



**Pioneer
Environment**

Ecology. Mitigation. Enhancement.

Pioneer Environment
Spring Farm, Spring Lane,
Wymondham, LE14 2AY

Tel: 0116 350 0370

Email: office@pioneerenvironment.co.uk
Web: www.pioneerenvironment.co.uk



Biodiversity Net Gain Feasibility Report

Development of Land South
of Lyndale

Report on Behalf of:

Liam O'Halloran

Date: 16/11/2022

PEG369-08A

Development of Land South of Lyndale

16/11/2022



Document Control

Revision	Issue Status	Notes	Prepared By / Date	Approved By / Date
A	Draft 1	First Draft	Martin Woolley / 16.11.2022	Oliver Amy / 16.11.2022
B	Draft 2	Draft		
C	Final	First Issue		

Pioneer Environment Group Ltd. has prepared this report for the sole use of the commissioning party in accordance with the agreement under which our services were performed. This report is property of Pioneer Environment Group Ltd. and is issued on the condition it is not reproduced, retained, or disclosed to any unauthorised person, either wholly or in part without the written consent of Pioneer Environment Group Ltd.



CONTENTS

1.0 EXECUTIVE SUMMARY 3

2.0 INTRODUCTION 4

3.0 METHODOLOGY 5

4.0 BASELINE CONDITIONS 6

5.0 FEASIBILITY OF BIODIVERSITY NET GAIN 8

6.0 CONCLUSION 9

7.0 REFERENCES..... 11

FIGURES

Figure 1: Baseline Habitat Plan

Figure 2: Proposed Habitat Plan

GRAPHS AND CHARTS

Chart 1: Pre-development Habitats by Area (ha)

Chart 2: Change in Habitats by Area (ha)

TABLES

Table 1: BNG Headline Results

APPENDICIES

Appendix A: Supplementary Material - Biodiversity Metric (Read only Excel Version)



1.0 Executive Summary

- 1.1 This feasibility report details the findings of a Biodiversity Net Gain study carried out for Liam O'Halloran, at land off Lindridge Land, Desford, Leicestershire (Ordnance Survey Grid Reference - SK 47732 03908).
- 1.2 The site is currently a cattery with an associated lawn area. A woodland forms the sites western and southern boundary and was a mix of coniferous and broadleaved trees.
- 1.3 The proposal for the site comprises four residential properties, associated gardens and an access road. Part of the existing woodland will be removed to allow for access; however this will be compensated for by additional tree planting along the sites southern boundary.
- 1.4 To achieve a Biodiversity Net Gain, it is required that enhancements take place on the woodland to better its structure and species diversity. In addition, tree and hedgerow planting will increase connectivity and provide opportunities for wildlife.
- 1.5 If the recommended enhancements are followed and management is carried out correctly, the project should achieve a 6.27% gain in habitat units and 100% gain in hedgerow units.
- 1.6 To supplement this report, the metric calculations have been supplied for the discretion of the Local Planning Authority.



2.0 Introduction

- 2.1 Pioneer Environment Group Ltd was instructed by Liam O'Halloran to undertake a Biodiversity Net Gain (BNG) Feasibility Assessment at land off Lindridge Road, Desford, Leicestershire (Ordnance Survey Grid Reference - SK 47732 03908) in September 2022 (hereafter referred to as the 'Site'). The assessment was undertaken in relation to planning application 22/00569/OUT.
- 2.2 The survey was undertaken to establish, as far as possible, how the proposed development would affect the site biodiversity, and calculations were carried out to ascertain how much biodiversity gain could be achieved.
- 2.3 The following assessment was informed by a Habitat Scoping Survey completed by Pear Tree Ecology in March 2022. In addition, an updated site visit was undertaken in September 2022 by Pioneer Environment Group Ltd to gain perspective on the current condition of the on-site habitats. Biodiversity Net Gain calculations were guided by the BSI British Standard 'BS8683: Process for Designing and Implementing Biodiversity Net Gain' (The British Standards Institution, 2021) and all calculations were carried out using the DEFRA Small Sites Metric 3.1 (Natural England, 2021).

