BIODIVERSITY ACCOUNTING ASSESSMENT REPORT

at
Castle Hill
Huddersfield
HD4 6TA

Client:
The Thandi Partnership

Client Address:
c/o One 17 Design
The Dyehouse
Armitage Bridge
Huddersfield
West Yorkshire
England
HD4 7PD

JCA Ref:
21112/AWe

Date of Report:
02/08/2023

JCA Limited
Arboricultural & Ecological Consultants

Quality Assurance

JCA ref.	**Site Surveyed:**		**Report Completed:**		**Checked:**	
	Date	Name	Date	Name	Date	Name
21112/AWe	13/07/23	Adam West	02/08/23	Adam West	03/08/23	James Foster

This report has been prepared and provided in accordance with the *British Standard 42020: Biodiversity – Code of practice for planning and development* and the *CIEEM's Code of Professional Conduct.*

Risk Assessment Completed	
Bio-security Procedure Completed	
Lone Worker Procedure Completed	

Executive Summary

JCA Limited was instructed by The Thandi Partnership to carry out a Biodiversity Accounting Assessment (BAA) of Castle Hill, Huddersfield, HD4 6TA (hereafter referred to as the “Site”) to inform a planning application for a hotel, restaurant/cafe commercial, servicing facilities, associated car park and soft landscaping (‘the Proposed Development’).

The purpose of the assessment is to determine the baseline biodiversity value of the Site and to assess if there are sufficient biodiversity enhancement opportunities available within the Site boundary to compensate for any residual biodiversity losses as a result of the Proposed Development.

To fulfil the brief, the Biodiversity Metric 4.0 (March 2023 update) was used to calculate the baseline biodiversity value of all existing habitats on-Site. The metric was then used to provide a comparative measure of any habitat creation and enhancements associated with the Client’s Proposed Development. The resulting balance determines the extent of Biodiversity Units (BU) generated through the proposed habitats post development.

On balance of impacts and habitat creation/enhancement, the report concludes that the Proposed Development will result in a **net gain of +17 habitat BU** equivalent to a **net gain of +41.38%.** In addition, the Proposed Development **has satisfied the trading rules.**

The Proposed Development has achieved a biodiversity net gain in habitat BU. As such, no off-Site compensatory habitat creation and/or enhancements measures are required.

This executive summary is intended as a summary of the assessment of the Site based on information received by the client at the time of production. This executive summary should be read in conjunction with the full Report.

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1 Introduction

1.1 Purpose and Scope of the Survey

1.1.1 JCA Limited was instructed by The Thandi Partnership to carry out a Biodiversity Accounting Assessment (BAA) of Castle Hill, Huddersfield, HD4 6TA (hereafter referred to as the "Site") to inform a planning application for a hotel, restaurant/cafe commercial, servicing facilities, associated car park and soft landscaping ('the Proposed Development').

1.1.2 The purpose of this report is to:

- Assess the baseline biodiversity value of the Site through the total sum of the habitats within the Site, and their calculated biodiversity value.
- Assess if there are sufficient biodiversity enhancement and/or creation opportunities available within the Site boundary to compensate for any residual biodiversity losses as a result of the Proposed Development.
- To determine the level of overall residual biodiversity gains or losses associated with the Proposed Development.

1.1.3 The Site location and the Site red line / survey area are shown in Figure 1.

1.2 Terms of Reference

1.2.1 The principal source documents used to inform this BAA include:

- Updated Ecological Impact Assessment (Quants environmental., July 2019); and
- Site Plan including Access Road plan (Dwg No; 3287 (SK) 104 (ONE 17, October 2022)).

1.3 Site Description

1.3.1 This Site is centred at Ordnance Survey ('OS') grid reference SE 1522 1405, 2.5 km south-southeast of Huddersfield town centre. The Site covers an area of approximately 0.51 hectares ('ha') and comprises modified grassland, artificial sealed and unsealed surfaces. The Site's immediate habitats consist of grassland and scattered scrub.

1.3.2 Much of the wider landscape is made up of agricultural land (with boundary treelines/hedgerows). A large woodland block is present 0.5 km northeast of the Site, with further woodland adjacent along Lumb Beck 0.5 km to the south.

1.3.3 The existing Site layout is shown in Figure 2.

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1.4 Proposed Development

1.4.1 The Site Plan including Access Road plan (Dwg No; 3287 (SK) 104, October 2022) shows that the Proposed Development involves the construction of a hotel, restaurant/cafe, servicing facilities, associated car park and soft landscaping. The Site is approximately 0.51 ha, of which approximately 0.29 ha are to be developed. The remaining 0.22 ha primarily around the boundaries of the Site and centrally within the Site is to be focused on habitat creation in the form of wildflower grasslands for the benefit to local wildlife. The Site Plan including Access Road plan is provided at Drawing 1.

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2 Biodiversity Accounting in Context

2.1 Background

2.1.1 Biodiversity is complex and so it is impossible to measure in its entirety. Therefore metrics, which incorporate measures of different biodiversity attributes, are used to provide surrogate measures of overall biodiversity. This report uses the 'Biodiversity Metric 4.0, which was designed by Natural England (2023) to define the biodiversity impacts and compensation requirements associated with development proposals. The metric works by providing a comparative measure of each habitat on-Site in biodiversity units (BU) by multiplying its area (hectares), distinctiveness (habitat type) and current condition (quality). The relative impacts (habitat loss) of the development, taking into account any additional on-Site habitat creation or enhancement, can then be calculated to determine if a measurable biodiversity net gain will be achieved on-Site. If a measurable net gain is unable to be achieved on-Site, then the process of biodiversity offsetting must be undertaken.

2.1.2 Biodiversity offsets are conservation activities designed to deliver biodiversity benefits in compensation for residual losses, in a measurable way. Biodiversity offsetting is distinguished from other forms of compensation by the requirement for measurable outcomes. This is achieved by quantifying net biodiversity impacts caused by development; using the same metric to assess direct and indirect negative impacts to habitats and the value of any on-Site compensation, to set the framework of off-site compensation (offset) requirements and the biodiversity net gain generated by these offsets. Biodiversity offsetting ensures that off-site compensation proposed is both proportionate to the development concerned and that a measurable net gain for biodiversity can be achieved.

