SF3387 | CMS ROCKINGHAM

BIODIVERSITY NET GAIN ASSESSMENT

December 2023 | For Planning
Revision A

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Quality Assurance

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1.0 INTRODUCTION

1.1 Smeeden Foreman Limited has been commissioned by Carnell Management Services Ltd. to produce a Biodiversity Net Gain (BNG) assessment of their site off Kestrel Way, Birdwell, Barnsley (central grid reference SE 3495 0052), hereafter referred to as the 'site'.

1.2 Site proposals are for the construction of 7No. Factory Units for class Classes E(g) (office/research & development/light industry) with ancillary trade counter (use class sui generis) usage within the Town and Country (Use Classes) Order, B2 – General Industrial & B8 – Storage & Distribution, and including all associated external works. This report outlines details of the BNG assessment which has been completed for the scheme shown in *Figure 01* in order to demonstrate the net biodiversity gains / losses, with reference to the DEFRA Biodiversity v3.1 Metric.

1.3 This Biodiversity Net Gain Assessment was originally based on version 3.1 of the DEFRA Biodiversity Metric. This version has since been superseded by version 4.0 and the Statutory Metric, released in March 2023/November 2023 respectively. JNCC advise "Users of previous versions of the Biodiversity Metric should continue to use that metric (unless requested to do otherwise by their client or consenting body) for the duration of the project it is being used for." The value of habitats on and off-site, pre- and post-development have therefore been run through version 3.1 as initially used.

1.4 The principle of 'net gain' is set out in the National Planning Policy Framework (NPPF July 2021):

Paragraph 174: '*Planning policies and decisions should contribute to and enhance the natural and local environment by:*

d) minimising impacts on and providing ***net gains for biodiversity****, including by establishing coherent ecological networks that are more resilient to current and future pressures;'*

Paragraph 179: ''*To protect and enhance biodiversity and geodiversity, plans should:*

b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable ***net gains for biodiversity.'***

Paragraph 180: *When determining planning applications, local planning authorities should apply the following principles:*

d) development whose primary objective is to conserve or enhance biodiversity be supported; while opportunities to incorporate biodiversity improvements in and around developments should be integrated as part of their design, especially where this can secure measurable ***net gains for biodiversity*** *or enhance public access to nature where this is appropriate.*

1.5 The requirement for developers to deliver a minimum biodiversity net gain of 10% is set to become a mandatory requirement in March 2024 under the Environment Act 2021.

1.6 The Barnsley Metropolitan Borough Council (BMBC) adopted Local Plan (adopted January 2019) does not refer to the provision of biodiversity net gain, however Policy BIO1 within the plan illustrates that it '*expects development to conserve and enhance the biodiversity features of the borough by protecting and improving habitats, and maximising biodiversity opportunities on new developments'.*

1.7 The Supplementary Planning Document (*Biodiversity and Geodiversity*, adopted May 2019) produced by BMBC also notes in section 4.2 that:-

At present there is no nationally-agreed system for measuring biodiversity or geodiversity losses proposed on a site through a development and creating a comparable biodiversity element off-site (biodiversity compensation). It is likely that one will be made available in the near future. The LPA may choose to adopt such a 'metric' and apply it in cases where compensation works are the only possible solution – in which case a new policy will be produced and publicised. Until such time the LPA will continue to use its best judgement, based on precedents, as to what the appropriate compensation amount, as a monetary value, should be.

1.8 Advice obtained from the Local Authority with respect to the above scheme indicates that a biodiversity net gain of at least 10% should be provided on site where possible to coincide with recommendations made within the adopted Hoyland North Masterplan Area; within which the proposed development site falls. The provision of habitat creation on site is favoured over compensation off-site, however there is an option to pay commuted sums in respect to biodiversity of £25,000.00 per habitat unit direct to BMBC.

1.9 It is understood that a Biodiversity Net Gain design should improve the extent or condition of biodiversity affected by a project. It should not result in lost or damaged features being replaced by features of lower biodiversity value. The mitigation hierarchy principle of avoid – minimise – remediate – compensate should be followed within the design process with irreplaceable features retained.

UNIT	GROUND		FIRST		TOTAL		OFFICE AREA, excl. circ/toilets		OFFICE % TO GIA	CARS	CYCLES	M/CYCLE	EAVES/HAUNCH HEIGHT
	sq.m	sq.ft	sq.m	sq.ft	sq.m	sq.ft	sq.m	sq.ft					
1	822	8,848	109	1,173	931	10,021	138.03	1,167.02	11.60	17	10	2	8m
2	384	16,036	167	1,690	1,551	16,595	186.03	1,993.02	11.93	24	12	2	8m
3	1,305	14,553	141	1,517	1,493	16,070	147.03	1,587.02	9.85	23	12	2	8m
4	1,731	18,630	184	1,980	1,915	20,615	230.03	2,475.02	12.01	35	12	2	8m
5	589	6,017	93	1,009	682	7,017	103.03	1,114.02	15.80	11	10	2	6m
6	316	3,401	0	0	316	3,401	36.03	387.90	11.39	6	Shared.	Shared.	6m
7	304	3,595	0	0	304	3,595	36.03	387.90	10.78	6	Shared.	Shared.	6m
TOTAL	6,305	70,081	694	7,369	7,192	77,411	845	9,106		115	60	10	

Figure 01: Proposed site plan (drawing no. 12215 WMS XX XX DR A 10003 S8 P19 Site Plan 23.11.14, produced by William Saunders, November 2023).