Site Description and Project Overview

- 2.4 The proposed development Site is situated on the northern edge of Desford, approximately 11km from Leicester City centre.
- 2.5 The site comprises a grassland which is managed as an amenity lawn associated with Lyndale Boarding Cattery and residential dwelling. A mixed woodland forms the sites western and southern boundary.
- 2.6 The development on the site includes an application for the construction of four residential dwellings with associated hard and soft landscaping. A large portion of woodland will be retained and enhanced, although some will be lost to facilitate an access road.



3.0 Methodology

Biodiversity Net Gain

- 3.1 A site visit was conducted by Martin Woolley, on behalf of Pioneer Environment Group Ltd. in September 2022 to advise on the current conditions of the habitats and to be able to accurately create a base line habitat plan (Figure 1) and proposed habitat plan (Figure 2).
- 3.2 The assessment was carried out using BSI British Standard BS8683 and CIEEM's Good Practice Principles of BNG (Chartered Institute for Ecology and Environmental Management, 2016) and calculates the change in ecological value at a site by comparing the number of 'biodiversity units' within the site pre and post construction for both linear habitats and area habitats.
- 3.3 Existing biodiversity units (pre-development) are calculated by assessing the size or area, and the 'Distinctiveness' and 'Condition' of the habitat. Future biodiversity units (post-development) are calculated by assessing the retained, created and enhanced habitat areas using similar metrics of 'Target Distinctiveness' and 'Target Condition'. Other Factors also considered include habitat connectivity, spatial importance, and temporal delivery risk.
- 3.4 The habitats on site were classified using the UK Habitat Classification System (UKHab Ltd, 2018) and the BNG Metric 3.1 technical supplement (Natural England, 2021). The Habitats Condition Sheet, from within the technical supplement, was used to assess the condition of each habitat on Site, where appropriate. The habitat areas are measured in hectares and linear habitats in kilometres.
- 3.5 BNG calculations were calculated using DEFRA's Small Sites Metric 3.1 due to the size of the development being under 500m².
- 3.6 Maps of the site were created for pre- and post-development in QGIS. To accurately measure the habitats, they were mapped on Site using QField, a mobile version of QGIS. Post-development plans were accurately made by accessing CAD files and overlaying these onto the habitat maps to accurately assess the level of habitat loss resulting from the development
- 3.7 This report is based on CIEEM's Biodiversity Net Gain Report and Audit Template (2021).

Assumptions and Limitations

- 3.8 It should be noted that whilst every effort has been made to describe the features on site as accurately as possible, this report reflects the habitat conditions noted at the time the ecology survey was undertaken only.
- 3.9 The accuracy of habitat area measurements is limited to baseline data collection and quality of available mapping resources. In addition, post development calculations were obtained by using illustrative designs and in the absence of detailed planting plans, reasonable assumptions have been made with regards to the type/condition of habitats.
- 3.10 Drawing 'L.01 was used to inform the calculations. Should plans change, the calculations of Biodiversity Net Gain will no longer be accurate, and this report will require amendments.



4.0 Baseline Conditions

Baseline Habitats (Figure 1)

- 4.1 The site predominantly comprised an amenity grassland (Urban: Vegetated Garden) totalling 2416m² and a mixed woodland (Other Woodland; Mixed) measuring 1823m².
- 4.2 The grassland was managed by the cattery as a lawn and was mown short during the habitat scoping survey in March 2022 and re-visit in September 2022. Between March and September, a number of shrubs and young trees were removed leaving areas of bare earth. An elongated cat enclosure was situated along the grasslands eastern edge and was constructed of timber and wire mesh (Developed Land; Sealed Surface).
- 4.3 The woodland was formed by a mixture of semi-mature broadleaved and coniferous tree species. It is suspected that the trees were planted to form a wind break or visual barrier for the adjacent road and residential property. For the purpose of the BNG Metric the baseline habitat condition was 'Moderate', however due the woodland lacking structure and diversity the condition was likely poor.
- 4.4 Four trees were located along the eastern boundary, one large (Diameter at Breast Height (DBH) >90cm), one medium (DBH >30 to <90cm) and two small (DBH < 30cm).

Habitat Overview and Baseline Biodiversity Units

- 4.5 Prior to development, the site holds habitats ranging from 'poor' to 'moderate' condition. The site is dominated by a 'moderate' Other Woodland: mixed, with 'poor' Urban: Vegetated Garden (Chart 1).
- 4.6 The habitats on site at present form a mixture of low and medium distinctiveness, some of which hold little ecological value, for example the vegetated garden and developed land. Only one habitat is of Medium distinctiveness, being the mixed woodland.
- 4.7 The baseline score for the site is 2.0718 habitat units (excluding trees) and 0 hedgerow units.