2.1.3 Biodiversity offsetting, like other forms of compensation, is the last step of the mitigation hierarchy (first avoid, then reduce, and finally, compensate) and is applied as a last resort to otherwise policy-compliant development proposals. 'Offsetting' – i.e. creating or restoring new wildlife habitat in a measurable way and in a different place to where it was lost.

2.1.4 In addition to providing a mechanism for quantifiable compensation and net gain, biodiversity offsets provide reliable biodiversity outcomes as they are long-term (30 years), monitored and enforceable with adaptable management plans for optimised success.

2.2 Biodiversity Net Gain Principles

2.2.1 Biodiversity Net Gain: Good Practice Principles for Development published by CIRIA et. al (2016) states that delivering biodiversity net gain goes beyond balancing relative gains and losses. It also involves doing everything to avoid biodiversity losses in the first instance. The application of the DEFRA metric

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detailed in this report supports developments to adopt this approach by:

a. Providing a habitat balance sheet which can be used to identify those habitats with the greatest value and subsequently those with the greatest impacts if lost;

b. Supporting and incentivising the mitigation hierarchy by quantifying the benefits of avoiding and mitigating impacts on high value features;

c. Promoting the value of biodiversity enhancements and demonstrating the potential for additionality on retained habitats;

d. Providing a balance of losses, enhancements or on-Site compensation to determine if a measure net gain contribution can be achieved;

e. Providing transparent, robust and credible evidence to help inform the best possible Site options for biodiversity; and,

f. Ensuring that any residual off-Site compensation required (e.g. through biodiversity offsetting) is proportionate to the impacts and can secure a measurable net gain contribution for biodiversity overall.

2.3 Biodiversity Offsetting Standards

2.3.1 Good practice standards for biodiversity offsetting are set out by the Business and Biodiversity Offsets Programme (BBOP, 2012). These standards inform the approach for selection and development of suitable Offset Sites and projects. Of these standards, the following provide the most relevant UK framework for the preliminary offset site search:

a. The proposed offset site should be identified as suitable for the creation and/or enhancement of a target habitat within the vicinity of where the impact occurs;

b. The site must be available and managed for a minimum specified term (30 years in this instance).

c. The landowner must agree to an enforceable delivery mechanism to secure the long-term management.

d. The site must be available for monitoring to ensure appropriate management is being undertaken and to report biodiversity progress back to the local planning authority.

2.3.2 Further standards, with regards to offset site surveys and ensuring that appropriate target habitats and units can be achieved, will form part of the detailed site search that will proceed the preliminary site search.

2.3.3 In addition to biodiversity net gains achieved on-Site, off-Site enhancements can also achieve positive outcomes for nature in the local area

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3 Policy and Legislation

3.1 Introduction

3.1.1 Planning guidelines, international commitments, legislation and planning policies relevant to the protection, conservation and enhancement of nature conservation interests are detailed below.

3.2 National Policy and Guidance

3.2.1 Specific habitats and species of relevance to the Site receive legal protection in the United Kingdom under various pieces of policy and legislation, including:

- The Environment Act 2021 mandates that all planning applications will be required to demonstrate how a development will enhance biodiversity and protect habitats from November 2023. This is to be achieved through a measurable 10% Biodiversity Net Gain (BNG), in association with development through the use of the most up to date Defra Metric (currently Defra 4.0 Metric);

- National Planning Policy Framework ('NPPF', as revised 2021) sets out how planning policies and decisions should contribute to and enhance the natural and local environment through amongst other things, ensuring BNG through development and protect ecological important sites and networks;

- The Conservation of Habitats and Species Regulations 2017 (as amended) details the regulations for the protection of European Protected Habitat and Species. Such European Protected Species (EPS) include all species of bats, great crested newt *Triturus cristatus*, dormouse *Muscardinus avellanarius*, and European otter *Lutra lutra*, amongst others;

- The Wildlife and Countryside Act ('WCA') 1981 (as amended) covers the legislation for endangered species in England and the framework for the designation of Sites of Special Scientific Interest (SSSIs);

- The Countryside and Rights of Way ('CRoW') Act 2000 reinforces the wildlife legislation listed in the WCA and places a duty of government departments to consider biodiversity, and provides governmental department powers for the protection and maintenance of SSSIs;

- The Natural Environment and Rural Communities Act ('NERC') 2006 places a duty upon local authorities to promote and enhance biodiversity in all their functions. Specifically, habitats and species of principal importance to the conservation of biodiversity in regards to the planning process;

- The Hedgerow Regulations 1997 provides protection by prohibiting the destruction or damage to important countryside hedges; and

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- The Protection of Badgers Act 1992 includes the protected of badgers under the act and that it is unlawful to wilfully kill, injure, take, possess or cruelly ill-treat badgers or attempt to do so.

3.2.2 Where relevant, this appraisal takes account of the legislative protection afforded to specific habitats and species.

3.3 Regional Policy and Guidance

Biodiversity Action Plan (BAP) for Kirklees Council

3.3.1 The BAP for Kirklees (Kirklees Council, n.d) concentrates on species and habitats that had national action plans produced or are of local conservation concern. These include blanket bog, scrubland, reedbed, brown long-eared bats *Plecotus auratus*, otter and brown hare *Lepus europaeus* (Appendix C).

3.4 Local Policy and Guidance

Kirklees Local Plan 2013 - 2031 (Kirklees Council, 2019), adopted February 2019.

3.4.1 Kirklees Local Plan 2013 - 2031 sets out the council's policies and proposals for land use within the district to 2031. Policy LP30 – Biodiversity and Geodiversity of the Plan is therefore relevant to the Proposed Development.

