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BIODIVERSITY IMPACT ASSESSMENT FOR NET GAIN

Land off Fullwood Drive, Golcar, West Yorkshire

Report Reference: BG20.296.2

November 2021

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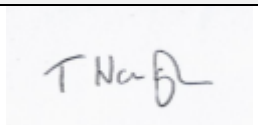
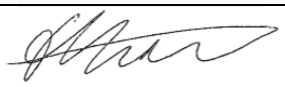
Prepared by	Tom Hough QualCIEEM		12/01/2021
1st Check by	Ellen Marshall Head of Ecology		14/01/2021
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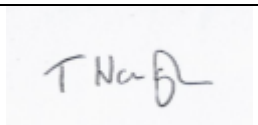
Issued by (PDF)	Tom Hough		06/01/2022
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Contents

1 Summary

1.1 Where a development has an impact on biodiversity, Biodiversity Net Gain encourages developers to secure an increase in appropriate natural habitat and ecological features over and above that being affected. In order to determine whether there is no net loss or a net gain to biodiversity from a development project, a quantitative approach involving the use of a metric is required. In 2012, DEFRA created such a metric to quantify the impact of a development in terms of 'biodiversity units'. The UK government's 25 Year Environment Plan will require all new developments in England, delivered via the existing planning and development process to meet a mandatory improvement in biodiversity value.

1.2 This Biodiversity Impact Assessment (BIA) draws upon the results of the Preliminary Ecological Appraisal (PEA) undertaken and reported upon previously (BG17.254, August 2017) and adds the results of biodiversity value calculations, derived using the Biodiversity Metric 3.0 Biodiversity Impact Calculator and based upon the detailed design proposals for the application site. An updated PEA was (BG20.296, December 2020), to support an Ecological Impact Assessment (EcIA), (BG20.296.2, November 2021) however, the site had undergone clearance to control Schedule 9 Invasive species. Conditions and habitats on site are based on the initial assessment from 2017. The classifications of original habitats are presented within Appendix 1.

1.3 During the baseline assessment the habitats on site were evaluated as holding site value in relation to local surroundings. The site was dominated by tall ruderal herbs, with scrub and scattered trees. For the purposes of this biodiversity impact assessment, the south-eastern half of the site comprising the scattered trees was characterised as woodland. Some sections of non-native hedgerow were also present along site boundaries under the ownership of adjacent areas of land.

1.4 Using the Biodiversity Metric 3.0 (Beta Test) provided by Natural England, the existing habitats within the application boundary were valued at 1.26 'biodiversity units'. The proposed scheme, totalling 0.4ha, currently results in an overall net-loss to biodiversity of -0.45 'biodiversity units' (-35.68%), despite the introduction of proposed enhancements (Appendix 2). Baseline hedgerows

on site were non-native, with a hedgerow unit value of 0. However, an area of native hedgerow is proposed, which would result in a net gain of 0.08 ‘hedgerow units’ to the site.

1.5 The current master plan incorporates the creation of areas of amenity grassland and the introduction of urban street trees, with the remainder of the site comprising the proposed residential dwellings and access roads. Following the scoring in the metric, it is recommended that a woodland and scrub buffer zone is retained and enhanced in the soft landscaping designs along the southern boundary, and open areas sown with a species rich grassland mixture and scattered scrub along boundary features at the north-eastern corner of the site. However, even with these enhancements, the current proposed areas result in the overall -35.68% net loss within the site (Appendix 2). That said, the proposed enhancements will allow continued connectivity to the surrounding landscape and ecological function across the site, especially along retained features.

1.6 This report was compiled following the Biodiversity Net Gain Good Practice Principles for Development (CIEEM, 2019).

2 Introduction

2.1 Brindle and Green Ltd were approached by Acumen Designers and Architects to carry out a Biodiversity Impact Assessment (BIA). This report provides an appraisal of the biodiversity value associated the with existing habitats established during the baseline survey and assesses the impacts in terms of biodiversity loss against the proposed layout (Appendix 1) using the Biodiversity Metric 3.0, provided by Natural England.