2.0 THE SITE

2.1.1 The site is located to the east of Junction 36 of the M1, approximately 5.7km to the south of Barnsley town centre (refer to *Figure 02* below). The site itself is predominantly comprised of Open Mosaic Habitat, bare ground and hardstanding.

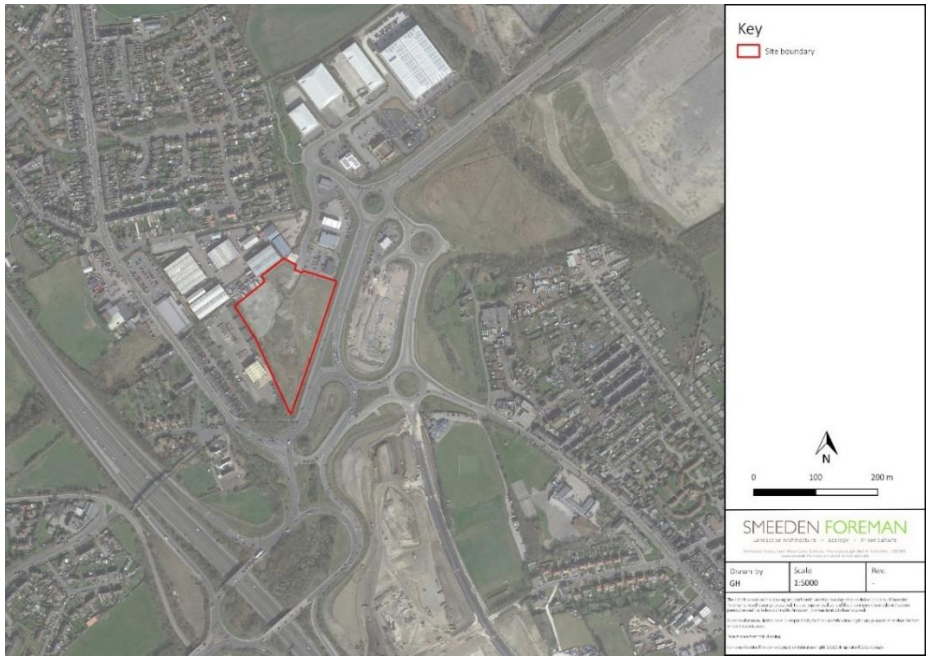

Figure 02: Aerial view of site location

2.1.2 Commercial and industrial units with associated access roads are adjacent to the north and west, with the A6195 Dearne Valley Parkway immediately adjacent to the east. An area of developing scrub/woodland is also located to the southwest of site. Residential dwellings and commercial units are present within the surrounding landscape to the north, with areas of derelict land to the east, and occasional areas of farmland, woodland and tree belts to the south and east. The M1 is located approximately 0.3km west of site.

3.0 BASELINE ASSESSMENT

3.1 The DEFRA Biodiversity Metric v3.1 has been used to carry out the calculation with reference made to *The Biodiversity Metric 3.1 User Guide* (Panks *et al.* April, 2022a) and *Technical Supplement* (April, 2022b). The Metric has been developed by Natural England, the Department for Environment, Food and Rural Affairs (DEFRA) and the Environment Agency with input from various environmental NGOs, developers, councils and other interested parties.

3.2 The site was subject to a Preliminary Ecological Appraisal in November 2022 (Smeeden Foreman, 2023), with habitat types and key species presented in accordance with the UK Habitats Classification System (*Version 1.1 UKHabs,* September 2020). The walkover survey was undertaken during the sub-optimal survey season for recording flowering plants. A further walkover survey was undertaken by Barnsley MBC Ecologist Claire Wilson in October 2023. The combined data from these two surveys provided sufficient evidence to determine that UK BAP Priority Habitat Open Mosaic Habitat was present throughout the majority of the site. Hardstanding, bare ground and a small building were also present on site.

3.3 Refer to the relevant habitat description, condition assessment and citation within the corresponding Preliminary Ecological Appraisal (Section 4.5 and Appendices 04 and 07 respectively, Smeeden Foreman, 2023) for further details with respect to Priority Open Mosaic Habitat on Previously Developed Land.