3.4.2 Policy LP30: Biodiversity and Geodiversity states that proposals the council will support proposals that seek to protect and enhance the biodiversity and geodiversity of Kirklees, including the range of international, national and locally designated wildlife and geological sites, Habitats and Species of Principal Importance and the Kirklees Wildlife Habitat Network. that protect and enhance features of ecological and geological interest and provide net gains in biodiversity will be supported.

Proposals will be required to:

i. result in no significant loss or harm to biodiversity in Kirklees through avoidance, adequate mitigation or, as a last resort, compensatory measures secured through the establishment of a legally binding agreement;

ii. minimise impact on biodiversity and provide net biodiversity gains through good design by incorporating biodiversity enhancements and habitat creation where opportunities exist;

iii. safeguard and enhance the function and connectivity of the Kirklees Wildlife Habitat Network at a local and wider landscape-scale unless the loss of the site and its functional role within the network can be fully maintained or compensated for in the long term;

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iv. establish additional ecological links to the Kirklees Wildlife Habitat Network where opportunities exist; and

v. incorporate biodiversity enhancement measures to reflect the priority habitats and species identified for the relevant Kirklees Biodiversity Opportunity Zone

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4 Methodology

4.1 Background

4.1.1 Biodiversity accounting of existing and post-development habitats and linear features on-Site was carried out using the Biodiversity Metric 4.0 Calculator Tool, following guidance set out in the metric user guide (Panks *et al*. 2023). The process for data collation and analysis associated with the assessment is detailed in Sections 4.2 – 4.5 below.

4.2 Baseline Data

4.2.1 A baseline analysis of the existing habitats on-Site was carried out from the information gathered during the Site's condition assessment visit carried out by Adam West (JCA Limited, Principal Ecologist/Ecological Director) on 13th July 2023.

4.2.2 To undertake the Biodiversity Metric 4.0 calculations, the following information was recorded for each habitat parcel and/or linear feature:

- Habitat type;
- Area/Length (ha/km);
- Habitat condition;
- Strategic significance; and
- Whether that habitat will be lost, retained, enhanced, succeeded and/or created, and at what scale.

4.2.3 The habitat map for the Site was digitised and interpreted using QGIS Version 3.32.1 to calculate habitat area.

4.3 Impact Assessment

4.3.1 The existing baseline habitat plan for the Site was overlain with the Site Plan including Access Road plan of the Proposed Development using GIS software to provide an area (ha) of temporary and permanent habitat loss.

4.3.2 The area of any retained/enhanced or created habitats proposed as part of the development was also mapped to provide an area (Ha) (or length (Km) for linear features) of the on-Site compensation proposals being provided. An estimate of future condition, time until establishment and the likelihood of success was then calculated using landscaping data provided by the client and professional judgement).

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4.4 Habitat Creation and Enhancement

4.4.1 The area of any retained/enhanced or created habitats proposed on-Site as part of the Proposed Development was mapped using the Site Plan including Access Road plan of the final development, to provide an area (ha) (or length (km) for linear features) estimate of on-Site compensation provided. This includes areas of developed land, which are assigned a very low (or null) value, notably, areas of buildings and/or roads.

4.4.2 Condition and strategic significance for each habitat or linear feature were projected using available ecological data or professional opinion about the likely value.

4.5 Residual Effects

4.5.1 The residual effects of the Proposed Development scheme were calculated using the Biodiversity Metric 4.0 Calculator Tool. This subtracts the pre-development baseline values from that of the post-development values to determine the change in overall habitat value for the Site, taking into account any habitat trading.

4.5.2 Habitat trading is where the loss of a habitat must be compensated for through the creation or restoration of areas of equivalent or greater distinctiveness value. Guidance by Defra is that the loss of high distinctiveness areas, such as Habitats of Principal Importance (HPI, NERC Act, S.41), require compensation in a like-for-like manner (creation or restoration of habitat of the same habitat classification as that impacted). Within the Biodiversity Metric 'trading up' (where compensation through creation of a higher distinctiveness habitat) can occur, however, 'trading down' (compensation through creation of lower distinctiveness habitats) is not permitted. Therefore, if present, despite gains in lower distinctiveness habitats, these will not reduce the net gain requirement for the development. This also applies to the different habitat features i.e. habitats, hedgerows and rivers and streams. Hedgerow creation gains will not reduce net gain requirements for either rivers and streams or habitats.

4.5.3 Where the resulting biodiversity balance is negative, a residual net loss of biodiversity is recorded. Where the balance is positive a residual net gain of biodiversity is recorded.

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5 Biodiversity Metric 3.1

5.1 Introduction

5.1.1 The assessment was carried out by JCA Limited using the ecological data gathered during the Site's condition assessment survey carried out on 0th July 2023.

5.2 Existing Site Value

5.2.1 The existing biodiversity value for each habitat, together with the cumulative value of all habitats is provided in Table 1. Full details as to the Condition Assessment criteria for each habitat can be found in Appendix D, Table 1.

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Table 1: Baseline Habitat Values

Biodiversity Metric 4.0 Habitat	Area (ha)	Distinctiveness	Score	Condition	Score	Biodiversity value
Modified grassland	0.2	Low	2	Moderate	2	0.8
Developed land; sealed surface	0.23	V.Low	0	N/A - Other	0	0.00
Artificial unvegetated, unsealed surface	0.08	V.Low	0	N/A - Other	0	0.00
Total	**0.51**	**-**	**-**	**-**	**-**	**0.8**

6 Proposed Development Impact Assessment

6.1 Description of the Proposed Development

6.1.1 The Proposed Development involves the construction of a hotel, restaurant/cafe, servicing facilities, associated car park and soft landscaping.

6.1.2 It is proposed that all on-Site habitats of ecological value be retained (where possible) and enhanced. The Proposed Development will see the removal of low and very low distinctive habitats to facilitate the development.

6.1.3 The Site Plan including Access Road plan will result in the loss of modified grassland, developed land; sealed surface and artificial unvegetated, unsealed surface. The loss, retention and enhancement of habitats as a result of the Proposed Development are quantified in Table 2. Existing on-Site habitats can be found in Figure 2.