2.2 The project area is approximately 0.4ha in extent and is located within the village of Golcar, within the western outskirts of the town of Huddersfield. Residential plots border the northern and eastern site boundary, whilst the eastern and southern boundaries is bordered by woodland areas. The site is the subject of a full planning application for the development of eight residential dwellings associated access and landscaping. Design plans are provided within Appendix 1 of this report.

2.3 The majority of existing habitats within the site boundaries contributing to the baseline biodiversity score will be lost to facilitate the proposed development. In order to reduce the biodiversity loss, the retention and enhancement of a woodland buffer zone along the southern boundary is recommended. It is also recommended that the enhancement area at the north-western corner of the site should be included within the designs, comprising retained woodland, and native meadow mix (Emorsgate Seeds EM1 flower meadow mixture, or similar) and scrub.

2.4 The purpose of this report is to assess the current biodiversity habitat and value of the site and determine the impact on biodiversity following development. The targets relating to net gain are to seek to ensure no net-loss as a result of the development, and preferably, a net-gain in biodiversity value. If a net gain cannot be made on-site, then off-site enhancement, financial contribution or habitat banking may be stipulated by the LPA, unless an agreement can be made.

2.5 Results and recommendations contained within this report have been prepared by an experienced ecologist and are therefore the view of Brindle & Green Limited. The results of the Biodiversity Impact Assessment are based on

information provided by our client, the development proposals and our survey of the site. This report pertains to this information only.

3 The Biodiversity Metric 3.0 Biodiversity Impact Calculator

3.1 The biodiversity accounting system is underpinned by a metric that calculates the ecological value of both development impact and habitat restoration/creation.

3.2 The Biodiversity Metric 3.0 uses the national metric recommended by Defra, developed by Natural England in consultation with a range of experts. The metric is based on an assessment of habitat type and condition. Habitat types are classified into three bands of 'distinctiveness' which are: priority habitats as defined in the NERC Act 2006 (high), semi-natural habitats (medium) and managed habitats, such as arable farmland (low).

3.3 Compensation arrangements should be like-for-like or better, i.e. the loss of semi-natural habitats can only be compensated for through the creation of priority or other semi-natural habitats, not through creating some lesser quality habitat. 'Trading up' options allow for the loss of poor-quality habitat, such as farmland, to be compensated for with the creation of high-quality habitat.

3.4 The ecological value of the habitat lost to development is a function of its distinctiveness, its condition and the area lost – scores are assigned to all three variables and multiplied together to arrive at the number of units lost. To compensate for a loss, the same or more units ('conservation credits') must then be delivered through habitat creation or restoration at another site that is going to be managed for wildlife (the 'receptor' site or compensation site).

3.5 The number of credits delivered by the compensation receptor sites are also a function of the type, condition and area of the habitat being created or restored. But additionally, there are a further range of 'multipliers' applied to the creation of habitat because there are a number of risks to take account of – spatial, temporal and delivery.

3.6 **Mapping and assessment**

3.6.1 A phase 1 habitat survey was undertaken on the 23rd August 2017. The Phase 1 habitats recorded were converted to UK Habitats classification and habitat conditions were determined using the habitat descriptions within the phase 1

report. The classification of habitats and conditions follow the outline in the Natural England Technical Support document associated with the beta edition of the metric. The habitats recorded during the Phase 1 surveys can be found within Appendix 2 of this report.

3.2.2 Habitats were mapped within QGIS (Version 3.16) software to allow area calculations. The proposed scheme was overlayed and measured using the georeferencing tool.

3.6 Limitations

3.6.1 It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no investigation could ensure the complete characterisation and prediction of the natural environment. The protected and notable species assessment provides a preliminary view of the likelihood of these species occurring on site, based upon the suitability of the habitats, known distribution of the species in the local area and any direct evidence on site. It should not be taken as providing a full and definitive survey of any protected species group.

