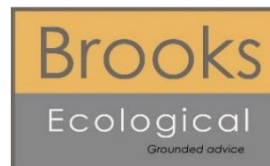
Newett Homes

Report Reference: ER-4006-02

23/03/2021

Report Title:	Biodiversity Net Gain Assessment Land off New Smithy Avenue, Thurlstone
Report Reference:	ER-4006-02
Written by:	Victoria Baker BSc (Hons) MSc GradCIEEM Ecologist
Technical Review:	Sam Kitching BSc (Hons) MCIEEM Senior Ecologist
QA:	Charlie Foreman BSc (Hons) Grad CIEEM Assistant Ecologist
Approved for Issue:	Sam Kitching BSc (Hons) MCIEEM Senior Ecologist
Date:	23.03.2021

Brooks Ecological Ltd has prepared this report for the sole use of Newett Homes. The information which we have prepared and provided is in accordance with the CIEEM's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions. This report does not constitute legal advice. The report is in accordance with the agreement under which our services were performed. No warranty, express or implied, is made as to the advice in this report or any other service provided by us. This report may not be relied upon by any other party except the person, company, agent or any third party for whom the report is intended without the prior written permission of Brooks Ecological Ltd. This report presents a snapshot of the site at the date it was surveyed; the conditions and the species recorded present, or likely absent, can change rapidly. Resurvey is recommended to any third-party seeking reliance on this report. The content of this report may, in part, be based upon information provided by others and on the assumption that all relevant information has been provided by those parties from whom it has been requested. Information obtained from any third party has not been independently verified by Brooks unless otherwise stated in the report. This report is the copyright of Brooks Ecological Ltd. Unauthorised reproduction or usage by any person is prohibited.



Unit A, 1 Station Road, Guiseley,
Leeds, LS20 8BX
01943 884451
admin@brooks-ecological.co.uk
www.brooks-ecological.co.uk
Registered in England Number 5351418



Introduction

1. Brooks Ecological was commissioned by Newett Homes to complete a Biodiversity Net Gain (BNG) Assessment of the proposed development Site off New Smithy Avenue, Thurlstone, South Yorkshire, Grid Reference SE 232 035. The assessment applies to land with the red line boundary as shown in Figure 1.
2. To inform the assessment, a Preliminary Ecological Appraisal was carried out in April 2019 (R-4006-01A). So as to conform with DEFRA's Biodiversity Metric 2.0, habitats have been mapped in accordance with the UK Habitat Classification descriptions, rather than the long established JNCC codes. These habitat classifications and 'the metric' are work in progress and could be subject to future change.
3. Biodiversity Accounting metrics are used to quantify the value of a Site in Biodiversity Units - which helps in assessing the ecological impacts of the proposed development on the Site.
4. Biodiversity Units 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. Please be aware that they can significantly impact on costs and viability.

Figure 1 Extent of BNG Assessment.



Pre-development Baseline

Habitats identified

5. The Site supports the following habitats:
 - g3c – Other neutral grassland
 - h3h- Mixed scrub
 - HR8 – Native hedgerow
 - LT4 – Line of Trees
6. Each habitat is mapped in the figure opposite.

Condition Assessment

7. The condition assessment for each habitat is based on the available criteria set out in The Biodiversity Metric 2.0 Auditing And Accounting For Biodiversity Technical Supplement Beta Edition.

Habitat Score

8. The Site has been assessed as having a baseline score of 3.98 Habitat Units and 0.31 Hedgerow Units (see tables overleaf).

Figure 2 Habitat map – pre-development.



DEFRA Metric Condition Assessment

g3c- Other neutral grassland

9. Habitat condition – Poor. Meets one of the criteria, with an abundance of rye-grass.

	Condition Assessment Criteria Grassland habitat type	Pass or Fail?
1	Clearly and easily recognizable as a good example of this type of habitat.	Fail
2	Appearance and composition very closely matches the characteristics for the specific Priority Habitat	Fail
3	Wildflowers, sedges and indicator species for the specific Priority grassland habitat are very clearly and easily visible throughout the sward and occur at high densities in high frequency.	Fail
4	Undesirable species and physical damage is below 5% cover.	Pass
5	Cover of bare ground greater than 10%	Fail
6	Cover of bracken less than 20% & cover of scrub and bramble less than 5%.	Fail