6.1.4 The results of the metric calculation indicates that a total of 0.24 BU for habitats are to be lost as a result of the Proposed Development, with 0 BU retained and 0.16 BU generated through habitat enhancement (Table 2).

Table 2: Summary value of baseline habitat biodiversity value through retention, creation and enhancement

Biodiversity Metric 4.0 Habitat	Retained		Enhanced		Lost	
	Area (ha)	Unit	Area (ha)	Unit	Area (ha)	Unit
Modified grassland	0	0.00	0.08	0.32	0.12	0.48
Developed land; sealed surface	0.14	0.00	0	0.00	0.09	0.00
Artificial unvegetated, unsealed surface	0	0.00	0	0.00	0.08	0.00
Total	**0.14**	**0**	**0.08**	**0.16**	**0.29**	**0.24**

6.2 Proposed Habitat Creation

6.2.1 Within the Proposed Development plans, some habitats are set to be completely removed to facilitate the development with other habitats being partially removed, not being impacted by the development or being enhanced.

6.3 Proposed Habitats and Target Conditions

6.3.1 It is proposed that the following habitats be created as part of the Proposed Development:

- Buildings and developed land; sealed surface; and
- Modified grassland.

6.3.2 The proposed habitats on-Site can be found within Drawing 1.

6.3.3 Table 3 below summarises the value of all habitats and hedgerows that are to be created as part of the Proposed Development.

Table 3: Summary value of on-Site habitat proposals.

Target Habitat	Area (ha)	Target Distinctiveness	Score	Target Condition	Score	Biodiversity value
Modified grassland	0.02	Medium	4	Moderate	2	0.07
Developed land; sealed surface	0.27	V.Low	0	N/A - Other	0	0.00
Total	**0.29**	**-**	**-**	**-**	**-**	**0.07**

6.3.4 In total, +0.07 BU for habitats are proposed under the current Site Plan including Access Road plan for the Site (Table 3).

6.4 Proposed Development Summary of Net Impacts

6.4.1 Table 4 below summarise the BU value of the Proposed Development together with the unit value of any biodiversity impacts or on-Site habitat creation/enhancement proposals. This shows that on balance, the Proposed Development would result in a **net gain** of **+0.17 habitat BU,** equivalent to a **net loss of +41.38%.**

Table 4: Summary of Biodiversity Metric results for habitats

	Biodiversity Units (BU)
Existing Site habitat biodiversity value	0.4
Value of gross habitat biodiversity loss	0.24
Value of retained and proposed on-Site habitat creation and enhancement	0.57
Net habitat biodiversity balance	**+0.17**

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6.4.2 The Proposed Development has **satisfied** the Trading Rules with no unit deficit generated across distinctiveness units.

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7 Conclusion

7.1.1 In accordance with the NPPF, where a biodiversity impact cannot be avoided or mitigated then compensation measures must be provided. If this cannot be achieved on-Site through further avoidance, mitigation or compensatory habitat creation or enhancement measures, then off-Site compensation measures will be required.

7.1.2 The BAA identified that the Proposed Development would have a residual net gain of **+0.17 habitat BU,** equivalent to a **net gain of +41.38%**. The Proposed Development **satisfies** Trading Rules.

7.1.3 Further details of the Biodiversity Metric 4.0 calculations can be found within the Biodiversity Metric 4.0 Calculator Tool excel spread sheet accompanying this report.

7.1.4 The Proposed Development has achieved a biodiversity net gain in habitat BU. As such, no off-Site compensatory habitat creation and/or enhancements measures are required.

7.1.5 Should the Proposed Development be subject to future change, the conclusions and recommendations in this report will need to be revised. This is to be undertaken via the recalculation of the impact assessment element through the most up-to-date biodiversity metric, Currently, Biodiversity Metric 4.0 (March 2023 update).

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Figure 1 - Site Location Map

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Castle Hill, Huddersfield, HD4 6TA

Key

Site Boundary

0.1 0 0.1 0.2 0.3 km

Site Castle Hill, Huddersfield, HD4 6TA	Client The Thandi Partnership
Plan Site Location	Author AWe
Plan ref 01	Revision 00