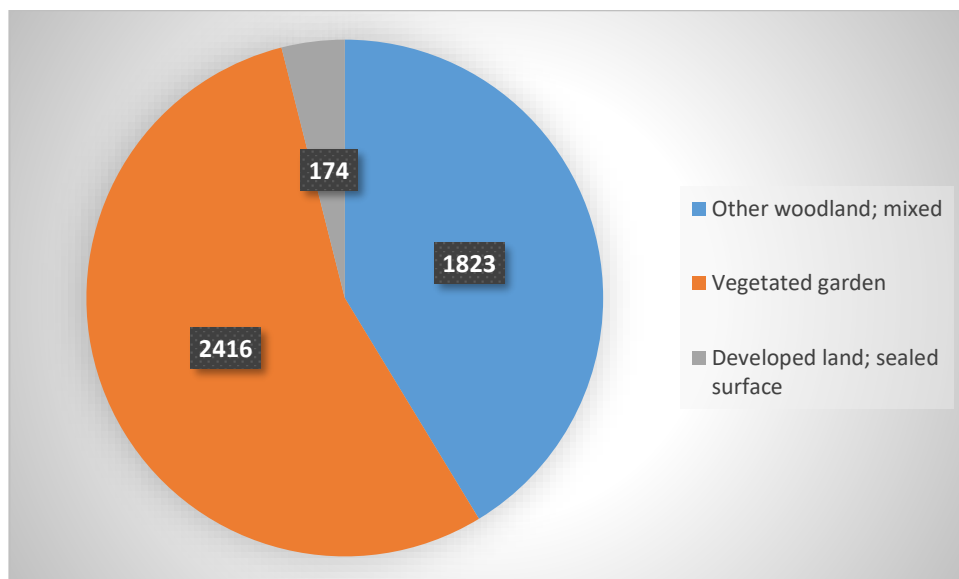


Chart 1 – Baseline Habitat by Area (M²)





5.0 Feasibility of Biodiversity Net Gain

Proposed development (Figure 2)

- 5.1 The proposed post-development site will comprise four residential properties with associated hard and soft landscaping, construction of an access road, and additional tree and hedgerow planting.

Retained and Enhanced Habitats

- 5.2 Approximately 1453m² of vegetated garden will be retained and incorporated as part of the new residential gardens. The condition and distinctiveness will be 'like for like'.
- 5.3 A large portion of the woodland will be retained and enhanced within the design. Due to its poor structure and lack of ground and herb layer species there are opportunities for enhancements. The metric has anticipated that with the right management the habitat will achieve 'Good' condition, which will enhance the sites value for biodiversity.

Habitat Creation Opportunities

- 5.4 Approximately 126m of native hedgerow is proposed. To achieve an appropriate condition the hedgerow should be planted with a mix of native species, such as hawthorn *Crataegus monogyna*, blackthorn *Sambucus nigra*, European holly *Ilex aquifolium*, guelder-rose *Viburnum opulus*, hazel *Corylus avellana*, rowan *Sorbus aucuparia*, beech *Fagus sylvatica*, spindle *Euonymus europaeus*, and alder buckthorn *Rhamnus frangula*.
- 5.5 Seventeen new trees are proposed and should be a range of sizes and species from whip to light standards. In addition, the trees must reach the 'small' size category which is <20cm DBH.
- 5.6 An additional 184m² of woodland planting is proposed to fill existing gaps and create better connectivity with nearby habitats. The management of the newly planted trees should be incorporated within the woodland enhancement plans.

Post-development Habitat Summary and Biodiversity Units

- 5.7 Post-development, the retained woodland will be enhanced to better its condition, increasing species diversity and creating additional opportunities for wildlife within the site. In addition, newly planted trees in the south of the site will form greater connectivity.
- 5.8 The scheme has been designed to reduce impacts to existing habitats of higher distinctiveness by developing on the existing vegetated garden. To provide access, small amounts of woodland will be lost, however this will be mitigated for by additional tree planting.
- 5.9 As there are currently no hedgerows, additional hedgerow planting as part of the development will create opportunities for wildlife and form wildlife corridors.
- 5.10 Following the Biodiversity Net Gain assessment based on the above habitat enhancements and creation, the post-development site is predicted to score 0.1299 habitat units and 0.4218 hedgerow units.