3.6.2 Some habitats on site have been cleared at the time of writing. For the purposes of this assessment, the calculations are based off the habitats present at the time of the original PEA (BG17.254, August 2017).

3.7 Report Lifespan

Given the transient nature of the subject we would consider the baseline survey results and biodiversity calculations contained within this report to be accurate for 2 years.

4 Assessment Calculator Results

4.1 Existing Biodiversity Value

4.1.1 The application site contains habitats of a low and medium distinctiveness. Baseline hedgerows (boundary habitat, outside of client ownership) were considered to be of low distinctiveness, comprising small section of non-native species-poor hedgerow.

4.1.2 Low distinctiveness habitats comprise the ruderal herbs covering approximately 0.16ha of the site, equating to approximately 40% of the area within the redline boundary. The Phase 1 survey identified a low species diversity within this area, dominated by Rosebay willow-herb (*Chamerion angustifolium*) and common nettle (*Urtica dioica*). Therefore, this habitat only provides a low biodiversity value, and subsequently the condition was considered to be poor.

4.1.2 Habitats of medium distinctiveness comprise poor quality woodland, covering approximately 0.22ha, equating to 55% of the area within the red-line boundary. This was considered poor due to the invasive species including Japanese knotweed (*Fallopia japonica*) and Indian balsam (*Impatiens glandulifera*) comprising more than 20% of this area. Canopy cover was less than 50%, with more than 40% of the area with temporary open space. No recognisable NVC community was in the undergrowth. As such, this woodland scored approximately 19 according to the criteria within the technical supplement, and was characterised as ‘poor’.

4.1.3 Also of medium distinctiveness were small areas of scrub and bracken, comprising the remainder of the site area. Scrub areas were dominated by bramble (*Rubus fruticosus*) and was therefore considered to be of a poor condition. The bracken area was also considered to be of a poor condition due being comprised of a single species.

4.1.3 Using the Biodiversity Metric 3.0, provided by Natural England, the existing habitats within the application boundary were valued at 1.26 habitat biodiversity units. Baseline hedgerows comprised sections of non-native species-poor hedgerow, with 0.06 hedgerow units.

4.2 **Scheme Design**

4.2.1 The application seeks approval for the development of eight residential dwellings, with associated landscaping incorporating residential gardens. The scheme will result in the loss of the majority of habitats within the site boundaries. Proposed habitats for the site, comprising residential gardens and some introduced scattered trees provide some offset to the current predicted net loss to the site. In order to further offset the loss, it is recommended that a 5-metre buffer zone is created along the southern boundary to comprise an enhanced of mixed native scrub and trees. We have also proposed an enhancement area to be situated at the north-eastern corner of the site, comprising retained trees, and meadow grassland and scrub.

4.2.2 The dominant habitats to be introduced will be urban vegetated gardens (approx. 0.14ha, 35% of the area) and introduced street trees (approx. 0.02ha, approx. 5% of the area) as well as the footprint of the proposed residential dwellings and hardstanding covering approximately 0.19ha (47.5%) of the area within the red line boundary. The retained woodland forming the buffer zone to the south of the site will be enhanced with scrub and trees totals an area of 0.04ha (10% of the area). The introduced scrub and grassland comprising the remainder of the proposed enhancement area comprise 0.03ha (7.5% of the area).

4.2.3 Despite the proposed onsite enhancements, the biodiversity impact calculator recorded an overall loss to biodiversity of -0.45 ‘biodiversity units’ (-35.68%). These scoring results are shown in Table 1 below. The full calculations will be submitted along with this report (BG20.296.2 Biodiversity Metric 3.0 Calculation Tool – Fullwood Drive, Golcar - FINAL).

4.2.4 However, the introduction of a section of native hedgerow along the western and northern boundary, would provide a net-gain of 0.08 hedgerow units to the site. A percentage increase is therefore calculated as 103.42%.