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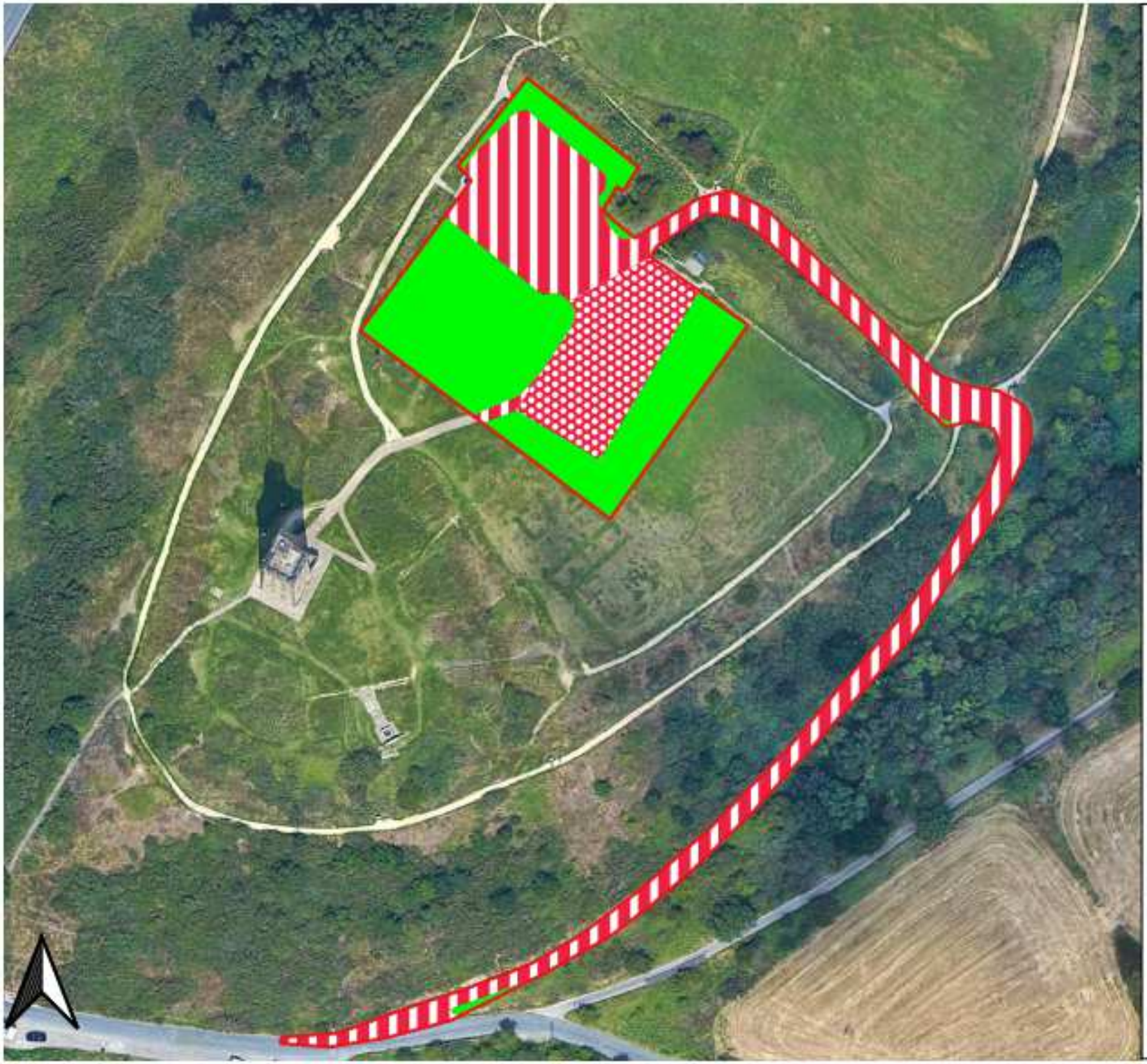
Figure 2 - UKHAB Survey



Castle Hill, Huddersfield, HD4 6TA

Key

- Site Boundary
- g4 - Modified grassland
- u1b - Developed land; Sealed surface
- u1c - Artificial unvegetated, unsealed surface

0.1 0 0.1 0.2 0.3 km

Site Castle Hill, Huddersfield, HD4 6TA	Client The Thandi Partnership
Plan UKHAB Map	Author AWe
Plan ref 01	Revision 00

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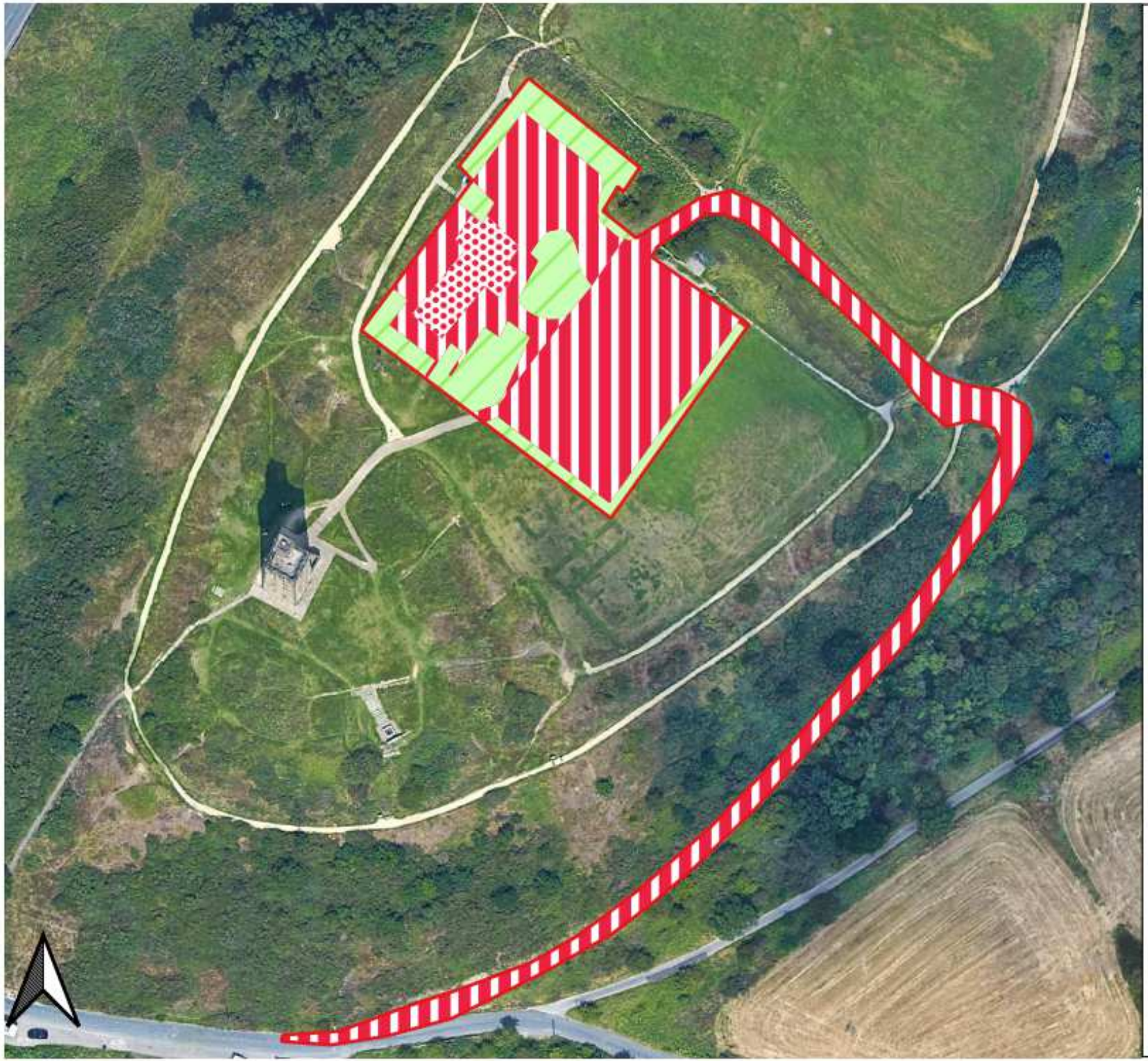
Figure 3 - UKHAB Survey - Post Development