h3h, 17- Mixed scrub

10. Habitat condition - Poor. Meets 1 out of 5 criteria, bramble dominates and undesirables between 5-20%.

	Condition Assessment Criteria: Scrub broad habitat type	Pass or Fail?
1	There are at least three woody species, with no one species comprising more than 75% of the cover	Fail
2	There is a good age range – a mixture of seedlings, saplings, young shrubs and mature shrubs	Fail
3	Pernicious weeds and invasive species make up less than 5% of the ground cover.	Fail
4	Well-developed edge with un-grazed tall herbs	Pass
5	There are many clearings and glades within the scrub.	Fail

hr8- Native hedgerow

11. Habitat condition - Good. Fails one criteria.

	Favorable condition attributes and criteria: Hedgerows		Pass or Fail?
A1	Height	>1.5m average along length	Pass
A2	Width	>1.5m average along length	Pass
B1	Gap – hedge base	Gap between ground and base of canopy <0.5m for >90% length	Pass
B2	Gap – hedge canopy continuity	Gaps make up <10% of total length and no canopy gaps >5m	Pass
C1	Undisturbed ground and perennial vegetation	>1m width of undisturbed ground with perennial herbaceous vegetation for >90% of length & present on one side of hedge at least	Pass
C2	Undesirable perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of area of undisturbed ground	Fail
D1	Invasive and neophyte species	>90% of hedgerow and undisturbed ground is free of invasive non-native and neophyte species	Pass
D2	Current damage	>90% of hedgerow of undisturbed ground is free of damage caused by human activities	Pass

lt4- Line of trees

12. Habitat condition – Good. Meets both 'good' criteria.

Category	Condition Assessment Criteria Line of Trees habitat type	Pass or Fail?
Good	Mature trees with continuous canopy, i.e. • a 'mature tree' in this context is one that is at least 1/3 expected fully mature height • gaps make up <10% of total length and there are no canopy gaps >5 m	Pass
Moderate	Continuous canopy, i.e. • trees < 1/3 expected fully mature height • gaps make up <10% of total length and there are no canopy gaps >5 m	-
Poor	Broken canopy, i.e. • gaps make up >10% and / or gaps are >5 m in length.	-

DEFRA Metric (Baseline)¹

13. This metric sets out the baseline for the Site - proposals should seek to achieve at least a 'no net loss' situation through **Avoiding** areas of higher value, **Mitigating** any loss on-Site through retention and enhancement, or habitat creation. The Local Planning Authority may require you to **Compensate** any residual loss elsewhere - either through direct works or an off-setting contribution.

Land off New Smithy Avenue, Thurlstone

A-1 Site Habitat Baseline

Condense / Show Columns

Condense / Show Rows

Main Menu

Instructions

Habitats and areas				Habitat distinctiveness	Habitat condition	Ecological connectivity	Strategic significance	Suggested action to address habitat losses	Ecological baseline
Ref	Broad Habitat	Habitat type	Area (hectares)	Distinctiveness	Condition	Ecological connectivity	Strategic significance		Total habitat units
1	Grassland	Grassland - Other neutral grassland	0.945	Medium	Poor	Low	Area/compensation not in local strategy/ no local strategy	Same broad habitat or a higher distinctiveness habitat required	3.78
2	Heathland and shrub	Heathland and shrub - Mixed scrub	0.049	Medium	Poor	Low	Area/compensation not in local strategy/ no local strategy	Same broad habitat or a higher distinctiveness habitat required	0.20
3									
4									
5									
6									
7									
Total site area ha			0.99					Total Site baseline	3.98

Land off New Smithy Avenue, Thurlstone

B-1 Site Hedge Baseline

Condense / Show Columns

Condense / Show Rows

Main Menu

Instructions

UK Habitats - existing habitats				Habitat distinctiveness	Habitat condition	Ecological connectivity	Strategic significance	Suggested action to address habitat losses	Ecological baseline
Baseline ref	Hedge number	Hedgerow type	length KM	Distinctiveness	Condition	Ecological connectivity	Strategic significance		Total hedgerow units
1	1	Native Hedgerow	0.031	Low	Good	Low	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.186
2	2	Line of Trees	0.02	Low	Good	Low	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.12
3									
4									
5									
Total Site length/KM			0.05					Total Site baseline	0.31

¹ Our report provides an estimate of the sites 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 latest version of DEFRA's Biodiversity Metric 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.