Table 1: Biodiversity Impact Assessment Score (Extracted from DEFRA matrix)

On-site baseline	*Habitat units*	1.26
	Hedgerow units	0.06
	River units	0.00
On-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	0.81
	Hedgerow units	0.14
	River units	0.00
On-site net % change (Including habitat retention, creation & enhancement)	*Habitat units*	-35.68%
	Hedgerow units	130.42%
	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)	*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 & enhancement)	*Habitat units*	-0.45
	Hedgerow units	0.08
	River units	0.00
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	-35.68%
	Hedgerow units	130.42%
	River units	0.00%

5 Evaluation

5.1 **Development Proposals**

The site is the subject of a planning application for eight residential dwellings with associated access. The initial development plans suggest that ground clearance will result in the loss of the majority of current habitats, aside from trees to be located within the proposed buffer zone and enhancement area. The current design proposals for the site are presented in Appendix 2 of this report, along with the overlay with our enhancement proposals.

5.2 Using the Biodiversity Metric 3.0, provided by Natural England, the existing habitats within the application boundary were valued at 1.26 'biodiversity units'. The initial scheme with the current proposed habitat loss, and with the proposed enhancements, result in an overall loss to biodiversity of -0.45 'biodiversity units'.

5.3 The retained buffer woodland and proposed hedgerows will retain connectivity along the southern and western boundaries and enhance connectivity across the site to the wider landscape. The proposed species rich grassland, scrub and woodland retention / enhancement provides habitats of higher quality and ecological value than the baseline habitats, so despite the -35.68% loss due to the construction of residential housing, the ecological function of the site will be improved.

5.4 Furthermore, although, the removal of tall ruderal herbs including invasive species from the site contributes to the loss to the loss of habitat units, however, the removal is imperative to prevent further degradation of the site and spread of invasive weeds into the surrounding landscape which would have been inevitable without intervention as a result of the planning application.

5.5 The introduction of a native hedgerow along the western and northern boundary, provide a gain of 0.08 hedgerow units to the site.

5.6 Proposed habitats should be managed following a site-specific Landscape Ecological Management Plan (LEMP) as outlined in section 6 and reviewed during establishment (30 year period) to determine success.

6 Ecological Management Prescriptions

6.1 To implement maximising the potential of habitats within areas of open green space a Landscape and Ecological Management Plan (LEMP) has been compiled (BG20.296.3). The plan will include suitable seed mixes for resown grassland areas and an appropriate management regime. The plan will also include recommendations to enhance a buffer zone of woodland within the site.

6.2 **Enhancement of Existing Habitats**

6.2.1 *Woodland*

Additional tree and scrub planting will be undertaken within the section of retained woodland along the southern boundary. This will improve the quality of the buffer zone to allow continued connectivity across the site post-development. However, with a small overall area of the buffer zone (0.03 hectares), it will be unlikely that the condition of this will achieve higher than 'poor' and a distinctiveness of 'medium'.

6.3 **Creation of habitat within open space**

6.3.1 *Other neutral grassland*

A neutral grassland mix will be sown as part of the enhancement site. This will be managed to aim for 'medium' condition but will not reach a distinctiveness higher than 'medium'.

6.3.2 *Scrub*

Areas of mixed scrub will be incorporated as part of the enhancement area in the north-western corner of the site. This will be managed to aim for 'good' condition but will not to reach a distinctiveness higher than 'medium'.