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Castle Hill, Huddersfield, HD4 6TA

Key

- Site Boundary
- g3 - Other neutral grassland
- u1b - Developed land; Sealed surface
- u1b5 - Buildings

0.1 0 0.1 0.2 0.3 km

Site Castle Hill, Huddersfield, HD4 6TA	Client The Thandi Partnership
Plan Post Development UKHAB Map	Author AWe
Plan ref 01	Revision 00

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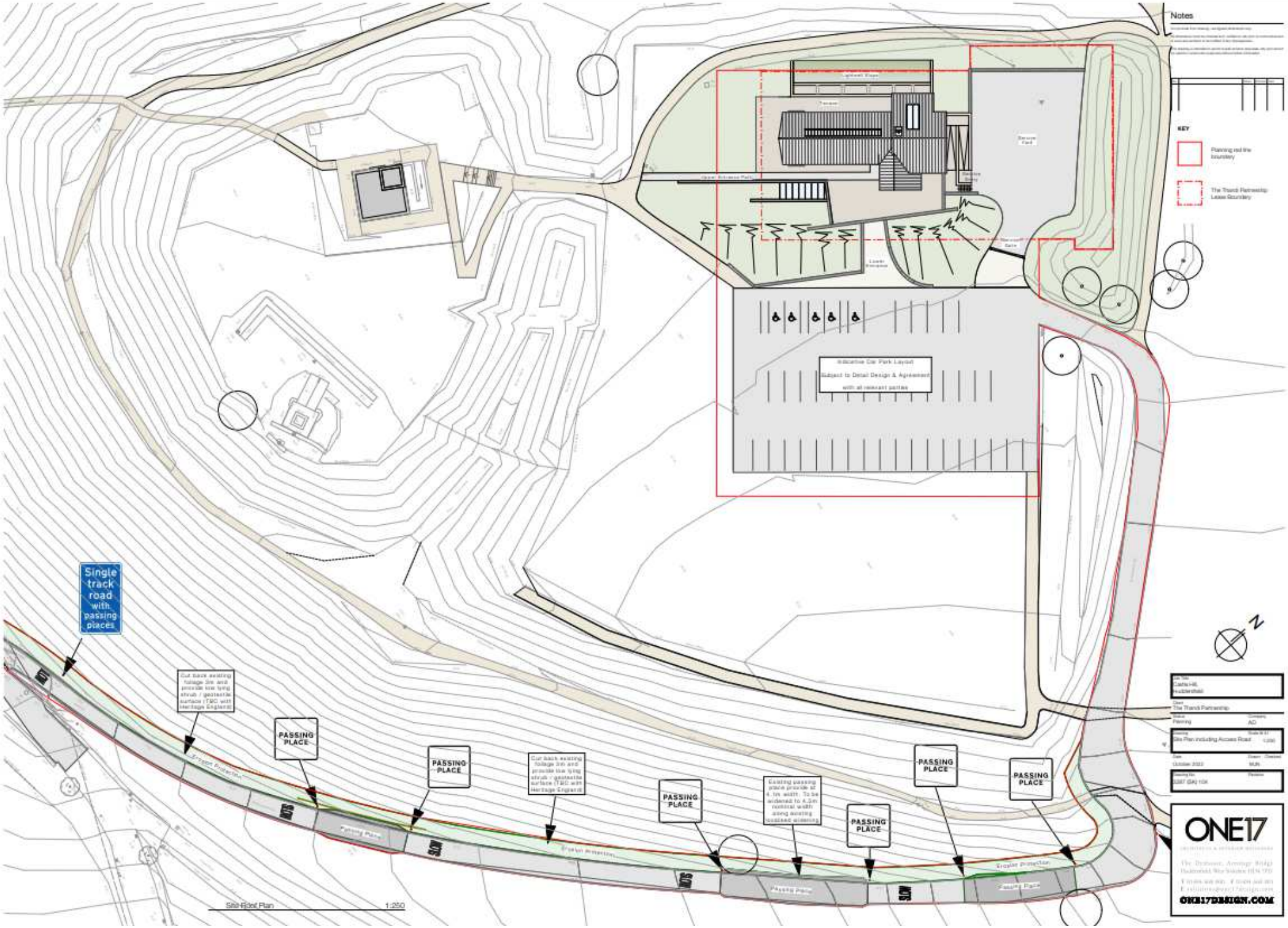
Drawing 1 – Site Plan including Access Road Plan


Notes
KEY
Planning red line boundary
The Transit Partnership Lease Boundary
Indicative Car Park Layout
Subject to Detail Design & Agreement
with all relevant parties
Single track road with passing places
Cut back existing foliage 3m and provide low lying shrub / geotextile surface (TBC with Heritage England)
PASSING PLACE
Existing passing place provide at 4.1m width. To be widened to 4.5m nominal width along existing roadside widening
Erosion Protection
Passing Place
Site Plan including Access Road
1:250
October 2022
MJN
ONE17
ONE17DESIGN.COM
Site Block Plan
1:250

Appendix A – Relevant Legislation

Amphibians

Great crested newt *Triturus cristatus* and natterjack toad *Epidalea calamita* are both Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of The Conservation of Habitats and Species Regulations 2017, making them European Protected Species. They are afforded full protection under Section 9(4) of the Act and Regulation 41 of the Regulations. These make it an offence to:

- deliberately capture, injure or kill any such animal;
- deliberately disturb any such animal, including in particular any disturbance which is likely to:
    - impair its ability to survive, breed, or rear or nurture their young;
    - impair its ability to hibernate or migrate.
    - affect significantly the local distribution or abundance of that species; or
- damage or destroy a breeding site or resting place of any such animal; or
- intentionally or recklessly disturb any of these animals while it is occupying a structure or place that it uses for shelter or protection; or
- intentionally or recklessly obstruct access to any place that any of these animals uses for shelter or protection.