3.4 For the purposes of this BNG assessment, the site habitat baseline has been determined in accordance with the UK Habitat Classification System v1.1 (Butcher *et al.,* 2020a; 2020b) using ecological information obtained from the initial site survey and a review of the condition assessment sheets included within the Natural England technical supplement (JP039, July 2021). Values for distinctiveness are pre-set within the Metric spreadsheet. Strategic significance has been allocated as low/medium, dependent on a habitat's location/value on site with respect to the BMBC strategic local plan, with reference to Table 5-4 and section 5.31 of the Biodiversity Metric v3.1 User Guide (Panks *et al,* 2022b, refer to *Appendix 01).*

3.5 Habitats on site comprise the following when assessed using the UKHabs classification system. This system includes the use of secondary (2°) codes to provide further information on the habitat parcels identified, where relevant:

Habitats

- Reference 1: u1a – Open Mosaic Habitat on Previously Developed land.
- Ref 2: u1b – Developed land; sealed surface - Hardstanding

Individually mapped

- w 1170 – Individual trees

Linear features

- H1: h2a – Hedgerows (priority habitat)
- H2: h2a – Hedgerows (priority habitat)
- H3: h2a – Hedgerows (priority habitat)

3.6 Details of the on-site habitats are summarised in Table 01 along with the measurements for each habitat type. Baseline habitats have been mapped and measured using scaled GIS drawings (refer to *Figure 03)*. Please refer to the *SF3387_Preliminary Ecological Appraisal_November_2023 (Smeeden Foreman, 2023*) for a summary of the condition assessment for each habitat.

Table 01: Site Habitats Baseline Summary

Ref No.	UKHAB Habitat Type	UKHAB Code	Area (hectares) / Length (km)	Distinctiveness (pre-set)	Condition	Strategic significance	Justification/notes
Area-based Habitats							
1	Open Mosaic Habitat on Previously Developed land	u1a	1.6163	High	Moderate	High	Condition Sheet 21- Urban Passes 4 of 4 core criteria. However, this habitat is approximately 5 years old and has a low species diversity and lack of rarer ephemeral annuals that provide distinctiveness to this habitat. The condition has therefore been downgraded to Fairly Poor.
2	Urban – Developed land; sealed surface	u1b	0.4152	V. low	N/A – Other	Low	No condition assessment required – Condition fixed at N/A – Other
3	Urban – Urban tree	w 1170	0.0927	Medium	Moderate	Medium	Condition Sheet 22- Urban trees Five individual trees, four small (stem diameter 100-299mm) and a single large (stem diameter 499mm+) of moderate condition. Native tree species oversailing vegetation beneath. Single large tree (ash) contains micro habitats to encourage use by birds, mammals, invertebrates etc.
4	Urban – Urban tree	w 1170	0.0203	Medium	Poor	Medium	Condition Sheet 22- Urban trees Five trees (two groups of small sized trees comprising two and three individuals respectively: stem diameter 100-299mm) of poor condition. Native tree species oversailing vegetation beneath. No current management regime to encourage use by birds, mammals, invertebrates etc.
Linear-based habitats							
H1	Hedgerows – Native species rich hedgerow	h2a	0.09	Medium	Moderate	Medium	Condition Sheet 8 – Hedgerow Passes 4 of 8 condition assessment criteria. Remnant, unmanaged, mixed native species hedgerow associated with ruderal embankment to the east. The hedgerow is approximately 3m in height, 1m in width and 90m in length. Limited ground flora is present to the base of the hedgerow which mainly comprises tall ruderal species and rubble/brash piles.

Ref No.	UKHAB Habitat Type	UKHAB Code	Area (hectares) / Length (km)	Distinctiveness (pre-set)	Condition	Strategic significance	Justification/notes
H2	Hedgerows – Native hedgerow	h2a	0.04	Low	Poor	Medium	Condition Sheet 8 – Hedgerow Passes 2 of 8 condition assessment criteria. Remnant hawthorn hedgerow with scrub understorey and brash/rubble piles in association to the east. The hedgerow is unmanaged, reaching a height of 3m and 1m in width, with multiple gaps also present along its length of approximately 40m. Ground flora is limited to neophytes/ruderal docks, thistles and nettles.
H3	Hedgerows – Native hedgerow	h2a	0.036	Low	Moderate	Low	Condition Sheet 8 – Hedgerow Passes 4 of 8 condition assessment criteria. Remnant hawthorn hedgerow with scrub understorey and brash/rubble piles in association to the east. The hedgerow is unmanaged, reaching a height of 3m and 1m in width, with multiple gaps also present along its length of approximately 40m. Ground flora is limited to neophytes/ruderal docks, thistles and nettles.

3.7 Inputting the above site habitat baseline information into the Metric Calculation Tool (*SF3387 Biodiversity Metric 3.1 auditing and accounting for biodiversity calculation tool*) provides the information detailed within sections A1 and B1 of the calculation tool. On-site baseline units calculated within the Metric equate to a total of **23.2 habitat units** for area-based habitats, and **1.02 hedgerow units**.