Post-development Baseline

Proposed Habitats

- 14. Habitat present on Site post-development have been based on the Landscape Masterplan produced by Brooks Ecological (DR-4006-01.3, March 2021).
- 15. Planting types specified in the Landscape proposal have been assigned a UK Habitat Classification description that best fits the target habitat.

Condition Assessment

- 16. The condition assessment for each proposed habitat is based on what is realistic and achievable for the Site, based on the Landscape Masterplan.

Habitat Score

- 17. The Site has been assessed as having a post development score of 1.91 Habitat Units and 0.09 Hedgerow Units (see tables overleaf).

Figure 3 Landscape Masterplan- DR-4006-01.3, March 2021

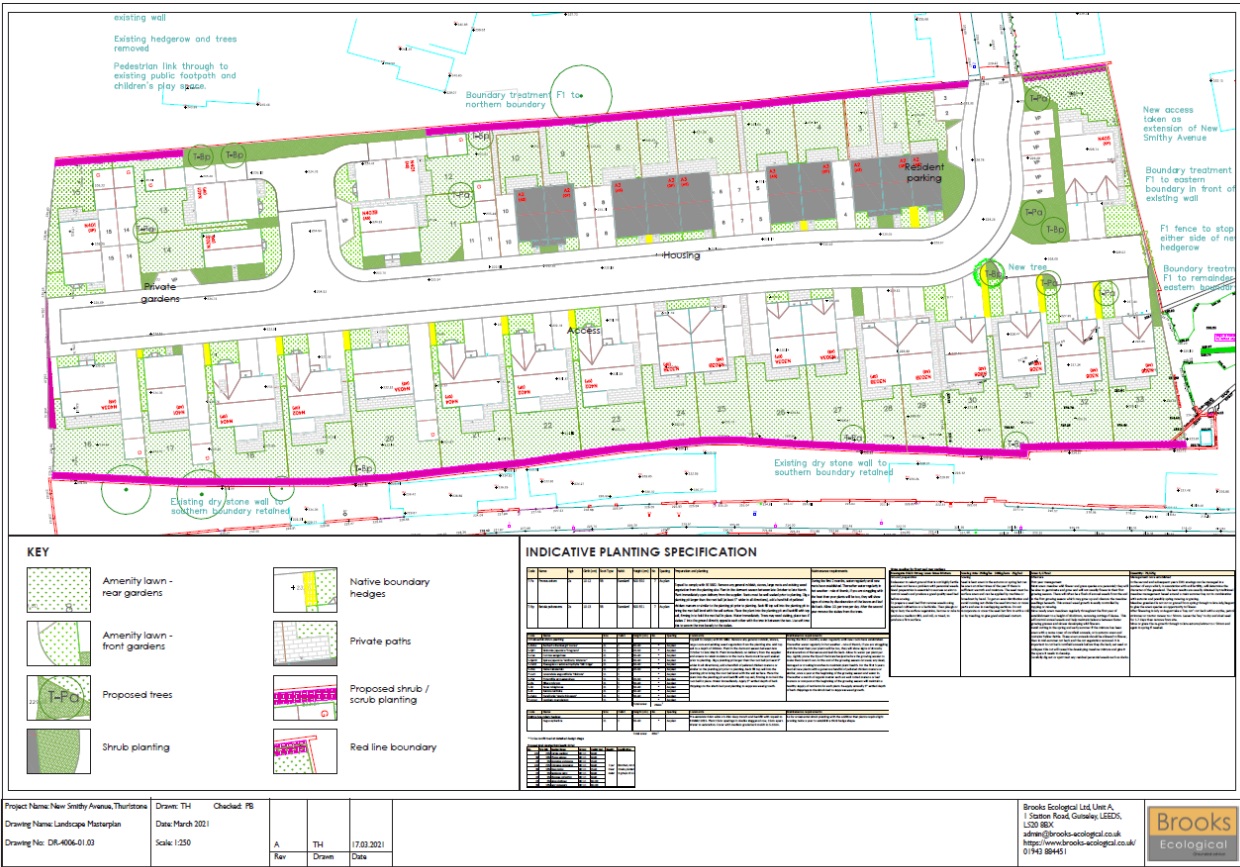


Figure 4 Proposed habitat map based on DR-4006-01.3



DEFRA Metric (Post-development)

18. This metric sets out the predicted baseline for the Site following the completion of development. This is based on the Site Layout provided by the client and the Landscape Masterplan (DR-4006-01.3).