Bats

All species of bat are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of The Conservation of Habitats and Species Regulations 2017, making them European Protected Species. They are afforded full protection under Section 9(4) of the Act and Regulation 41 of the Regulations. These make it an offence to:

- deliberately capture, injure or kill any such animal;
- deliberately disturb any such animal, including in particular any disturbance which is likely to:
    - impair its ability to survive, breed, or rear or nurture their young;
    - impair its ability to hibernate or migrate.
    - affect significantly the local distribution or abundance of that species; or
- damage or destroy a breeding site or resting place of any such animal; or
- intentionally or recklessly disturb any of these animals while it is occupying a structure or place that it uses for shelter or protection; or
- intentionally or recklessly obstruct access to any place that any of these animals uses for shelter or protection
- In addition, five British bat species are listed on Annex II of the Habitats Directive. These are:

- Greater horseshoe bat *Rhinolophus ferrumequinum*
- Lesser horseshoe bat *Rhinolophus hipposideros*
- Bechstein's bat *Myotis bechsteinii*
- Barbastelle *Barbastella barbastellus*
- Greater mouse-eared bat *Myotis myotis*

Badger

The Protection of Badgers Act 1992 consolidates previous legislation (including the Badgers Acts 1973 and 1991 Badgers (Further Protection) Act 1991). It makes it an offence to:

- kill, injure or take a badger;
- attempt to kill, injure or take a badger; or
- to damage or interfere with a sett.

The 1992 Act defines a badger sett as "any structure or place which displays signs indicating current use by a badger".

Breeding Birds

With certain exceptions, all wild birds, their nests and eggs are protected by section 1 of the Wildlife and Countryside Act 1981 (as amended). Therefore, it is an offence to:

- intentionally kill, injure or take any wild bird;
- intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; or
- intentionally take or destroy the egg of any wild bird.

These offences do not apply to hunting of birds listed in Schedule 2 subject to various controls.

Bird species listed on Schedule 1 of the Act receive further protection, thus for these species it is also an offence to:

- intentionally or recklessly disturb any bird while it is nest building, or is at a nest containing eggs or young; or
- intentionally or recklessly disturb the dependent young of any such bird.

Invasive Non-Native Plant Species

The Wildlife and Countryside Act 1981 (as amended) is the principal piece of legislation in the UK that regards invasive non-native species. It is an offence under Section 14 (2) (a) to "plant or otherwise cause to grow in the wild" any species listed on Schedule 9, Part II of the Act.

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Species listed on Schedule 9, Part II are detailed in the Table A1 below:

Table A1: Species listed on Schedule 9, Part II of the Wildlife and Countryside Act 1981 (as amended)

Common Name	Scientific Name	Common Name	Scientific Name
Californian red seaweed	*Pikea californica*	Japanese seaweed	*Sargassum muticum*
Curly waterweed	*Lagarosiphon major*	Laver seaweeds (except native species)	*Porphyra spp.*
Duck potato	*Sagittaria latifolia*	Montbretia	*Crocosmia x crocosmia*
Entire-leaved cotoneaster	*Cotoneaster integrifolius*	New Zealand pygmyweed	*Crassula helmsii*
False Virginia creeper	*Parthenocissus inserta*	Parrot's-feather	*Myriophyllum aquaticum*
Fanwort / Carolina water-shield	*Cabomba caroliniana*	Perfoliate Alexanders	*Smyrnium perfoliatum*
Few-flowered garlic	*Allium paradoxum*	Pontic rhododendron	*Rhododendron ponticum*
Floating pennywort	*Hydrocotyle ranunculoides*	Purple dewplant	*Disphyma crassifolium*
Floating water primrose	*Ludwigia peploides*	Red algae	*Grateloupia luxurians*
Giant hogweed	*Heracleum mantegazzianum*	Rhododendron	*Rhododendron ponticum × Rhododendron maximum*
Giant kelp	*Macrocystis spp.*	Small-leaved cotoneaster	*Cotoneaster microphyllus*
Giant knotweed	*Fallopia sachalinensis*	Three-cornered garlic	*Allium triquetrum*
Giant rhubarb	*Gunnera*	Variegated yellow	*Lamiastrum*

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Common Name	Scientific Name	Common Name	Scientific Name
	tinctoria	archangel	*galeobdolon subsp. argentatum*
Giant salvinia	*Salvinia molesta*	Virginia creeper	*Parthenocissus quinquefolia*
Green seafingers	*Codium fragile*	Wakame	*Undaria pinnatifida*
Himalayan cotoneaster	*Cotoneaster simonsii*	Wall cotoneaster	*Cotoneaster horizontalis*
Hollyberry cotoneaster	*Cotoneaster bullatus*	Water fern	*Azolla filiculoides*
Hooked asparagus seaweed	*Asparagopsis armata*	Water hyacinth	*Eichhornia crassipes*
Hottentot fig	*Carpobrotus edulis*	Water lettuce	*Pistia stratiotes*
Hybrid knotweed	*Fallopia japonica × Fallopia sachalinensis*	Water primrose	*Ludwigia grandiflora & Ludwigia uruguayensis*
Indian (Himalayan) balsam	*Impatiens glandulifera*	Waterweeds	*Elodea spp.*
Japanese knotweed	*Fallopia japonica*	Yellow azalea	*Rhododendron luteum*
Japanese rose	*Rosa rugosa*		

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Appendix B – References

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Appendix C: Biodiversity Action Plan ('BAP') for Kirklees

Habitats included within the BAP for Kirklees (Kirklees Council, n.d) are as follows;

- Scrub;
- Other semi-natural grassland (wet/rush pasture and rough grassland); and
- Riverine.