4.0 DEVELOPMENT PROPOSALS

4.1 Landscape proposals for the site have been prepared by Smeeden Foreman (refer to *Appendix 02: SF3387 LL02 and LL03 Rev D – Landscape Proposals*). These proposals form the basis for post-development habitat retention and creation calculations, calculated through CAD measurements, and have been used to inform the Metric.

4.2 Inputting the above measurements into the Metric Calculation Tool (*SF3387 Biodiversity Metric 3.1 auditing and accounting for biodiversity calculation tool*) provides the information detailed within sections A2 and B2 of the calculation tool. On-site baseline units calculated within the Metric equate to a total of **23.2 habitat units** for area-based habitats, and **1.02 hedgerow units**. On-site post-development units within the Metric equate to a total of **4.09 habitat units** (equating to a total net change -82.37%) for area-based habitats, and **1.51 hedgerow units** (+47.23%). Without Off-site habitat creation or enhancement, a biodiversity loss of **-19.11 habitat units** would occur.

4.3 It is not known the type of habitat that would be purchased to achieve a 10% gain off site, however, if this was to be grassland. A hypothetical habitat of Other neutral grassland of fairly good condition was entered into the D-2 Off-site Habitat creation tab of the metric. This enabled a calculation to determine the number of units required to achieve a 10.02% net gain for the proposed development. A total of 2.392 hectares of fairly good habitat

equates to **21.44 habitat units** that would be required to achieve a 10.02% net gain. If Open Mosaic Habitat is to be entered into the Metric as of-site habitat creation, an area of 2.674 hectares of moderate habitat will provide **21.44 habitat units** which will achieve a 10.03% gain.

4.4 Impacts on 'irreplaceable' habitats are not adequately measured by the metric (3.1). They require separate consideration which must comply with relevant policy and legislation. Data relating to these habitats can be entered into the metric (3.1) to give an indication of the biodiversity value of the habitats present on a site (the baseline); and/or allow actions to enhance or restore these important habitats to contribute towards the delivery of net gain.

4.5 The trading rules of the metric cannot be satisfied due to the loss of irreplaceable UK BAP Priority Habitat. This requires bespoke compensation which is to be agreed with the County Ecologist and includes the purchase of off site habitat units.

4.6 Table 02 highlights the headline results for the development scheme without off-site intervention, Table 03 highlights headline results with the hypothetically calculated off-site Other neutral grassland to achieve a 10.02% gain.

Table 02: Headline Results – Metric Calculation Tool

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Headline Results

Return to results menu

On-site baseline	*Habitat units*	23.20
	Hedgerow units	1.02
	River units	0.00
On-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	4.09
	Hedgerow units	1.51
	River units	0.00
On-site net % change (Including habitat retention, creation & enhancement)	*Habitat units*	-82.37%
	Hedgerow units	47.23%
	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*	-19.11
	Hedgerow units	0.48
	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*	-82.37%
	Hedgerow units	47.23%
	River units	0.00%
Trading rules Satisfied?	No - Check Trading Summary ▲	

Table 03: Headline Results including off-site intervention to gain 10% – Metric Calculation Tool

On-site baseline	*Habitat units*	23.20
	Hedgerow units	1.02
	River units	0.00
On-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	4.09
	Hedgerow units	1.51
	River units	0.00
On-site net % change (Including habitat retention, creation & enhancement)	*Habitat units*	-82.37%
	Hedgerow units	47.23%
	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*	21.44
	Hedgerow units	0.00
	River units	0.00
Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	2.32
	Hedgerow units	0.48
	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*	10.02%
	Hedgerow units	47.23%
	River units	0.00%
Trading rules Satisfied?	No - Check Trading Summary ▲	

5.0 SUMMARY

5.1 Units obtained for the site post-development, based on habitat creation included within the landscape proposals (*Appendix 02*) indicate that a net gain in respect to habitat areas is unlikely to be achieved with the current scheme with **a potential biodiversity net loss of 19.11 habitat units** (-82.37% net change). The **potential for gains of 1.51 hedgerow units** (+47.23% net change) are however considered likely. Site proposals are for the construction of 7No. Factory Units for class Classes E(g) (office/research & development/light industry) with ancillary trade counter (use class sui generis) usage within the Town and Country (Use Classes) Order, B2 – General Industrial & B8 – Storage & Distribution, and including all associated external works.