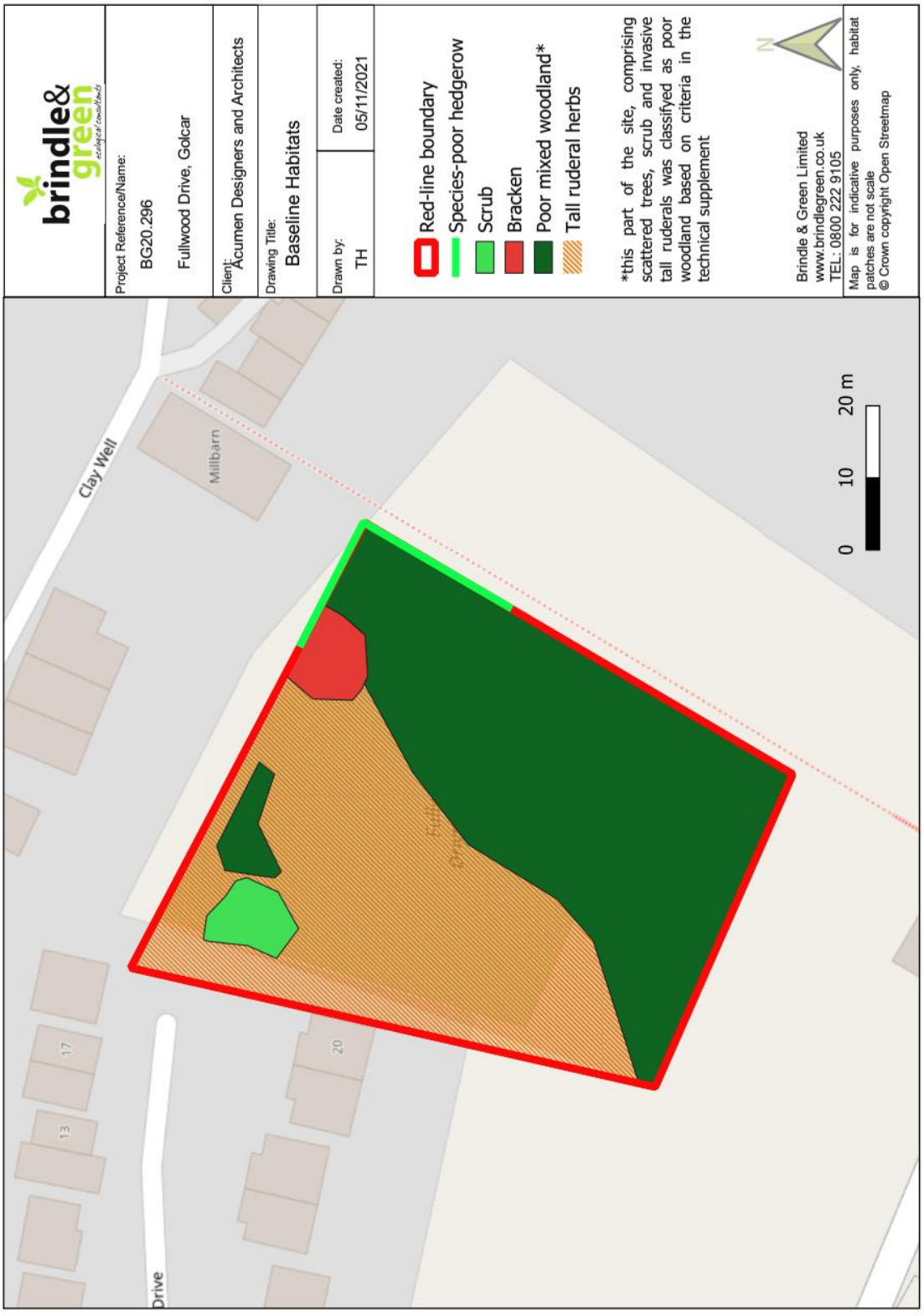
6.3.3 *Street Trees*

The plans seek to plant trees throughout the development (equating to approx. 0.02ha). Due to the nature and the positioning of the trees they will not reach condition higher than moderate.