6.0 Conclusion

- 6.1 Following the assessment of the proposed development, its' likely impacts on the habitats within the site, and the required habitat enhancements and creation to mitigate for losses, it is anticipated that this development can achieve 6.27% gain in habitat units and 100% gain in hedgerow units (Table 1).
- 6.2 To achieve this net gain, it will be a requirement of the landowner to implement the correct management of the habitats being created, and to commit to the management of the habitats for 30 years. It is recommended that the client seek professional consultation on the creation of a bespoke Landscape and Ecological Management Plan (LEMP) detailing species to be planted, and a 30-year plan for each habitat.
- 6.3 The enhancements within this BNG feasibility assessment have been selected with sustainability and ease of maintenance in mind.



Table 1: BNG Headline Results

Site Name:		Development of Land south of Lyndale	
Sheet Name		Headline Results	
Headline Results			
Headline		BNG Targets Not Met ▲	
Next steps		Scheme alterations or offsite units required	
Total net unit change	Habitat units	0.1299	✓
	Hedgerow units	0.4218	✓
	River units	0.0000	✓
Total net % change	Habitat units	6.27%	✓
	Hedgerow units	% target not appropriate	✓
	River units	% target not appropriate	✓
Habitats units required to meet target		0.0773	
Hedgerow units required to meet target		0.0000	
River units required to meet target		0.0000	
Off Site Biodiversity Requirement for No Net Loss			
Broad habitat types		Units Required	
Cropland		0.0000	
Grassland		0.0000	
Heathland and shrub		0.0000	
Intertidal Hard Structures		0.0000	
Intertidal sediment		0.0000	
Lakes		0.0000	
Sparsely vegetated land		0.0000	
Urban		0.0000	
Woodland and forest		0.0000	
Coastal Saltmarsh		0.0000	
Hedge or Line of Trees (Requiring Low distinctiveness or higher)		0.0000	
Hedgerow (Requiring Medium distinctiveness or higher)		0.0000	
Line of trees (Requiring Medium distinctiveness or higher)		0.0000	
Watercourses (Requiring Low distinctiveness or higher)		0.0000	
Watercourses (Requiring Medium distinctiveness or higher)		0.0000	
Total		0.0000	



7.0 References

Chartered Institute for Ecology and Environmental Management, 2016. *Good practice principles for development*, s.l.: s.n.

CIEEM, 2021. *Biodiversity Net Gain Report and Audit Templates Chartered Institute of Ecology and Environmental Management*, Winchester, UK: s.n.

Department of Environment, Food and Rural Affairs, 2008. *UK Biodiversity Action Plan Priority Habitat Descriptions - Traditional Orchards*, s.l.: s.n.

Department of Environment, Food and Rural Affairs, 2021. *Biodiversity Net Gain Metric 3.0*, s.l.: s.n.
Natural England, 2021. *The Biodiversity Metric 3.0*, s.l.: s.n.

Panks, S. et al., 2021. *Biodiversity metric 3.0: Auditing and accounting for biodiversity – Technical Supplement*, s.l.: Natural England.

The British Standards Institution, 2021. *BS8683: Process for designing and implementing biodiversity net gain - Specification*, s.l.: s.n.