5.2 The Barnsley Metropolitan Borough Council (BMBC) adopted Local Plan (adopted January 2019) does not refer to the provision of biodiversity net gain, however Policy BIO1 within the plan illustrates that it '*expects development to conserve and enhance the biodiversity features of the borough by protecting and improving habitats, and maximising biodiversity opportunities on new developments'.*

5.3 The Supplementary Planning Document (*Biodiversity and Geodiversity*, adopted May 2019) produced by BMBC notes in section 4.2 that:-'*At present there is no nationally-agreed system for measuring biodiversity or geodiversity losses proposed on a site through a development and creating a comparable biodiversity element off-site (biodiversity compensation). It is likely that one will be made available in the near future. The LPA may choose to adopt such a 'metric' and apply it in cases where compensation works are the only possible solution – in which case a new policy will be produced and publicised. Until such time the LPA will continue to use its best judgement, based on precedents, as to what the appropriate compensation amount, as a monetary value, should be'.*

5.4 Advice obtained from the Local Authority with respect to the above scheme indicates that a biodiversity net gain of at least 10% should be provided on site where possible to coincide with recommendations made within the adopted Hoyland North Masterplan Area; within which the proposed development site falls. The provision of habitat creation on site is favoured over compensation off-site, however there is an option to pay commuted sums in respect to biodiversity of £25,000.00 per habitat unit direct to BMBC.

5.5 To improve biodiversity net gain for habitat units, off-site mitigation and/or purchase of habitat units via BMBC would be required to mitigate for lost habitat units on-site. The client is currently seeking to provide off-site mitigation for the scheme, with Tyers Hall Farm able to provide mitigation areas in respect to biodiversity for a sum of £33,000.00 per habitat unit.

5.6 To date, the Metric does not accommodate biodiversity enhancements with respect to species and biodiversity net gains attributed to these enhancements are not reflected within the measurable results obtained from the Metric. Inclusion of wildlife features have been recommended within the Ecological Appraisal (Smeeden Foreman, 2023). Mitigation with respect to species offers biodiversity gains within the site, aiming to provide roosting,

breeding and sheltering opportunities for wildlife in conjunction with on-site habitat provision, promoting connectivity across the development and contributing to the local green infrastructure network.

5.6.1 Finalised landscape proposals should be implemented in accordance with an appropriate landscape specification and Construction Environmental Management Plan: Biodiversity (CEMP: Biodiversity) which will detail measures to avoid accidental impacts on retained habitats. Commitment to long term future management of the site will be required to achieve the habitat conditions aimed for and should be undertaken in accordance with a site-specific Biodiversity and Ecological Management Plan (BEMP). The provision of these details can be provided by condition.

6.0 REFERENCES

Barnsley Metropolitan Borough Council (BMBC) (2019). *Supplementary Planning Document: Biodiversity and Geodiversity – Adopted May 2019.* Available online at: https://www.barnsley.gov.uk/media/15708/biodiversity-and-geodiversity-spd.pdf [Accessed 07 February 2023].

Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020a) *The UK Habitat Classification User Manual Version 1.1* at http://ukhab.org

Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020b) *UK Habitat Classification– Habitat Definitions V1.1* at http://ukhab.org

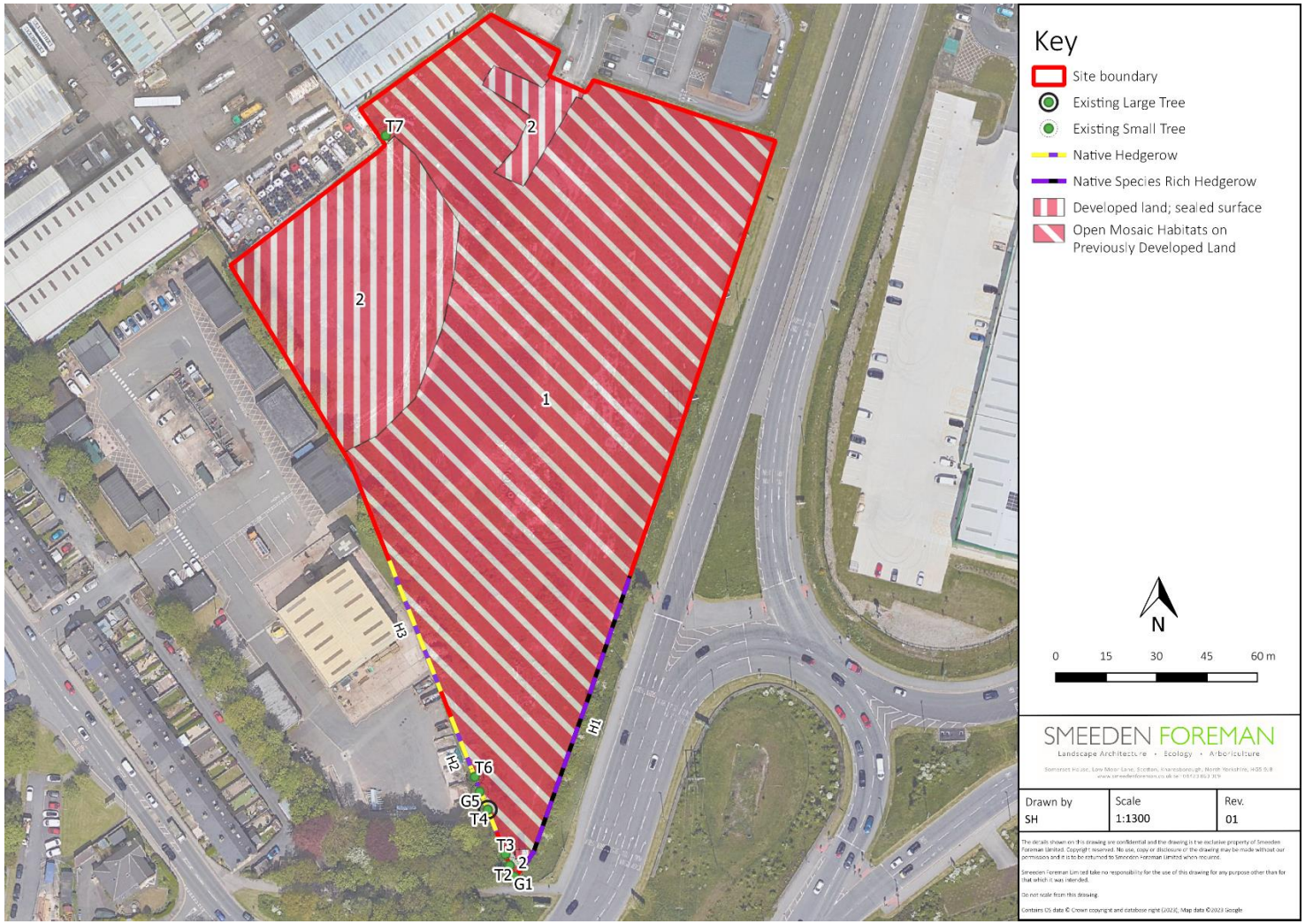
Panks, S., White, N., Newsome, A., Nash, M., Potter, J., Heydon, M., Mayhew, E., Alvarez, M., Russell T., Cashon, C., Goddard, F., Scott, S.H., Heaver, M, H. Scott, S.J.,