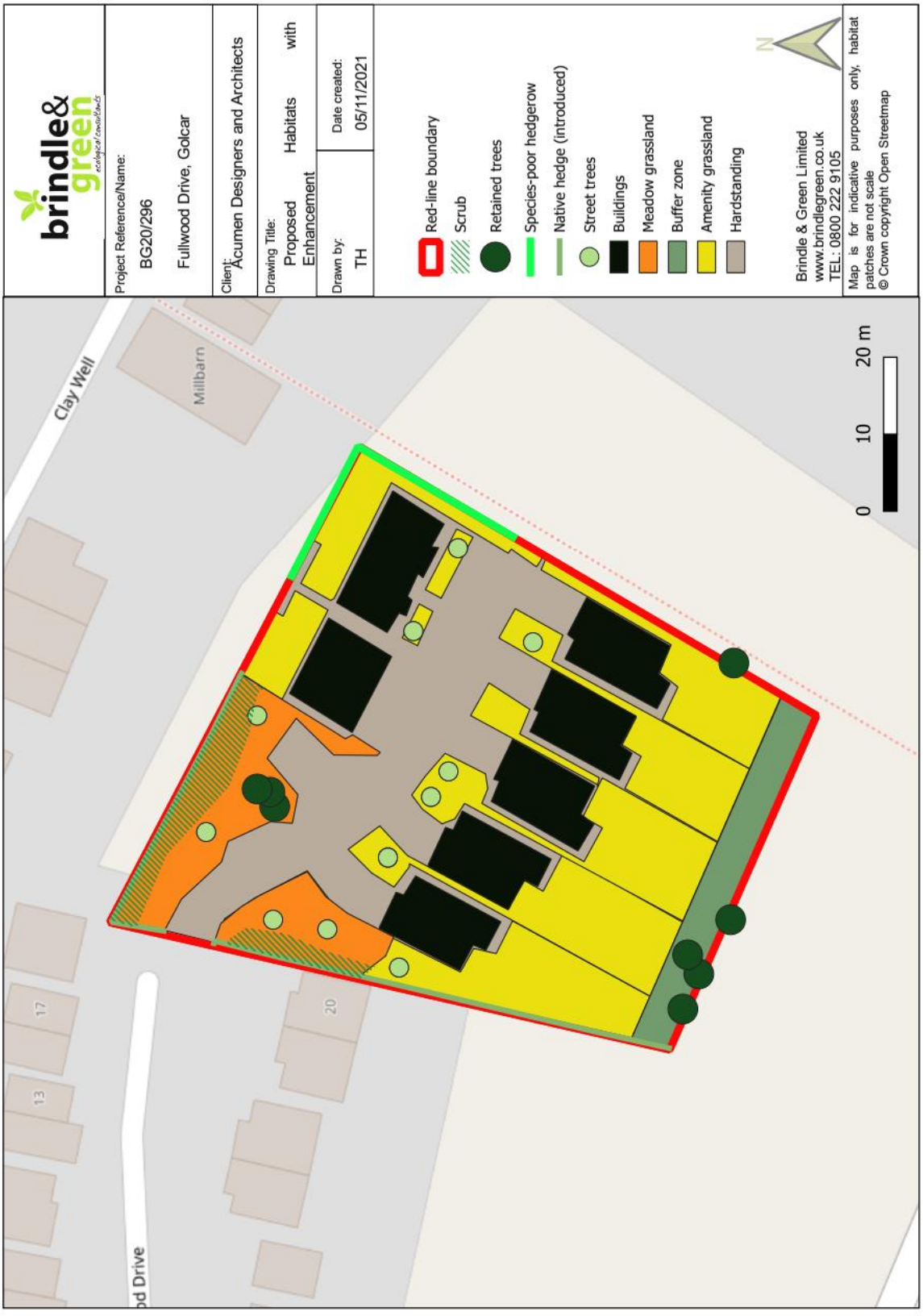
6.3.4 *Vegetated Gardens*

Vegetated gardens are proposed for the site covering approximately 0.14 hectares. It is not expected this will achieve higher than a ‘poor’ condition and will be of a ‘low’ distinctiveness.

Appendix 1. Baseline Habitats



Appendix 2. Proposed Habitats



Appendix 3. Proposed Plans