Land off New Smithy Avenue, Thurlstone									
A-2 Site Habitat Creation									
Condense / Show Columns					Condense / Show Rows				
Main Menu					Instructions				
Post development/ post intervention habitats									
Proposed habitat	Area (hectares)	Distinctiveness	Condition	Ecological Ecological connectivity	Strategic significance Strategic significance	Temporal Time to target condition/years	Difficulty Difficulty of creation category	Habitat units delivered	Assessor comments
Urban - Developed land; sealed surface	0.21	V.Low	N/A - Other	Low	Area/compensation not in local strategy/ no local strategy	0	Low	0.00	Access road and footpaths.
Urban - Suburban/ mosaic of developed/ natural surface	0.708	Low	Poor	Low	Area/compensation not in local strategy/ no local strategy	1	Low	1.37	Housing plots.
Heathland and shrub - Mixed scrub	0.049	Medium	Moderate	Low	Area/compensation not in local strategy/ no local strategy	3	Low	0.35	Mix of native shrub beds along boundaries.
Urban - Introduced shrub	0.027	Low	Moderate	Low	Area/compensation not in local strategy/ no local strategy	1	Low	0.10	Mix of non-native pollinator friendly (rhs.org.uk/plantsforpollinators) shrub beds in POS.
Urban - Street Tree	0.057	Low	Moderate	Low	Area/compensation not in local strategy/ no local strategy	27	Low	0.09	14 Native trees.
Totals	0.99							1.91	

Land off New Smithy Avenue, Thurlstone										
B-2 Site Hedge Creation										
Condense / Show Columns					Condense / Show Rows					
Main Menu					Instructions					
Proposed habitats				Habitat distinctiveness	Habitat condition	Multipliers		Hedge units delivered	Assessor comments	
Baseline ref	New hedge number	Habitat type	Length km	Distinctiveness	Condition	Ecological connectivity	Strategic significance			
1		Native Hedgerow	0.049	Low	Poor	Low	Area/compensation not in local strategy/ no local strategy	1	0.09	Beech hedgerows around plots
2										
3										
4										
5										
Creation Length/KM			0.05						0.09	

Net Gain Assessment

19. This exercise identifies an overall Net Loss of 2.07 Habitat Units (-51.96%), and a Net Loss of 0.21 Hedgerow Units (-69.09%).
20. Calculations for the change in Habitat Units has been based on the entire Site being cleared of existing vegetation and land reprofiled, which results in the loss of all 3.98 Habitat Units present pre-development. Post-development calculations include 0.21ha of access roads / footpaths which score 0 Habitat Units. 1.91 Habitat Units are gained through the creation of housing / gardens and planting within Public Open Space (POS) which includes pollinator friendly landscaping, native shrub boundaries and tree planting.
21. A Net Loss in Hedgerow Units is reached by the loss of the western hedgerow / treeline and the planting of 49m of beech hedgerows throughout.
22. The client has been provided with a copy of the Biodiversity Metric 2.0 Calculation Tool excel spreadsheet. This will be made available for review if required.

Land off New Smithy Avenue, Thurlstone

Headline Results

Return to results menu

On-site baseline	Habitat units	3.98
	Hedgerow units	0.31
	River units	0.00
On-site post-intervention (Including habitat retention, creation, enhancement & succession)	Habitat units	1.91
	Hedgerow units	0.09
	River units	0.00
Off-site baseline	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.00
Off-site post-intervention (Including habitat retention, creation, enhancement & succession)	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.00
Total net unit change (including all on-site & off-site habitat retention/creation)	Habitat units	-2.07
	Hedgerow units	-0.21
	River units	0.00
Total net % change (including all on-site & off-site habitat creation + retained habitats)	Habitat units	-51.96%
	Hedgerow units	-69.09%
	River units	0.00%