Panks, S., White, N., Newsome, A., Nash, M., Potter, J., Heydon, M., Mayhew, E., Alvarez, M., Russell T., Cashon, C., Goddard, F., Scott, S.H., Heaver, M, H. Scott, S.J., Treweek, J., Butcher, B., and Stone, D., (2022b). *Biodiversity metric 3.1: Auditing and accounting for biodiversity – User Guide.* Natural England. Published April 2022.
Edwards J, Knight M, Taylor S & Crosher I. E (May 2020) 'Habitat Networks Maps, User Guidance v.2', Natural England.
Smeeden Foreman (2023) *SF3387 CMS Rockingham: Preliminary Ecological Appraisal*, February 2023

Treweek, J., Butcher, B., and Stone, D., (2022a). *Biodiversity metric 3.1: Auditing and accounting for biodiversity – Technical Supplement.* Natural England. Published April 2022.

FIGURES

FIGURE 03: PRE-DEVELOPMENT HABITATS PLAN

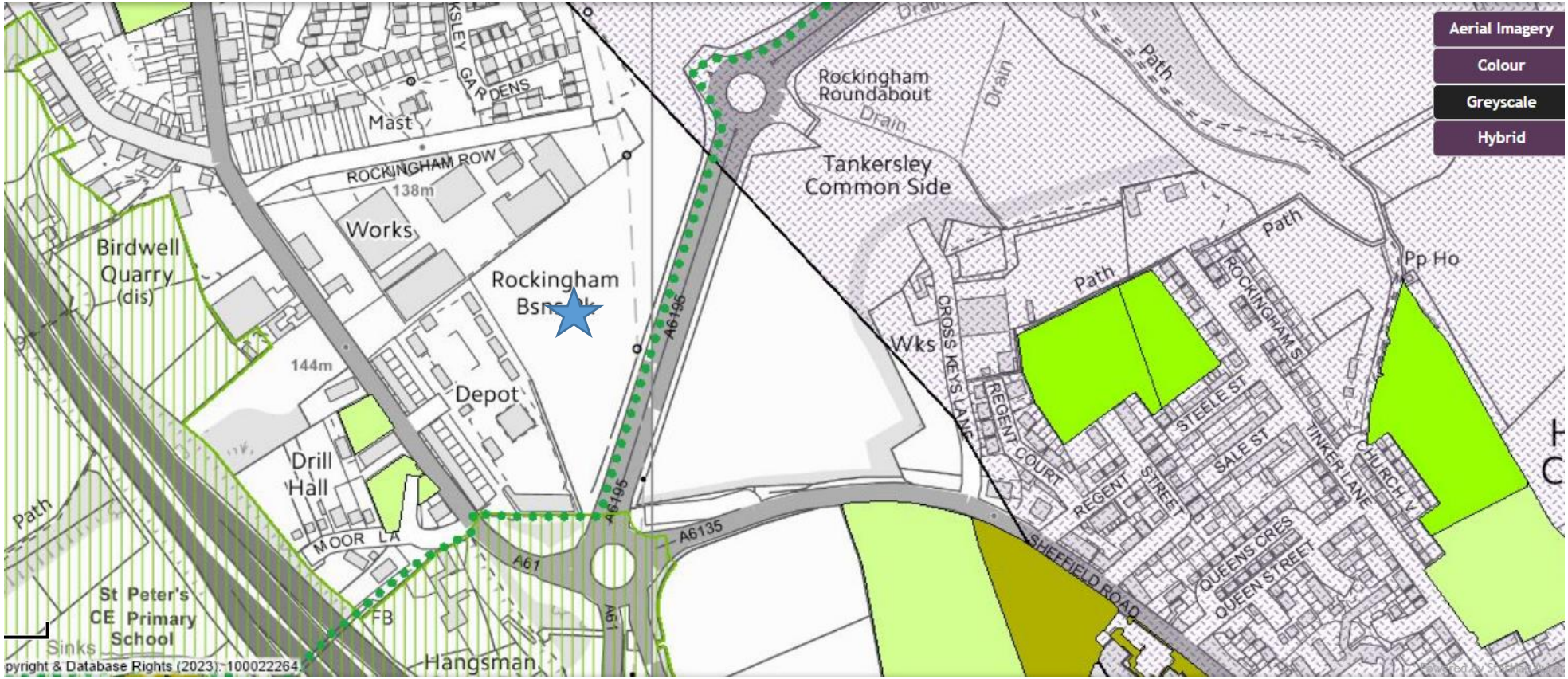


APPENDICES

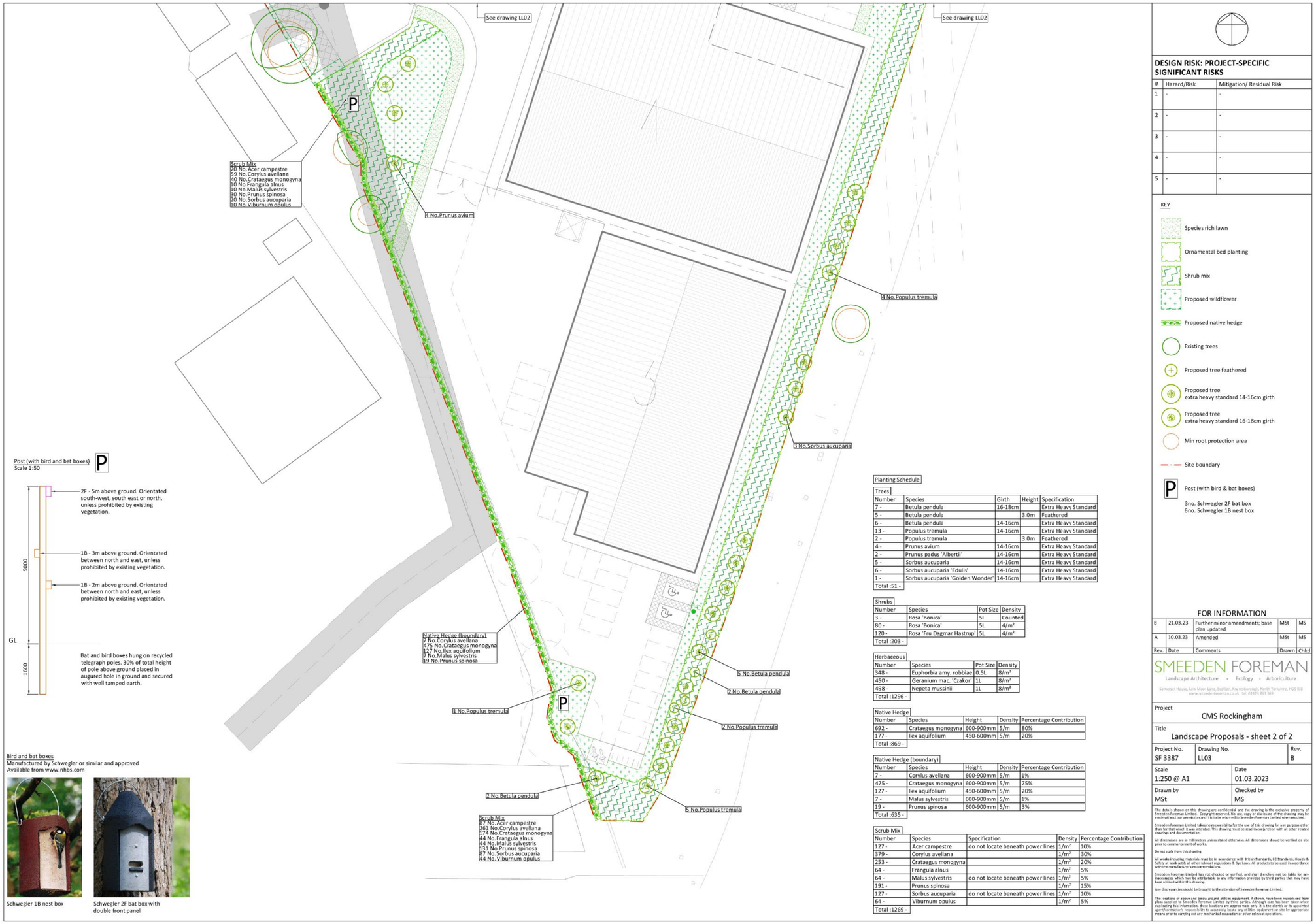
Appendix 01: Site Location within the Barnsley Metropolitan Borough Council (BMBC) Local Plan Map (indicated by star)