Species included within the BAP for Kirklees (Kirklees Council, n.d) are as follows;

- Water vole (*Arvicola terrestris* - recently reclassified as Arvicola amphibious);
- White clawed crayfish (*Austropotamobius pallipes*);
- Twite (*Carduelis flavirostris subsp.* bensonorum/pipilans);
- Early marsh orchid (*Dactylorhiza incarnate*);
- Marsh helleborine (*Epipactis palustris*);
- Northern wood ant (*Formica lugubris*);
- Floating water plantain (*Luronium natans*); and
- Great crested newt (*Triturus cristatus*).

Appendix D: Proposed Development Condition Assessment Table

Table D1. detailed below identify the criteria used to assess the condition for each habitat recorded on-Site. Developed land; sealed surface and artificial vegetated; unsealed surface are typically deemed to have limited potential for a change in biodiversity value and as such is assigned a null value in accordance with the guidelines. Condition criteria are taken from Panks *et al.* (2023).

Table D1: Condition Assessment for grassland habitat (low distinctiveness)

Condition Assessment Criteria	Modified Grassland
A. There must be 6-8 species per m^2. If a grassland has 9 or more species per m^2 it should be classified as a medium distinctiveness grassland habitat type. B. **NB - this criterion is essential for achieving moderate condition.**	No
C. Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	No
D. Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Yes
E. Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Yes
F. Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	No
G. Cover of bracken is less than 20%.	Yes
H. There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).	Yes
Condition Assessment Result (Total Score)	**Poor (4)**
Condition Assessment Result	**Condition Assessment Score**
Passes 6 or 7 criteria including passing essential criterion A	Good (3)
Passes 4 or 5 criteria including passing essential criterion A	Moderate (2)
Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)	Poor (1)

Appendix E: Photographic Evidence

Photograph 1: Modified grassland

Photograph 2: Artificial unvegetated; unsealed surface

Photograph 3: Developed land; sealed surface

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Appendix F: Author Qualifications

Principal Consultant and Managing Director

Jonathan Cocking
F.R.E.S., Tech. Cert. (Arbor.A), PDipArb (RFS) FArborA CBiol MSB. MICFor.
Jonathan is a Registered Consultant and Fellow of the Arboricultural Association and sits on its Professional Committee. He has 31 years' experience in the Arboricultural profession and served for eight years as Senior Arboriculturist with a large local authority before establishing JCA in 1997. Jonathan has since developed JCA's portfolio of services and its extensive client base. He is a Chartered Biologist, a Chartered Arboriculturalist and an Expert Witness with much experience of litigation work.

Technical Director

Toby Thwaites
BSc (Hons), HND (Arboriculture).
Toby joined JCA in 1998 after graduating in Ecology at the University of Huddersfield and has since graduated in Arboriculture at the University of Central Lancashire. A former JCA team leader and Consulting Arboriculturist, Toby is now Technical Director and oversees all office and on-site activities at JCA and is on hand to offer technical support and advice.

Consulting Staff: Ecology

Adam West, Principal Ecologist
BSc (Hons) Animal and Wildlife Management.
Adam joined JCA to lead the expanding ecology department. Having returned to education as a mature student, Adam studied Countryside Management for two years before undertaking a Batchelor's degree, for which he was awarded First Class Honours. Adam has many years' experience in ecological consultancy, working on projects ranging from individual planning applications to national infrastructure projects. Adam has completed training courses in the use of the Biodiversity Metric from CIEEM, and UK Hab training courses in the UK Hab classification system and the use of UK Hab within the Biodiversity Metric.

James Foster, Assistant Ecologist
BSc (Hons) Biology.
James gained his undergraduate degree in biology in 2012 from University of Leeds. James has plenty of experience in ecology, having worked countless projects of different scales all over the north and midlands. James has 9 years of experience surveying anything from reptiles to hedgerows and holds a Great crested newt licence level 1 and is working towards his bat licence and barn owl licence.

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The information which we have prepared and provided is true and has been prepared and provided in accordance with the CIEEM's Code of Professional Conduct. We confirm that the opinions expressed are our true and bona fide opinions.

Signed

.....
Adam West *ACIEEM*
02/08/2023

Reviewed by

.....

James Foster
03/08/2023

For and on behalf of ***JCA Ltd***

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ECOLOGICAL SERVICES

Ecological Pre-Planning Services

- Phase 1 Habitat Surveys
- Great Crested Newt eDNA Sampling
- Protected species: Bat, Wintering and Nesting Bird, Badger, Amphibian, Otter, Water Vole, White-Clawed Crayfish, Dormice and Reptile Surveys.
- Preparation for Environmental Impact Assessment (EIA)
- Invasive Species Surveys
- Code for Sustainable Homes
- Butterfly & Insect Surveys

Ecological Post-Planning Services

- Biodiversity Enhancement Plans
- Protected Species Mitigation
- Ecological Management (Bat and Bird box installation and inspection)
- Planting Schemes
- Monitoring of bird or bat boxes.

ARBORICULTURAL SERVICES

Guidance for Architects & Developers

- British Standard 5837 Surveys
- Arboricultural Implications Assessments (AIA)
- Arboricultural Method Statements (AMS)

Advice for Engineers, Loss Adjusters and Insurers

- Tree Surveys for Subsidence
- Heave Assessment
- Tree Root Identification

Advice for Local Authorities and Social Housing

- Tree Safety Surveys
- Specialist Decay Detection
- Landscape and Orchard Design

Tree Advice for the Legal Profession

- Subsidence Litigation
- Personal Injury and Accident Investigation
- Expert Witness, Planning Inquiries and Appeals

Veteran Tree Management

- Ancient Woodland Management
- Veteran Tree Management

Tree Health and Pest and Disease Management

- Pest and Disease Surveys
- Tree Health Checks
- Disease Mitigation and Control

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