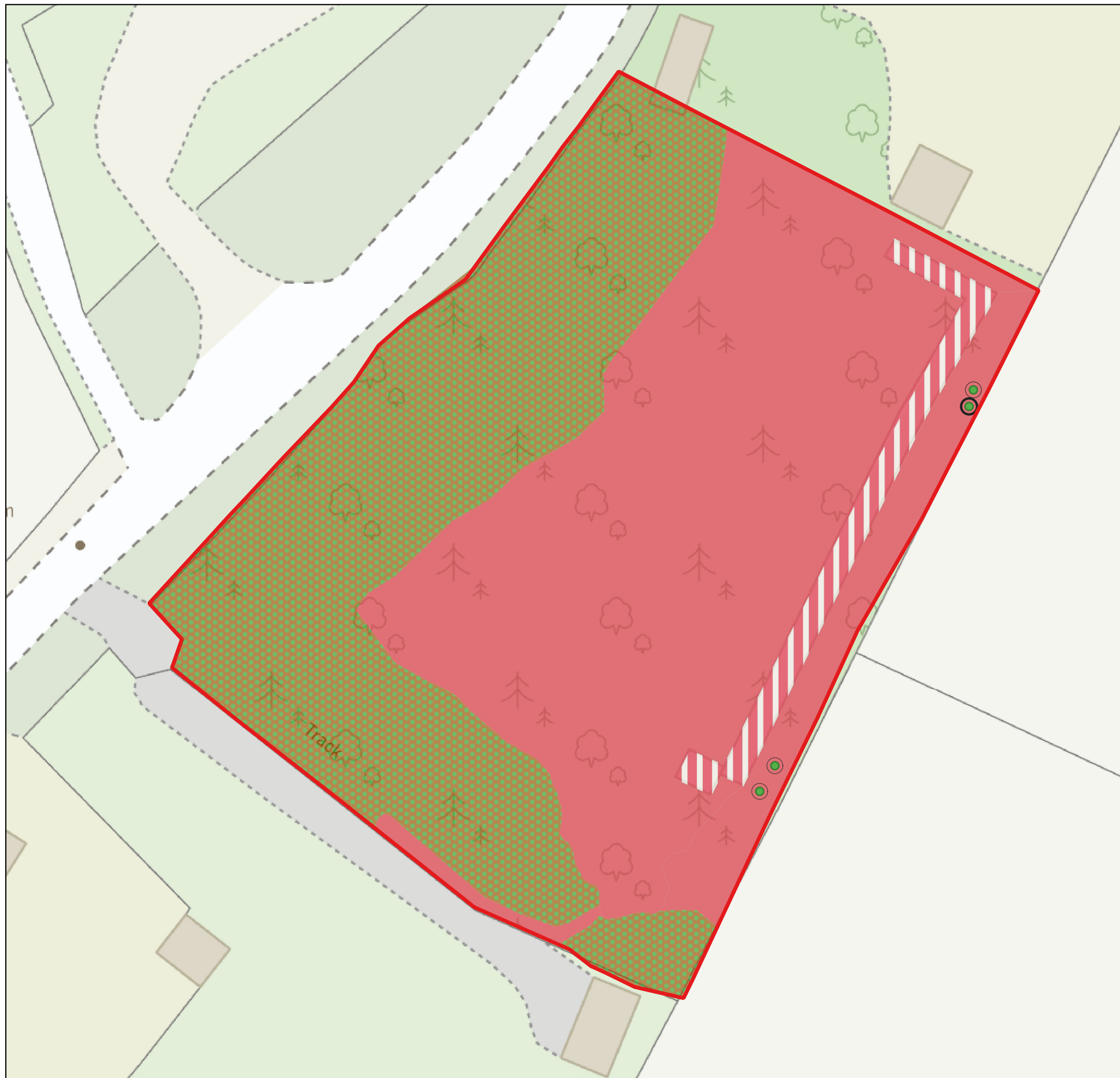
UKHab Ltd, 2018. *UK Habitat Classification Field Key*, s.l.: s.n.