Appendix 02: Landscape Proposals (SF3387 LL02 and LL03 Rev D)

APPENDIX 01: SITE LOCATION WITHIN THE BARNSLEY METROPOLITAN BOROUGH COUNCIL (BMBC) LOCAL PLAN MAP (INDICATED BY STAR)



APPENDIX 02: LANDSCAPE PROPOSALS (SF3387 LL02 AND LL03 REV B)



Planting Schedule

Trees

Number	Species	Girth	Height	Specification
7 -	Betula pendula	16-18cm		Extra Heavy Standard
5 -	Betula pendula		3.0m	Feathered
6 -	Betula pendula	14-16cm		Extra Heavy Standard
13 -	Populus tremula	14-16cm		Extra Heavy Standard
2 -	Populus tremula		3.0m	Feathered
4 -	Prunus avium	14-16cm		Extra Heavy Standard
2 -	Prunus padus 'Albertii'	14-16cm		Extra Heavy Standard
5 -	Sorbus aucuparia	14-16cm		Extra Heavy Standard
6 -	Sorbus aucuparia 'Edulis'	14-16cm		Extra Heavy Standard
1 -	Sorbus aucuparia 'Golden Wonder'	14-16cm		Extra Heavy Standard
Total :51 -				

Shrubs

Number	Species	Pot Size	Density
3 -	Rosa 'Bonica'	5L	Counted
80 -	Rosa 'Bonica'	5L	4/m²
120 -	Rosa 'Fru Dagmar Hastrup'	5L	4/m²
Total :203 -			

Herbaceous

Number	Species	Pot Size	Density
348 -	Euphorbia amy. robbiae	0.5L	8/m²
450 -	Geranium mac. 'Czakor'	1L	8/m²
498 -	Nepeta mussinii	1L	8/m²
Total :1296 -			

Native Hedge

Number	Species	Height	Density	Percentage Contribution
692 -	Crataegus monogyna	600-900mm	5/m	80%
177 -	Ilex aquifolium	450-600mm	5/m	20%
Total :869 -				

Native Hedge (boundary)

Number	Species	Height	Density	Percentage Contribution
7 -	Corylus avellana	600-900mm	5/m	1%
475 -	Crataegus monogyna	600-900mm	5/m	75%
127 -	Ilex aquifolium	450-600mm	5/m	20%
7 -	Malus sylvestris	600-900mm	5/m	1%
19 -	Prunus spinosa	600-900mm	5/m	3%
Total :635 -				

Scrub Mix

Number	Species	Specification	Density	Percentage Contribution
127 -	Acer campestre	do not locate beneath power lines	1/m²	10%
379 -	Corylus avellana		1/m²	30%
253 -	Crataegus monogyna		1/m²	20%
64 -	Frangula alnus		1/m²	5%
64 -	Malus sylvestris	do not locate beneath power lines	1/m²	5%
191 -	Prunus spinosa		1/m²	15%
127 -	Sorbus aucuparia	do not locate beneath power lines	1/m²	10%
64 -	Viburnum opulus		1/m²	5%
Total :1269 -				

DESIGN RISK: PROJECT-SPECIFIC SIGNIFICANT RISKS

#	Hazard/Risk	Mitigation/ Residual Risk
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-

KEY

- Species rich lawn
- Ornamental bed planting
- Shrub mix
- Proposed wildflower
- Proposed native hedge
- Existing trees
- Proposed tree feathered
- Proposed tree extra heavy standard 14-16cm girth
- Proposed tree extra heavy standard 16-18cm girth
- Min root protection area
- Site boundary
- P Post (with bird & bat boxes)

3no. Schwegler 2F bat box
6no. Schwegler 1B nest box

FOR INFORMATION

Rev.	Date	Comments	Drawn	Chkd
B	21.03.23	Further minor amendments; base plan updated	MSt	MS
A	10.03.23	Amended	MSt	MS

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Project: CMS Rockingham

Title: Landscape Proposals - sheet 2 of 2

Project No.	Drawing No.	Rev.
SF 3387	LL03	B

Scale	Date
1:250 @ A1	01.03.2023

Drawn by	Checked by
MSt	MS