**Appendix A: Supplementary Material - Biodiversity Metric (Read only
Excel Version)**

7.1 The full Biodiversity Metric 3.1 can be found [HERE](#).





Key

Red Line Boundary

URBAN TREES

Urban Trees Baseline

- Existing Large
- Existing Medium
- Existing Small

HABITATS

Habitats Baseline

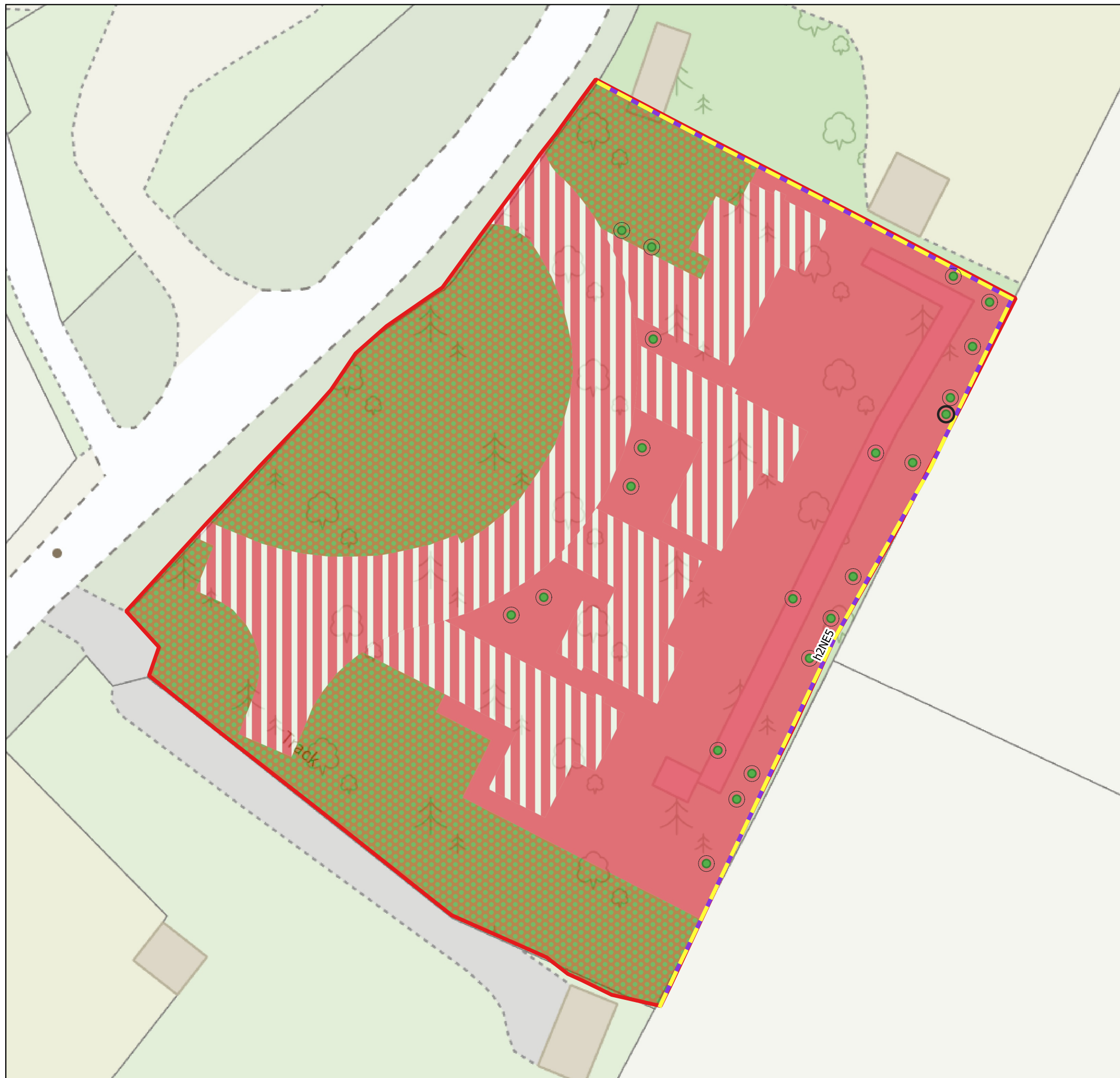
- Developed land; sealed surface
- Other woodland; mixed
- Vegetated garden

5 0 5 10 15 20 m

N

Project Name:		PEG369 - Development of Land South of Lyndale
Client:		Liam O'Halloran
Figure No:		Figure 1
Date:	Title:	
16.11.2022	BNG Basline Habitat Plan	

Pioneer Environment
Ecology. Mitigation. Enhancement.



Key

Red Line Boundary

URBAN TREES

Urban Trees Proposed

Proposed Large

Proposed Medium

Proposed Small

HEDGEROWS

Hedgerows Proposed

Native Hedgerow (h2NE5)

HABITATS

Habitats Proposed

Developed land; sealed surface

Other woodland; mixed

Vegetated garden

505101520 m

N

Project Name:

PEG369 - Development of Land South of Lyndale

Client:

Liam O'Halloran

Figure No:

Figure 2

Date:

16.11.2022

Title:

BNG Proposed Habitat Plan

Pioneer Environment

Ecology. Mitigation. Enhancement.